

Finding of No Significant Impact

(FONSI)

LC-24-07

Final Environmental Assessment (EA) for the IID 2024-2026 Temporary Colorado River System Water Conservation Project

Based on a thorough of the analysis of the potential environmental effects section of the Final EA, the Bureau of Reclamation (Reclamation) finds that implementation of the Proposed Action will not significantly affect the quality of the human environment within or adjacent to the project area, therefore an Environmental Impact Statement will not be prepared.

Accordingly, this FONSI has been prepared and is submitted to document environmental review and evaluation of the Proposed Action in compliance with the National Environmental Policy Act (NEPA) of 1969, as amended.

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BACKGROUND

The United States Bureau of Reclamation (Reclamation) is considering approval of a System Conservation Implementation Agreement (SCIA) with Imperial Irrigation District (IID) to participate in the Lower Colorado River Basin System Conservation and Efficiency Program (LC Conservation Program). The approval of the SCIA pursuant to the LC Conservation Program is the “Proposed Action.”

IID is an irrigation district, a limited-purpose public agency, formed under the laws of the State of California. IID holds rights to divert water from the Colorado River and deliver it to its water users, including farmers, tenants, landowners, cities, unincorporated areas, and special districts within a portion of Imperial County. IID was formed by a vote of the people pursuant to the California Irrigation District Law (formerly the “California Irrigation District Act”) in 1911. Shortly thereafter, IID acquired 13 mutual water companies in the Imperial Valley which had developed and operated water distribution canals.

The Colorado River Basin is experiencing the driest 23-year period in the historical record. Prolonged drought and low runoff conditions accelerated by climate change have led to historically low water levels in Lakes Powell and Mead. Over the last two decades, the United States Department of the Interior has engaged with Colorado River Basin partners on various drought response operations. On April 16, 2019, the Colorado River Drought Contingency Plan Authorization Act (Public Law 116-14) was signed into law. This Act directed the Secretary to execute specific agreements referred to as the “DCP Agreements,” and the DCP Agreements were subsequently executed on May 20, 2019.

However, given that water levels in Lake Powell and Lake Mead have continued to decline, additional actions are necessary to protect the Colorado River system. In June 2022, Reclamation Commissioner Camille Calimlim Touton testified before the U.S. Senate Committee on Energy and Natural Resources and called on water users across the Colorado River Basin to take actions to reduce demands or conserve water in the range of 2 to 4 million acre-feet per year for four years (2023 through 2026) to stabilize reservoir elevations at Lake Powell and Lake Mead. These actions were also needed to prevent the reservoirs from falling to critically low elevations that would threaten water deliveries and power production.

On October 12, 2022, Reclamation sent a letter to interested parties having a Colorado River water delivery contract or entitlement holders and Central Arizona Project water delivery contract or subcontract holders, announcing the funding opportunities for voluntary participation in the new LC Conservation Program.

In response to the October 2022 Letter, IID submitted to Reclamation a four-year LC Conservation Program 1.b proposal dated November 21, 2022, to cover calendar years 2023 through 2026. Reclamation evaluated IID’s four-year proposal pursuant to the proposal and selection requirements shown in Enclosure 1 to Reclamation’s October 12, 2022 letter and Proposed IID’s four-year proposal for inclusion in the LC Conservation Program. This program will require a System Conservation Implementation Agreement with Reclamation similar to previous system conservation efforts in the Lower Colorado River Basin. IID and Reclamation agreed to separate IID’s proposal into two parts, one SCIA for calendar year 2023 and one SCIA for calendar years 2024 through 2026. The Proposed Action includes only the calendar years 2024 through 2026 SCIA.

In response to IID's four-year LC Conservation Program 1.b proposal, Reclamation determined that an EA would be prepared in compliance with NEPA to assist with the identification of any potentially significant impacts that could result from the implementation of the Proposed Action. Reclamation is the lead Federal agency for preparation of the EA and for compliance with the Endangered Species Act (ESA) and the National Historic Preservation Act (NHPA).

Reclamation prepared the *Environmental Assessment IID 2024-2026 Temporary Colorado River System Water Conservation Project (LC-24-07)*. The EA is incorporated by reference into this FONSI.

Reclamation's approval of the Project will be granted by signing this FONSI and by execution of the SCIA.

ALTERNATIVES CONSIDERED

The EA analyzed the No Action Alternative and the Proposed Action.

No Action Alternative

Under the No Action Alternative, IID would not participate in the LC Conservation Program. There would be no volume of conserved water created within IID's Contract Service Area under the LC Conservation Program. No changes to IID's Colorado River water deliveries or on-farm practices would occur.

The Proposed Action

The Proposed Action (Selected Alternative) will involve the conservation of Colorado River water by IID pursuant to the SCIA. The water conservation will occur within the IID Contract Service Area, which is also the "Proposed Action Area," located in Imperial County, California.

Under the Proposed Action described in the EA, IID would agree to conserve a target volume of 250,000 AF, up to a maximum of 300,000 AF, of Colorado River water each year from 2024 through 2026, targeting a cumulative total of 800,000 AF, but no more than a cumulative maximum total of 900,000 AF, of water between 2024 and 2026, which will remain in Lake Mead to benefit the Colorado River System. The terms and conditions of the Colorado River System water conservation and funding are set forth in the SCIA with IID. After negotiation with IID, the Final SCIA reduces the cumulative total of conserved water to 700,000 AF, which in turn reduces the overall impacts of the Proposed Action, so no additional analysis is required.

IID has received delivery of approximately 2.5 MAFY from the Colorado River during the period from 2019 through 2022. This volume is down from the approximately 3 MAFY volumes experienced prior to the implementation of water conservation programs initiated under the Quantification Settlement Agreement (QSA) beginning in 2003. Annual Colorado River water deliveries to IID vary annually primarily based on cumulative agricultural demands in the IID Contract Service Area that are affected by several factors, including economic and climatic conditions. The water conservation programs implemented pursuant to the Proposed Action will temporarily further reduce IID deliveries to approximately 2.2 MAFY for three years from 2024 through 2026. Colorado River water deliveries to IID will return to pre-Proposed Action volumes beginning in 2027 upon the expiration of the SCIA and conclusion of the water conservation programs provided for by the SCIA. The Proposed Action will provide the funding for IID's implementation of water conservation programs under which agricultural water users conserve

water, thereby reducing water diversions from the Colorado River at Imperial Dam. The potential conservation programs include the following:

- On-Farm Efficiency Conservation Program (OFECP) or Simplified OFECP,
- Deficit Irrigation Program (DIP), and
- Farm Unit Fallowing Program (FUIP).

Under the Proposed Action, IID may implement the existing OFECP or a simplified OFECP. The maximum acreage potentially participating in the OFECP or the simplified OFECP is 65,000 acres per year resulting in up to a maximum of 50,000 acre-feet per year of efficiency-based conserved water.

Under the Proposed Action, IID may implement the DIP for agricultural water users on fields anywhere in the IID Contract Service Area that are owned or leased for agricultural use and cultivating alfalfa, bermuda grass, or klein grass, or seeds for one of these three crops. Participating fields will be allowed to choose between a 45-day to 60-day time period within the months of June, July, August, and September during which time the field will not be irrigated. The maximum acreage potentially participating in the DIP is 180,000 acres per year resulting in up to a maximum of 226,000 acre-feet of conserved water per year. Participating fields will be paid for the water conservation volume attributable to the fallowed 45-day to 60-day time period on a per acre-foot basis.

Under the Proposed Action, IID may implement the FUIP. Farm units are an aggregation of fields managed by an agricultural water user. Participating farm units will forego delivery of irrigation water on certain fields within the farm unit for the term of 6 months to one year. The FUIP will be for a 6-month to one-year fallowing period beginning July 1st of one year up to June 30th of the following year consistent with typical agricultural lease terms. To implement the FUIP, IID will determine the total volume of conserved water required for the FUIP based on participation in the OFECP and/or DIP and the remaining conserved water volume needed to meet IID's conservation targets. Each farm unit will be offered a pro-rata share of the total FUIP conserved water volume. The agricultural water user will be allowed to accept the volume offered and identify which field(s) in a farm unit to be fallowed. The maximum acreage potentially participating in the FUIP is 34,450 acres resulting in up to a maximum of 172,250 acre-feet of conserved water for a one-year period. However, due to the term of the FUIP, IID will only be able to implement one one-year program by the end of 2026, from July 1, 2025 through June 30, 2026. Under this one-year program, for the 6 months in 2025 (July 1 through December 31) the maximum acreage potentially participating in the FUIP is 34,450 acres resulting in a water conservation volume of up to a maximum of 86,125 acre-feet. Similarly, for the 6 months in 2026 (January 1 through June 30), the maximum acreage potentially participating in the FUIP is 34,450 acres resulting in a water conservation volume up to a maximum of up to 86,125 acre-feet. If IID implements a 6-month program before or after the one-year program, any 6-month period will be the same maximum acreage potentially participating in the FUIP and the same maximum water conservation volume resulting from that acreage as set forth above. Participating farm units will be paid for the water conservation volume attributable to the fallowed fields for the 6-months to one-year term on a per acre-foot basis.

CONSULTATION AND COORDINATION

Reclamation and IID have consulted with various agencies and interested parties to identify potential issues or concerns prior to the initiation of formal consultation. Specifically, Reclamation and IID met with the US Fish and Wildlife Service (USFWS), the California Natural Resources

Agency , and the California Department of Fish and Wildlife (CDFW) on several occasions to discuss the Proposed Action. Reclamation consulted with the USFWS pursuant to Section 7 of the Endangered Species Act and on July 24, 2024 received their concurrence that the project is not likely to adversely affect threatened and endangered species within the project area.

In November 2023 Reclamation delivered an announcement of the proposed project and consultation invitation letter to 27 identified Tribes. Reclamation has since received responses from and discussed the Proposed Action with several Tribes. Reclamation has been informed of the presence of specific traditional cultural resources; these are, however, located outside of the area of the Proposed Action and will not be affected. Reclamation's Tribal partners have also requested additional information regarding the nature and scope of prior ground disturbance in the area of the Proposed Action and voiced concerns regarding the effects of ground-disturbing programs funded by the Proposed Action. Information regarding prior ground disturbance in the Proposed Action and clarification of the nature and scope of the ground-disturbing activities funded by the Proposed Action was gathered by Reclamation from IID and disseminated to the requesting Tribes via email and telephone. Reclamation representatives appeared before the Torres-Martinez Desert Cahuilla Indians Tribal Council to get their feedback on the project on July 24, 2024. Reclamation continues to maintain dialogue with those Tribal partners who have expressed interest in the project.

ENVIRONMENTAL COMMITMENTS

Biological Resources

The IID Drain and Salton Sea Vegetation Monitoring and Reporting Plan will be implemented as part of the Proposed Action, including:

Monitoring

Drains

1. Flow Monitoring: Drain flow data will be collected from IID drains that flow directly into the Salton Sea on an ongoing basis using one of the following methods: Automatic Sensors or Hand-held water current meters
2. Visual Monitoring: IID will conduct weekly drain habitat monitoring by photographic documentation for each drain identified on the IID Drain List.
3. Farmland Mapping: IID will develop maps showing drain-sheds for the drains that flow directly to the Salton Sea. IID will develop a map showing the 5-year (2019-2023) historical field participation in the existing OFECP. IID will develop maps showing fields participating in the IID conservation programs under the Proposed Action.

Vegetation

IID will map existing vegetation communities adjacent to the termini of IID drains along the southern shoreline of the Salton Sea which will be provided to the USFWS, Reclamation, and CDFW upon completion.

Mapping will be completed using a combination of high resolution multi-spectral satellite imagery and object-based image analysis techniques informed by field survey observations. Satellite imagery with ultra-high and high resolution will be acquired. The resolution specifications will be provided with any imagery submitted. Field surveys will be completed within 4 to 6 weeks of satellite imagery acquisition along the periphery of the vegetated areas within the Vegetation Monitoring Areas where accessible. Unmanned Aerial Vehicle video transects will also be collected for interior portions of

the vegetated areas inaccessible on foot. The satellite imagery and field survey data will be processed and analyzed to develop vegetation community maps. Processing the satellite imagery and field survey data involves 3 steps: 1) conversion to reflectance and calculation of vegetation indices, 2) classification, and 3) accuracy assessment.

Conversion to reflectance and calculation of vegetation indices: Reflectance of light spectra from plants/leaves changes with plant type, water content within tissues, and other intrinsic factors. The reflectance from vegetation to the electromagnetic spectrum allows for the mapping of vegetation using raw satellite imagery. The raw satellite imagery values are in Digital Number (DN). Vendor specified protocols will be used to convert DN values to reflectance values. Reflectance values are generally recommended for use in vegetation index calculations as it provides a more accurate representation and can be used analytically in a canopy reflectance model.

Classification: Satellite imagery will be analyzed using the Object Based Imagery Analysis (OBIA) technique. Specifically, imagery will be segmented to derive hierarchical objects that clearly delineate relevant plant communities at a fine scale. OBIA allows for incorporating meaningful non-spectral features (i.e. texture, size, shape, etc.) for class separation and classification and accounts for landscape hierarchy of vegetation ecosystem organization and structure. The field surveys will be used to classify a subset of objects as ground-truth and training data for the machine learning algorithm. A trained ecologist using photo-interpretive techniques and ground truth video transects will review the machine learning classification results.

Accuracy assessment: A subset of field survey points will be held out of the classification and used for an independent validation and accuracy assessment. Map accuracy will be reported for all classes using a fusion matrix approach. This will provide information on accuracy and misclassification

Action Triggers

Drains

Automatic Sensors. For the drains with automatic sensors installed, the automatic sensors have the capability of triggering a signal when flows reach a zero-flow level.

Hand-Held Current Meters. For the drains measured with the hand-held current meters once a week, there is no historical data of the drain flows. However, an indication of drain flows are the irrigation delivery schedules of the fields that drain into that specific drain.

Vegetation

IID will develop an early warning system focused on monitoring potential changes in the biophysical conditions of the mapped vegetation communities in the Vegetation Monitoring Areas. The early warning system will involve the monitoring of the mapped vegetation communities using satellite-based indices representative of surface water stress and vegetation productivity/vigor. Specifically, this includes the use of the Normalized Difference Water Index (NDWI) for water stress and Leaf Area Index (LAI) for vegetation productivity/vigor. NDWI is a measure of surface water stress using a satellite-derived index from the Near-Infrared and Short-Wave Infrared channels.

Impact Avoidance Measures

Drains

When an action trigger is reached for any of the drains, with or without automatic sensors, IID will implement the following impact avoidance measures:

- 1) IID staff responsible for monitoring the drains for the action triggers will notify operational and/or field staff to conduct a site visual check of the drain during that same day;
- 2) During the site visual check, IID staff will take photographic documentation of the conditions within the drain at or near the habitat monitoring locations;
- 3) If there is no ponded water within or at the terminus of the drain that can be seen from the habitat monitoring location, within no more than 18 hours following the site visual check, IID staff will deliver water to the affected drain via water truck at a location that can be safely accessed by the water truck downstream of the last structure on the drain; and
- 4) IID will deliver water to the affected drain via water truck each following day until the automatic sensor indicates flows have returned to the affected drain or irrigation deliveries have resumed to fields draining into the affected drain.

Vegetation

If an early warning threshold of meaningful change is triggered for the vegetation within the Vegetation Monitoring Areas, additional vegetation monitoring and analysis actions will be implemented to determine the cause of a meaningful change in the mapped vegetation communities. Within 15 days of the action trigger, IID will submit a set of actions to USFWS, Reclamation, and CDFW, which may include the additional collection and analysis of UAV imagery/video, ground-truth data, and high-resolution satellite imagery to determine whether there is a reduction in NDWI and LAI, the area of reduction, and whether the reduction is isolated to specific drain-sheds or part of a broader Salton Sea-wide phenomenon. If IID determines that the change is linked to a specific drain-shed affected by the conservation programs implemented under the Proposed Action, IID will take immediate action to deliver water to the affected vegetation via the drain or drains flowing water to the vegetation via water truck each following day until IID is able to limit participation in the conservation programs for the fields within that drain-shed.

Coordination and Reporting

IID will meet with USFWS, Reclamation, and CDFW staff on a quarterly basis during the short-term period of the Proposed Action to review the collected drain flow monitoring data and vegetation monitoring data for the prior quarter. During these meetings, IID will also report on the implementation of action triggers and impact avoidance measures for the prior quarter. IID will also prepare an annual report for submittal to USFWS, Reclamation, and CDFW by March 31 of each year under the Proposed Action. The annual report will include compiled drain and vegetation monitoring data for the year and information regarding the implementation of action triggers and impact avoidance measures during that year.

ENVIRONMENTAL IMPACTS AND FINDINGS

The potential for impacts to a wide range of resources was considered in the EA. It was determined that there will be no adverse impacts affecting the following and these were not carried forward for additional analysis: Agriculture/Forestry Resources, Energy, Floodplains and Wetlands; Geology/Soils, Greenhouse Gas Emissions, Hazards & Hazardous Materials, Land Use, Mineral

Resources, Noise, Populations/Housing, Public Services, Recreation, Transportation, Utilities/Service Systems, Wildfire, Indian Trust Assets (ITA) and Indian Sacred Sites.

Seven key issues and their corresponding resource areas were identified for analysis in the EA. These resource areas identified for analysis were Air Quality, Biological Resources, Cultural Resources, Environmental Justice, Human Health, Hydrology/Water Quality, and Visual Resources.

Implementation of the Proposed Action will not result in significant impacts to any of the resources evaluated within the EA. The impacts described in the EA are further reduced due to the lower volume of water that will be conserved under the SCIA (700,000 AF in the SCIA vs 900,000 AF as analyzed). It is Reclamation's determination that the implementation of the Proposed Action will not significantly impact the human environment, and an EIS will not be required.

RESOURCES EVALUATED IN THE EA

Air Quality

The Proposed Action involves the conservation of water within the IID Contract Service Area, reducing water diversions from the Colorado River. The conservation of water will occur through the implementation of on-farm conservation programs, meaning all participation will be within existing agricultural fields. The Proposed Action includes the implementation of conservation programs by IID within its Contract Service Area for a temporary, short-term three-year period of time. Participation in the conservation programs will be voluntary and incentivized by payment for the conserved water created by the programs.

The Proposed Action will accelerate the lowering elevation of the Salton Sea, thereby accelerating the exposure of the shoreline. This acceleration in turn will result in the earlier potential for increasing fugitive dust emissions and related HAP emissions and exposure to communities surrounding the Salton Sea. The reduction of the Salton Sea may also result in an earlier increase of anaerobic organic decay with increasing concentration of sulfates and other compounds present in the saline Salton Sea, which will lead to increasing H₂S emissions. Odors could also occur earlier from increasing concentrations of nutrient levels and fish, bird, plant, algae, and phytoplankton die-offs. However, while it is possible that these events may occur earlier, they will still occur without the Proposed Action.

The Proposed Action involves the temporary, short-term conservation of water during three years and will accelerate the lowering elevation of the Salton Sea and overall water surface area; however, the temporary impacts associated with the Proposed Action will taper off to projected future baseline levels by the year 2045. Thus, the Proposed Action, when considered with relevant past, present, and reasonably foreseeable projects that involve the potential for water conservation and reduced water flow to the Salton Sea, will not significantly increase overall emissions when considered with other projects in the Action Area.

Participation in the DIP or FUEP will require implementation of Best Management Practices to ensure that potential dust emissions are controlled on participating fields.

Biological Resources

The Proposed Action involves the conservation of water within the IID Contract Service Area, reducing water diversions from the Colorado River. The analysis of the Proposed Action follows an approach similar to that used in the QSA EIR/EIS to identify impacts for biological resources due to reduced flows. The QSA EIR/EIS assessed the following water conservation measures for their

potential to effect biological resources: (1) IID system efficiencies (e.g., 12-hour delivery and seepage recovery programs), (2) on-farm irrigation system improvements (e.g., tailwater return systems and drip irrigation) and (3) temporary fallowing farmland and select Salton Sea mitigation sites.

The Proposed Action will be limited to water conservation and will not involve the construction of projects. The Proposed Action is expected to result in an average annual reduction in drain flows of 11.9 percent during three years, calendar years 2024 through 2026. To assess the effects of these drain flow reductions, an analysis of existing flow variability was conducted.

The Proposed Action may alter flows within the water delivery and drainage system but will not reduce the overall flows within IID's canal system. The Proposed Action will accelerate the lowering elevation of the Salton Sea, thereby accelerating the exposure of the shoreline but the acceleration will taper off to baseline projection levels by 2045 based on the trajectory predicted by hydrologic models developed by Department of Water Resources (DWR). The Proposed Action when considered with relevant past, present and reasonably foreseeable projects that involve the potential for water conservation and reduced water flows to the Salton Sea, will not significantly increase overall potential effects to biological resources. The IID Drain and Salton Sea Vegetation Monitoring and Reporting Plan will be implemented.

Cultural Resources

The Proposed Action will consist of normal agricultural practices and restrict ground-disturbing activities to areas of disturbed agricultural land. These practices are unlikely to encounter known or unknown archaeological, historic, paleontological resources. The conservation programs are on-farm programs; all participation will be within existing agricultural fields. Agricultural fields are disturbed on the surface down to at least the tile drains – most commonly placed 3 to 6 feet below the surface. As a result, the Proposed Action is not expected to encounter previously unknown cultural resources. Impacts of the Proposed Action will be similar to the No Action Alternative.

The implementation of water conservation programs under the Proposed Action will not contribute to cumulative impacts to cultural resources in the project area. The Proposed Action will not involve land-disturbing activities beyond the present boundaries of existing fields with a recent demonstrated history of water usage and will not exceed the depth of the drain tiles or other prior disturbance – areas where extensive, historical ground disturbance has already occurred.

Environmental Justice

Under the Proposed Action, IID would implement a combination of conservation programs. By the structure and nature of each conservation program, fields cannot participate in more than one conservation program at a time. IID intends to prioritize the OFECP and DIP water conservation programs. The implementation of the OFECP (or simplified OFECP) would result in no changes to or adverse effects on the environment of minority or low-income populations. The agricultural land would remain in production to the same extent it would otherwise be in production. The implementation of conservation measures under either the OFECP or the simplified OFECP would result in conserved water from existing agricultural land.

Under the Proposed Action, the combination of conservation programs may include the implementation of the fallowing-based conservation programs. If both the FUIFP and the DIP were to be implemented, the maximum potential acreage for either program would not be reached. Agricultural land cannot participate in both programs at the same time. Therefore, if one field is in one program, it cannot simultaneously be in the other program, thereby bringing down the maximum level of participation possible for that other program. The maximum level of participation

for either fallowing-based conservation program will be even lower if there are fields participating in the OFECP and will then also not be eligible for participation in a fallowing-based conservation program.

If maximum participation were to occur in the DIP, up to 180,000 acres of agricultural land could stop being irrigated for a 45- to 60-day period between the months of June through September for each of the three years of 2024, 2025, and 2026. Fields participating in the DIP would only be alfalfa, bermuda grass and klein grass crops, which are perennial crops grown year-round and would be in active agricultural production before and after participation in the DIP. The crop would cease receiving water for 45 to 60 days, but then the agricultural activities would resume on the field following that period of time for the remainder of the year. Therefore, despite the DIP being a fallowing-based conservation program, the agricultural activities on a field are only interrupted for a short period of time (45 to 60 days out of 365 days) and only during the temporary, short-term span of three years.

Additionally, alfalfa, bermuda grass and klein grass are perennial forage crops that are traditionally flood irrigated and harvested through the use of farm equipment, as opposed to other crops that utilize more labor-intensive harvesting methods, such as fruit and vegetable crops. While local businesses and farm workers may be employed to irrigate and harvest forage crops, a small number of workers and labor hours are required to operate the farm equipment and trucks that perform the mowing, raking, baling, transport, and stacking of the bales. As a result, on-farm labor demand would not significantly change as a result of the Proposed Action. Although some reduction in agricultural-related business activities may occur during the 3 years of the Proposed Action, layoffs of farm workers are not anticipated for the 45 to 60 days of deficit irrigation during the DIP. Furthermore, market conditions for alfalfa, bermuda grass and klein grass are highly variable and low market conditions and pricing can negatively affect agricultural water users' decisions, utilization of agricultural support services and farm irrigation services independent of the DIP. IID anticipates that DIP participation will fluctuate based on market conditions and will allow agricultural businesses to maintain operational continuity during these summer months. Consequently, there would be negligible direct or indirect impacts to the businesses within the agricultural industry and negligible effects on the environment of minority or low-income populations.

If maximum participation were to occur in the FUIFP, up to 34,450 acres of agricultural land could be fallowed for 6 months to one year during the two years of 2025 and 2026. Fields participating in the FUIFP will be in active agricultural production prior to participation in the program. The field will be fallowed for 6 to 12 months during which time all agricultural activities on the field will cease. However, the agricultural activities will resume on the field following that period of time. If a field is allowed to participate in the FUIFP for consecutive years, it would be no longer than the temporary, short-term period of two years. Similar to the QSA, a two-year maximum allowed participation in the FUIFP can be implemented and still maintain the integrity of the soils for resumed agricultural production. Although some businesses may be directly affected by the reduced farming activity, economic impacts of the FUIFP implemented under the Proposed Action would be negligible given the longest possible period of fallowing would be a temporary, short-term period of two years.

Therefore, although the IID Contract Service Area includes a higher rate of Hispanic/Latino populations and higher rate of residents below the poverty level when compared to the overall State of California, the Proposed Action would not disproportionately affect the minority and low-income populations in the area because the Proposed Action is not expected to significantly affect local

socioeconomic conditions due to the short duration of the reduced farming activities and the compensation for conserved water under the Proposed Action.

Human Health

The Proposed Action involves the conservation of water within the IID Contract Service Area, reducing water diversions from the Colorado River. Implementation of the Proposed Action will result in the acceleration of the lowering of elevation of the Salton Sea when compared to the No Action Alternative. The Proposed Action will accelerate the anticipated exposure of the playa, but the acceleration will taper off to baseline projection levels by 2045 based on the trajectory predicted by hydrologic models developed by DWR. No net increase in the exposure of the playa results in no increase of overall potential dust emissions through 2045. The exposed Salton Sea acreage is anticipated to occur as a result of the QSA and will be addressed by the IID's Salton Sea Air Quality Mitigation Program Plan (SS AQMP). During the three-year period of the Proposed Action, the acceleration of the exposed playa may increase the potential for dust emissions. However, the implementation of the SS AQMP will address the potential dust emissions because implementation of the SS AQMP will be required for those same acres absent the Proposed Action. Data shows that dust emissions are occurring from other sources within and adjacent to Imperial County, including the desert region to the west of the IID Contract Service Area and Mexico to the south. Emissions inventories, assessments, dust control measures, and other activities under the SS AQMP will continue to be implemented, in the same manner as under existing conditions.

The Proposed Action will not significantly contribute to the cumulative reduction of the Salton Sea elevation. The Proposed Action will accelerate the anticipated effects of cumulative flow reductions, but over time, by the year 2045, the conditions at the Salton Sea will be the same as baseline projected conditions. Because the Proposed Action accelerates the exposure of playa that will already occur under existing conditions and does not result in greater exposed playa over the long term, and therefore will be addressed by IID's SS AQMP and the implementation of dust control measures, it will not significantly contribute to cumulative human health impacts within the IID Contract Service Area. The Proposed Action will be consistent with the SSMP and Long-Range Plan. Thus, the Proposed Action, when considered with relevant past, present, and reasonably foreseeable projects will not significantly contribute to cumulative impacts related to human health issues in the IID Contract Service Area.

Hydrology/Water Quality

The effect of the Proposed Action within the IID Contract Service Area was evaluated as an average flow reduction, evenly applied both spatially and temporally. Existing conservation programs implemented pursuant to the QSA comprise approximately 70 percent of agricultural fields within IID's Contract Service Area. The Proposed Action will likely increase the acreage of fields participating in a conservation program. All existing conservation programs and new conservation programs implemented pursuant to the Proposed Action are voluntary and participation cannot be reasonably predicted. Monthly variability in discharge to the Salton Sea from the IID drainage system under existing conditions was analyzed and compared to the Proposed Action.

Due to the temporary short-term nature of the Proposed Action, and lack of long-term effects demonstrated by SSAM, the Proposed Action, when considered with relevant past, present, and reasonably foreseeable projects, will not contribute significantly to cumulative hydrology impacts to the IID Contract Service Area.

Visual Resources

The Proposed Action will occur within the IID Contract Service Area and will not alter the aesthetic character of surrounding desert areas, sand dunes, and mountains located outside the IID Contract Service Area. The Proposed Action will result in minor changes to the visual landscape within the primarily irrigated areas of IID's Contract Service Area and along the southern shoreline of the Salton Sea. The Proposed Action will accelerate impacts of the QSA, but not contribute to the cumulative effect of the lowering elevation of the Salton Sea. Hydrologic modeling conducted by DWR estimate that with implementation of the cumulative projects, the Salton Sea elevation will plateau in 2045. Although the Proposed Action will accelerate the near-term shoreline recession, over the long term, by 2045, the Sea elevation will be similar to the No Action Alternative. Therefore, the Proposed Action, when considered with relevant past, present, and reasonably foreseeable projects, will not contribute significantly to cumulative visual resource impacts within the IID Contract Service Area.



— BUREAU OF —
RECLAMATION

IID 2024-2026 Temporary Colorado River System Water Conservation Project

Final Environmental Assessment

LC-24-07

Lower Colorado Basin



Mission Statements

The Department of the Interior (DOI) conserves and manages the Nation's natural resources and cultural heritage for the benefit and enjoyment of the American people, provides scientific and other information about natural resources and natural hazards to address societal challenges and create opportunities for the American people, and honors the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities to help them prosper.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

IID 2024-2026 Temporary Colorado River System Water Conservation Project

**Final Environmental Assessment
LC-24-07
Lower Colorado Basin**

prepared for

**United States Department of the Interior
Bureau of Reclamation
Lower Colorado Basin Region
Boulder City, Nevada**

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1.0 Introduction

1.1 Proposed Federal Action

The United States Bureau of Reclamation (Reclamation) is considering approval of a System Conservation Implementation Agreement (SCIA) with Imperial Irrigation District (IID) to participate in the Lower Colorado River Basin System Conservation and Efficiency Program (LC Conservation Program). The approval of the SCIA pursuant to the LC Conservation Program is the “Proposed Action.”

This Environmental Assessment (EA) was prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.) and the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508), the United States Department of the Interior Implementation of NEPA regulations (43 CFR Part 46), and Reclamation NEPA Handbook (Reclamation 2012). Reclamation is the lead Federal agency pursuant to NEPA. If a proposed action is not likely to have significant effects, an EA provides an appropriate level of review under NEPA. (40 CFR, §§ 1501.3(a)(2), 1501.5(a).) An EA is a “concise public document” intended to “support [an agency’s] determination of whether to prepare an environmental impact statement or a finding of no significant impact [FONSI]...” (40 CFR, § 1508.1(h).) A FONSI is a document that briefly presents the reasons why an action “will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared.” (*Id.* at (l).)

Reclamation is the federal lead agency for this EA pursuant to NEPA. (40 CFR, § 1501.7.) Reclamation has authority for the Proposed Action pursuant to the Reclamation Act approved by Congress on June 17, 1902 (32 Stat. 388), and acts amendatory thereof or supplementary thereto, the Boulder Canyon Project Act of December 21, 1928 (45 Stat. 1057), the Colorado River Basin Project Act of September 30, 1968 (82 Stat. 885), the Colorado River Drought Contingency Plan Authorization Act dated April 16, 2019, Public Law 116-14, and the Inflation Reduction Act of 2022, Public Law 117-169.

The U.S. Fish and Wildlife Service is a cooperating agency with jurisdiction over the Proposed Action under Section 7 of the federal Endangered Species Act of 1973, 16 U.S.C.A. §1531, et seq. (FESA). (40 CFR, § 1501.8.) IID would be responsible for obtaining all required State and local permits, approvals, and/or authorizations for the Proposed Action. The California Department of Fish and Wildlife is expected to review this EA for the resources under their jurisdiction.

1.2 Reclamation Authority, Policy, and Resource Management

The Colorado River Basin is experiencing the driest 23-year period in the historical record. Prolonged drought and low runoff conditions accelerated by climate change have led to historically low water levels in Lakes Powell and Mead. Over the last two decades, the United States Department of the Interior (Department) has engaged with Colorado River Basin partners on various drought response operations. On April 16, 2019, the Colorado River Drought Contingency

Plan Authorization Act (Public Law 116-14) was signed into law. This Act directed the Secretary to execute specific agreements referred to as the “DCP Agreements,” and the DCP Agreements were subsequently executed on May 20, 2019.

However, given that water levels in Lake Powell and Lake Mead have continued to decline, additional actions are necessary to protect the Colorado River system. In June 2022, Reclamation Commissioner Camille Calimlim Touton testified before the U.S. Senate Committee on Energy and Natural Resources and called on water users across the Colorado River Basin to take actions to reduce demands or conserve water in the range of 2 to 4 million acre-feet per year for four years (2023 through 2026) to stabilize reservoir elevations at Lake Powell and Lake Mead. These actions were also needed to prevent the reservoirs from falling to critically low elevations that would threaten water deliveries and power production.

On August 16, 2022, the Department made a commitment to address the drought crisis within the Colorado River Basin with prompt and responsive actions and investments. Additionally, the Inflation Reduction Act of 2022 included \$4 billion in funding specifically for water management and conservation efforts in the Colorado River Basin and other areas experiencing similar levels of drought. (Public Law 117-169.)

On August 17, 2022, the August 2022 24-Month Study was released by Reclamation pursuant to the *Record of Decision Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead*, dated December 2007 (2007 Interim Guidelines). (USDOI 2007a.) Given the 23-year ongoing historic drought and low runoff conditions in the Colorado River Basin, downstream releases from Glen Canyon Dam and Hoover Dam, which created Lake Powell and Lake Mead, respectively, were determined to be reduced again in 2023 due to declining reservoir elevations. In the Lower Basin, calendar year 2023 was the second year in which a shortage condition was declared by the Secretary of the Department of the Interior (Secretary), demonstrating the severity of the drought and critically low reservoir conditions. The August 2022 24-Month Study reflected two key determinations. First, Lake Powell would operate in the Lower Elevation Balancing Tier in water year 2023 (October 1, 2022 through September 30, 2023), pursuant to the 2007 Interim Guidelines and the DCP Agreements. (USDOI 2007a, 2007b and Public Law 116-14.) Second, Lake Mead would operate in its first-ever Level 2a Shortage Condition in calendar year 2023 (January 1, 2023 through December 31, 2023), also pursuant to the 2007 Interim Guidelines and the DCP Agreements. (*Id.*) Each determination triggered certain requirements and operational actions, including shortage reductions in the Lower Basin for Nevada, Arizona, and Mexico.

On September 22, 2022, the Department announced that it was taking additional steps to address drought in the Colorado River Basin. The Department, through Reclamation, created the Lower Colorado River Basin System Conservation and Efficiency Program (LC Conservation Program). The LC Conservation Program is intended to provide new opportunities to fund system conservation and efficiencies in the Lower Colorado River Basin that lead to additional conservation and bridge the immediate need while moving toward improved system efficiency and more durable long-term solutions for the Colorado River System. Lower Colorado River water delivery contract or entitlement holders and Central Arizona Project water delivery contract or sub-contract holders are eligible to participate in the LC Conservation Program.

On October 12, 2022, Reclamation sent a letter to interested parties having a Colorado River water delivery contract or entitlement holders and Central Arizona Project water delivery contract or sub-contract holders, announcing the funding opportunities for voluntary participation in the new LC Conservation Program (October 2022 Letter).

The October 2022 Letter identified the three funding components of the LC Conservation Program:

- 1.a.) Reclamation requested proposals for system conservation resulting in additional volumes of water remaining in Lake Mead at a set price of:
 - One-year agreement: \$330 per acre-foot
 - Two-year agreement: \$365 per acre-foot
 - Three-year agreement: \$400 per acre-foot
- 1.b.) Additionally, Reclamation requested proposals describing Lower Colorado River Basin water conservation plans that can be implemented to reduce consumptive use of lower Colorado River water. The proposals include a price per acre-foot; economic justification for the price; plan description; proposed conservation amount; verification methodologies; approximate time frame for startup and the plan duration.
- 2) Additionally, in early 2023, Reclamation announced an opportunity for entities to submit proposals for long-term system efficiency improvements that will result in additional system conservation. Prior to approving an agreement under this program, Reclamation will evaluate the amount and timing of water conserved in Lake Mead; the duration of the conservation, and previous participation in existing conservation programs and/or the LC Conservation Program described in 1.a. and 1.b. above with emphasis placed on participation in 1.a. conservation.

The October 2022 Letter included an enclosure entitled, “*Enclosure 1 - Requirements for Lower Basin System Conservation and Efficiency Project Proposals*” (Enclosure 1) that described the proposal and selection requirements under set fixed prices (Program 1.a. in the letter) and under an agreed upon price (Program 1.b. in the letter).

In response to the October 2022 Letter, IID submitted to Reclamation a four-year LC Conservation Program 1.b proposal dated November 21, 2022, to cover calendar years 2023 through 2026. Reclamation evaluated IID’s four-year proposal pursuant to the proposal and selection requirements shown in Enclosure 1 to Reclamation’s October 12, 2022 letter and selected IID’s four-year proposal for inclusion in the LC Conservation Program. This program will require a System Conservation Implementation Agreement with Reclamation similar to previous system conservation efforts in the Lower Colorado River Basin. IID and Reclamation agreed to separate IID’s proposal into two parts, one SCIA for calendar year 2023 and one SCIA for calendar years 2024 through 2026. The Proposed Action includes only the calendar years 2024 through 2026 SCIA.

Additionally, in December of 2022, the Department of the Interior, the California Natural Resources Agency (CNRA), IID, and the Coachella Valley Water District signed a *Commitment to Support Salton Sea Management Related to Water Conservation in the Lower Colorado River Basin* to facilitate voluntary conservation in the Lower Colorado River Basin. As part of this agreement, the Department of the

Interior committed \$250 million in support the implementation of CNRA’s Salton Sea Management Program, specifically to support expanded and accelerated projects at the Salton Sea.

1.3 Purpose and Need

Under NEPA, an EA “shall briefly specify the underlying purpose and need to which the agency is responding” with the Proposed Action (40 CFR 1502.13). Reclamation’s (2012) NEPA Handbook states that the purpose and need “shall present a brief statement explaining why the action is being considered.” (Reclamation 2012.) Taken together, the purpose and need for a Proposed Action establish the basic parameters for identifying the range of alternatives to be considered in an EA prepared in accordance with NEPA.

Prolonged drought in the Colorado River Basin and low runoff conditions accelerated by climate change have led to historically low water levels in Lakes Powell and Mead. Over the last two decades, Department leaders have engaged with Colorado River Basin partners on various drought response operations. While hydrology has improved in the Colorado River Basin, reservoir elevations are projected to continue to decline. Therefore, additional action is warranted to protect the Colorado River System and lower the risk of the reservoirs falling to critically low elevations threatening water deliveries and power production. As a result, Reclamation is using the best available science and actively collaborating with water users across the Basin to determine the best ways to meet this increased conservation need.

The historic funding levels committed by the Biden-Harris Administration in the Inflation Reduction Act (Public Law 117-169) provide the financial resources for the LC Conservation Program efforts in the Basin. The LC Conservation Program will incentivize temporary voluntary conservation by funding conserved water on a per acre foot basis. Participation in the LC Conservation Program fulfills the following objectives for IID:

- Promotes voluntary participation of Imperial Valley agricultural water users, including landowners and tenants, so that on-farm efficiency conservation measures can be implemented.
- Implements voluntary water conservation programs to benefit the Colorado River system, Imperial Valley’s sole water supply, without impairing or affecting IID’s historic senior-priority water rights, in a manner consistent with state and federal law.
- Maintains economic viability and vitality of Imperial Valley’s agricultural economy and the surrounding community.

1.4 Background

1.4.1 Institutional Framework of the Lower Colorado River

The Secretary is vested with the responsibility of managing the mainstream waters of the lower Colorado River from Lee Ferry, Arizona in the northern part of the Lower Colorado River Basin to the Southerly International Boundary between the United States and Mexico. The Secretary’s responsibilities are performed pursuant to a body of documents referred to as the “Law of the River.” The Law of the River comprises operating criteria, regulations, administrative decisions,

federal statutes, interstate compacts, court decisions and decrees, an international treaty, and contracts with the Secretary.

1.4.2 Reclamation Lower Colorado Basin Region Responsibilities

On behalf of the Secretary, the Lower Colorado Basin Regional Office performs the Secretary's water master responsibilities for oversight and management of the Lower Colorado River including major dams, reservoirs, diversion works, and other works. The Regional Director, Lower Colorado Basin, represents the Secretary as the water master and performs the oversight, administrative, and operational functions of the water master obligation.

1.4.3 Proposed Action Area

The Proposed Action will involve the conservation of Colorado River water by IID pursuant to the SCIA. The water conservation will occur within the IID Contract Service Area, which is also the "Proposed Action Area," located in Imperial County, California. The extent of the IID Contract Service Area is shown in **Figure 1-1, IID Contract Service Area/Proposed Action Area**.

1.4.4 Overview of IID

IID is an irrigation district, a limited-purpose public agency, formed under the laws of the State of California. IID holds rights to divert water from the Colorado River and deliver it to its water users, including farmers, tenants, landowners, cities, unincorporated areas, and special districts within a portion of Imperial County. IID was formed by a vote of the people pursuant to the California Irrigation District Law (formerly the "California Irrigation District Act") in 1911. Shortly thereafter, IID acquired 13 mutual water companies in the Imperial Valley which had developed and operated water distribution canals. (IID 2011.)

The Colorado River and its tributaries are a vital source of water for 40 million people today, and 80 percent of U.S. winter crops are irrigated primarily with Colorado River water. Pursuant to the Boulder Canyon Project Act of 1928, California's apportionment of Colorado River water is 4.4 million acre-feet per year (MAFY). The IID service area where it is authorized to deliver Colorado River water (Contract Service Area) is located within Imperial County in the Colorado Desert region of southern California. IID shares California priorities 3a and 6a to Colorado River water in accordance with Contract No. Ilr-747 dated December 1, 1932, as amended and supplemented, as modified by the Agreement of Compromise, dated February 14, 1934, between the Imperial Irrigation District and Coachella Valley County Water District, and as modified (and quantified at 3.1 MAFY) by the terms of the Colorado River Water Delivery Agreement, dated October 10, 2003, all of which includes IID's present perfected rights decreed by the U.S. Supreme Court in *Arizona v. California* (Consolidated Decree, 2006, 126 S. Ct. 1543, pg. 1559-1560).

Irrigated agriculture is the primary economic enterprise within IID's Contract Service Area. Agricultural water users conduct on-farm operations, which include crop irrigation (i.e., applying water to fields) and maintaining on-farm drainage systems. IID supplies Colorado River water to several hundred thousand acres within its Contract Service Area via the All-American Canal (AAC), an 80-mile gravity-fed canal, stretching from the Colorado River at the Imperial Dam to the Imperial Valley. (IID 2011, IID 2023.) The AAC and Imperial Dam are owned by Reclamation and operated and maintained by IID through Contract No. Ilr-747, as amended and supplemented.

In calendar year 2022, IID delivered an estimated 2.4 million acre-feet (MAF) of Colorado River water via its approximately 1,668-mile canal system (described in detail in Section 1.3.4 IID Colorado River Water Delivery Facilities), serving water to 5,150 farm accounts and approximately 471,570 irrigable acres. (IID 2023.) IID also manages approximately 1,456 miles of drains that convey drain water from the agricultural fields into the Salton Sea via the Alamo River or New River or that drain directly to the Salton Sea or its shoreline. (IID 2023.) Approximately 96 to 97 percent of Colorado River water deliveries is used for agriculture purposes and less than 4 percent is delivered to non-agricultural water users, including seven cities, two special districts and a private water company that treat the water to safe drinking water standards prior to providing it to their customers, which comprises a total population of approximately 180,000. (IID 2023, USCB 2020.)

1.4.5 IID Colorado River Water Delivery Facilities

IID's operational activities are associated with irrigation (i.e., the diversion, measurement, conveyance, and delivery of Colorado River water via the AAC to customers within the IID Contract Service Area through its canal system) and drainage (i.e., the collection, removal, measurement, and transport of drainage waters to the Salton Sea¹ through its drain system). The major features of these canal and drain systems within the IID Contract Service Area are illustrated in **Figures 1-2a, IID Canal System, and 1-2b, IID Drain System**.

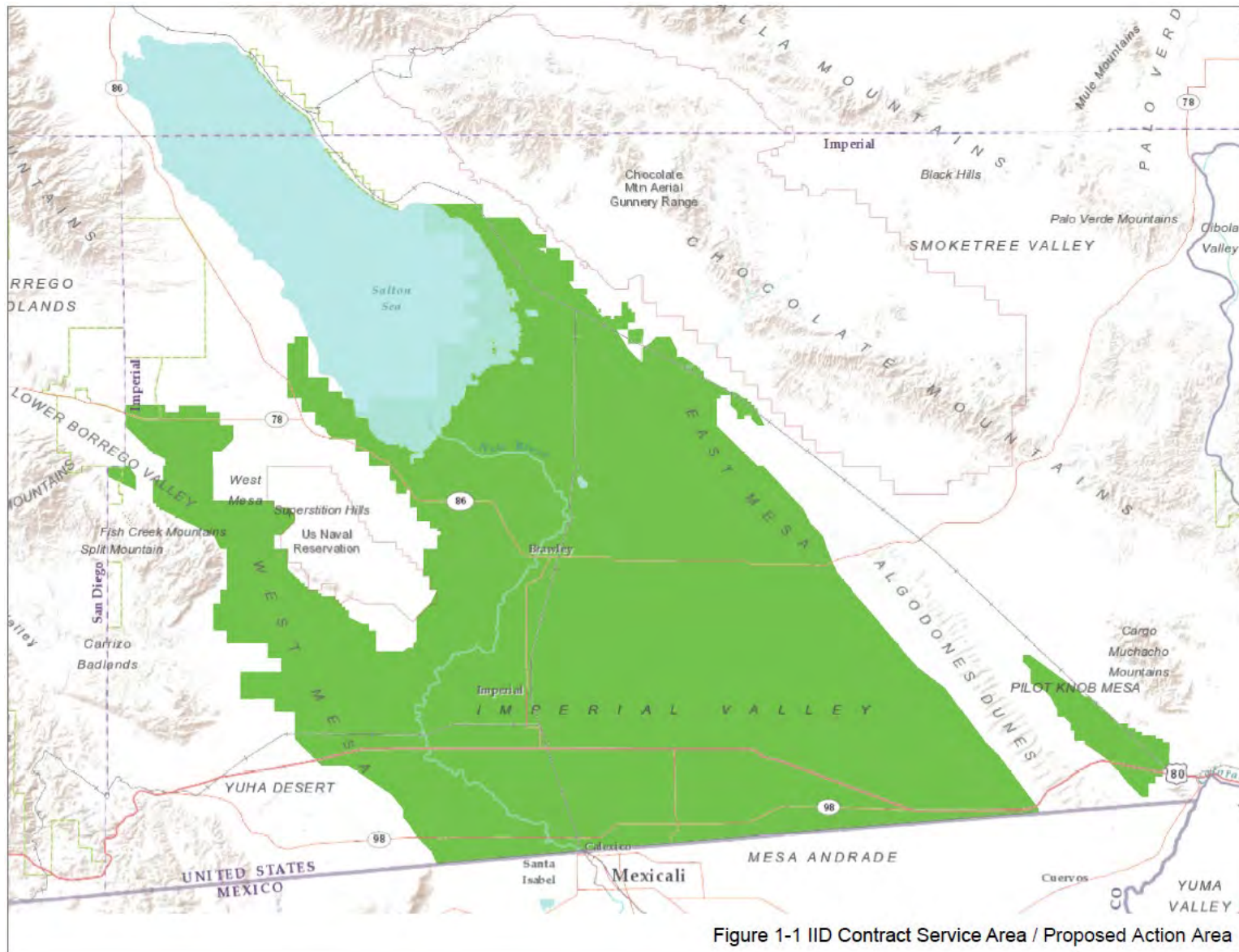
Irrigation

To deliver Colorado River Water to its Contract Service Area, IID orders Colorado River water that is stored in and released from Lake Mead and diverts the water at Imperial Dam. Diverted Colorado River water is desilted and conveyed by gravity through the approximately 80-mile AAC to three primary main canals. (IID 2011, IID 2023.) These main canals (East Highline, Central Main, and Westside Main) branch off the AAC as it moves across the southern portion of the Imperial Valley. The main canals supply Colorado River water to numerous lateral canals throughout IID. The lateral canals carry water from the main canals to fields; turnouts are used on the lateral canals to deliver water to individual fields. All three main canals and all of the lateral canals are owned and operated by IID. In total, IID operates, maintains and repairs a canal system consisting of approximately 1,668 miles of canals, 1,175 miles of which are concrete-lined or pipelined (approximately 1,125 miles of concrete-lined canals, 23 miles of the AAC concrete-lining, and approximately 27 miles of pipe), with unlined earthen channels comprising the remaining miles. (IID 2023.)

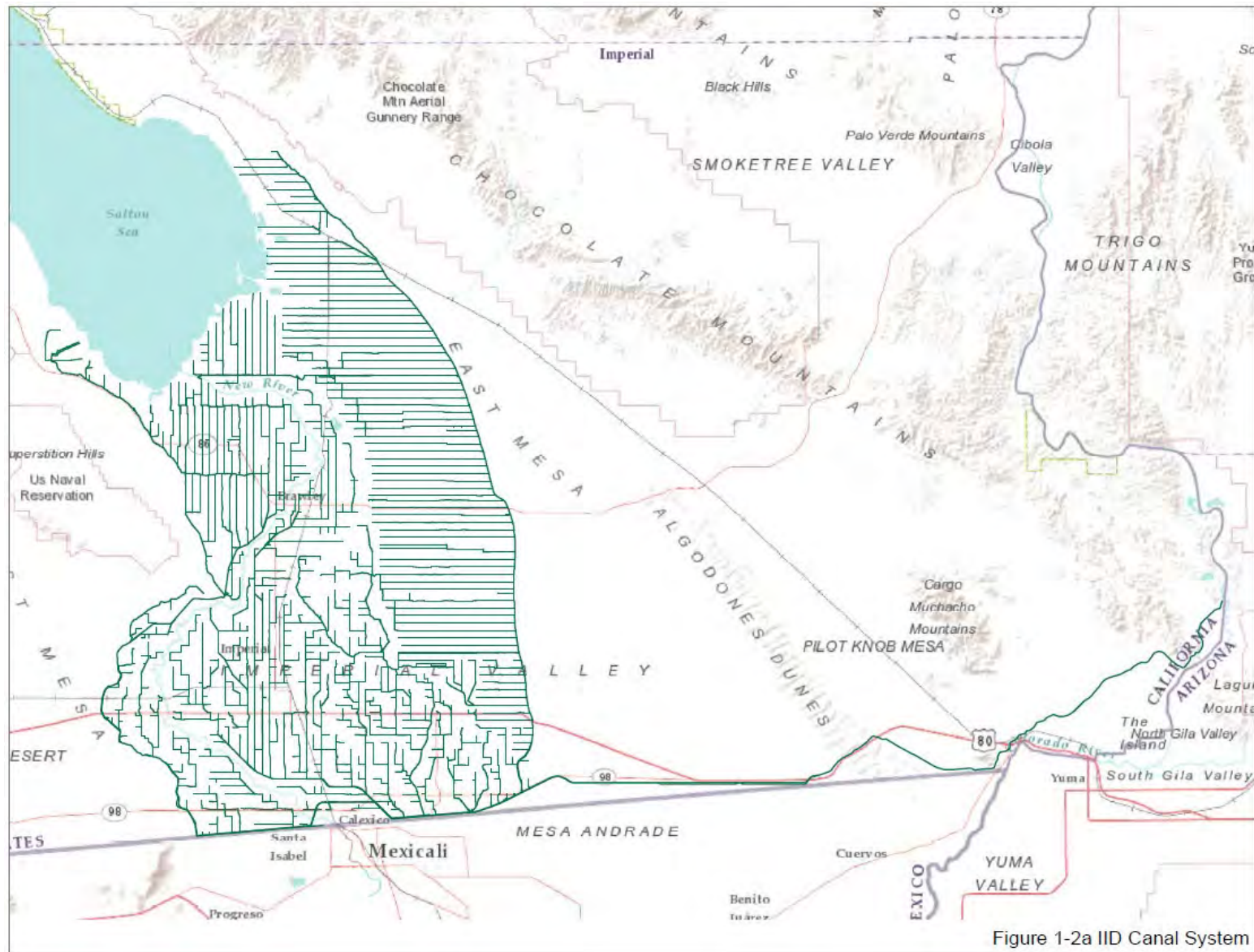
IID's conveyance system includes regulating reservoirs and lateral interceptors with mid-lateral reservoirs shown in **Figures 1-3a, 1-3b, and 1-3c, IID Regulating and Interceptor Reservoirs**. To improve system efficiencies, IID uses eight regulating reservoirs to level out the variability in water supply and demand within its canal system. (IID 2023, IID 2024e.) IID's supply of Colorado River water must be ordered from Lake Mead one week in advance; the quantity is based on the estimated demand. (IID 2024d.) Actual demand is affected by weather conditions, business operations, and other factors that may affect an individual's or entity's water use. Lateral interceptors capture spillage (i.e., operational discharge) for reuse within IID's irrigation system. Each of the four lateral interceptors discharges to a temporary storage reservoir (mid-lateral reservoirs). (IID 2023.) The captured discharge is used for water regulation and delivery purposes. Regulating reservoirs and lateral interceptors with mid-lateral reservoirs conserve water and provide improved service to farmers.

¹ Because the Salton Sea has receded since implementation of the QSA, IID drains that historically connected to the Salton Sea no longer connect directly to the Sea, but instead drain onto the exposed shoreline. (IID 2003, IID 2016, IID 2023a.)

Figure 1-1 IID Contract Service Area/Proposed Action Area



Figures 1-2a and 1-2b IID Canal and Drain Systems





Figures 1-3a, 1-3b, and 1-3c IID Regulating and Interceptor Reservoirs

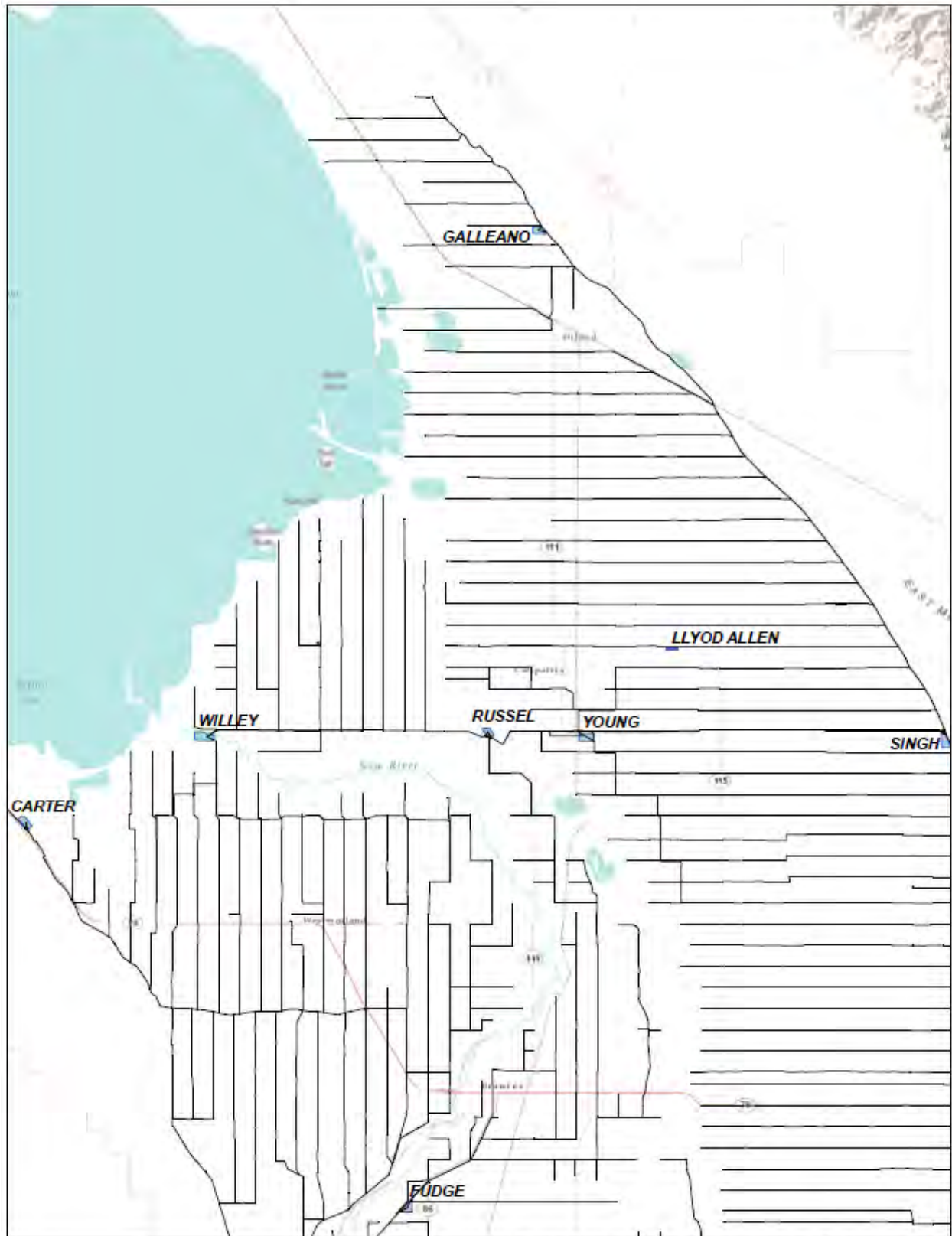


Figure 1-3a Regulating and Interceptor Reservoirs North

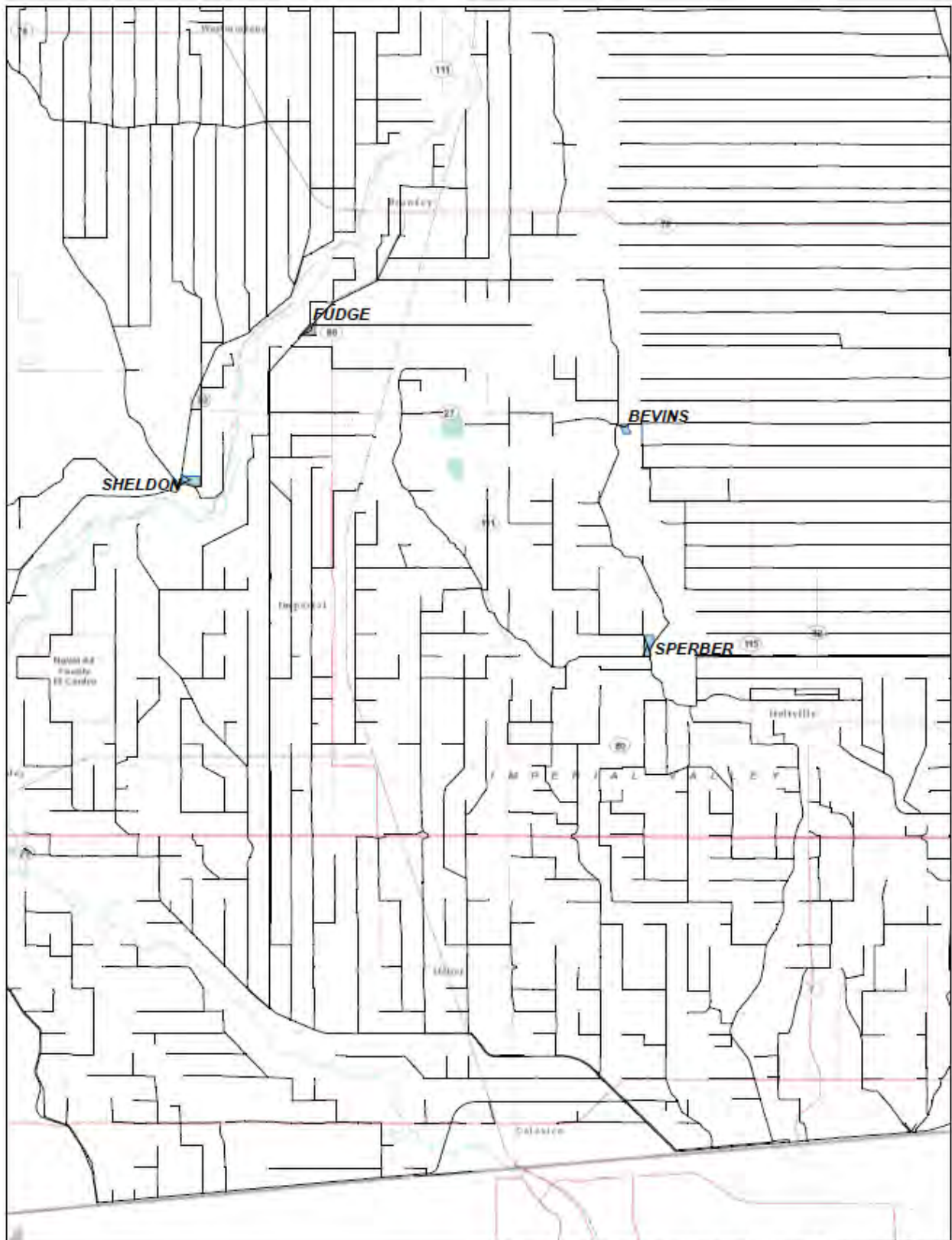


Figure 1-3b Regulating and Interceptor Reservoirs South



Figure 1-3c Regulating and Interceptor Reservoirs Southeast

Drainage

IID's drainage operations include collection, conveyance, measurement, and discharge of drainage water through IID's drain system to the Salton Sea via the New and Alamo Rivers and directly to the Sea or its shoreline. IID provides drainage within its Contract Service Area. To do so, IID operates a complex drainage system consisting of approximately 1,456 miles of open channel and closed (pipeline) drains and 750 surface and subsurface drainage pumps. (IID 2023, IID 2021.) Within fields, there are also thousands of miles of subsurface drains (or tile drains), and associated collection pipelines and water recovery systems that feed into IID's drain system. (IID 2021.)

IID's drain system collects tailwater and tilewater from fields within its Contract Service Area, as well as operational discharge water from IID's canal system. Tailwater is irrigation water that runs off the lower ends of fields and is discharged into drains or is collected in sumps from which it is pumped to the nearest drain, river, or directly to the Salton Sea or its shoreline. Locations where tailwater is collected in sumps and pumped directly to the Salton Sea or its shoreline are shown in **Figure 1-4, Salton Sea Pump Locations**. Tilewater is subsurface drainage water from irrigation water that percolates through the soil during farming operations collected by the subsurface tile drains and discharged into the nearest drain, river, or to a sump that pumps the water directly to the Salton Sea or its shoreline (the pump locations are those shown in Figure 1-4, Salton Sea Pump Locations). Currently, approximately 32,000 miles of subsurface tile drains have been installed within the Imperial Valley. (IID 2021.) Drainage outlets for subsurface tile drains are laid out to provide a drainage outlet for each governmental subdivision of approximately 160 acres, generally at intervals of 0.25 to 0.50 miles or less depending on site-specific conditions and needs. (*Id.*) Operational discharge is water resulting from the operation of IID's canal system, including lateral fluctuations, carriage water, and delivery changes in water orders. Operational discharges enter IID's drain system and then flow to the Salton Sea via the New and Alamo Rivers and directly to the Sea or its shoreline. (*Id.*)

1.4.6 Water Conservation Programs

In 2003, IID entered into a series of multi-party agreements collectively referred to as the "Quantification Settlement Agreement" (or QSA). The QSA provides for conserved water created within IID's Contract Service Area to be transferred to the San Diego County Water Authority (SDCWA) and the Coachella Valley Water District, and extended an existing transfer of conserved water to The Metropolitan Water District of Southern California. Under the terms of the QSA, IID annually transfers approximately 500,000 acre-feet (AF), or 16 percent of its entitlement of Colorado River water.

To meet the terms of the QSA, IID has implemented district-wide irrigation system modifications and on-farm water conservation programs. District-wide irrigation system modifications include canal lining and pipelining, the regulating reservoirs and lateral interceptors with mid-lateral reservoirs, canal and lateral interties, canal seepage recovery projects, and an operational discharge reduction program (e.g. SCADA installation and monitoring, automation of lateral headings, computer data collection). (IID 2024g.) IID also conducts the On-Farm Efficiency Conservation Program (OFECF) for participation by agricultural water users to implement conservation measures during crop seasons to create on-farm conserved water and simultaneously promote water use efficiency. Details of the OFECF are provided in Section 2.2.1 On-Farm Efficiency Conservation Program and Simplified OFECF.

Figure 1-4 Salton Sea Pump Locations

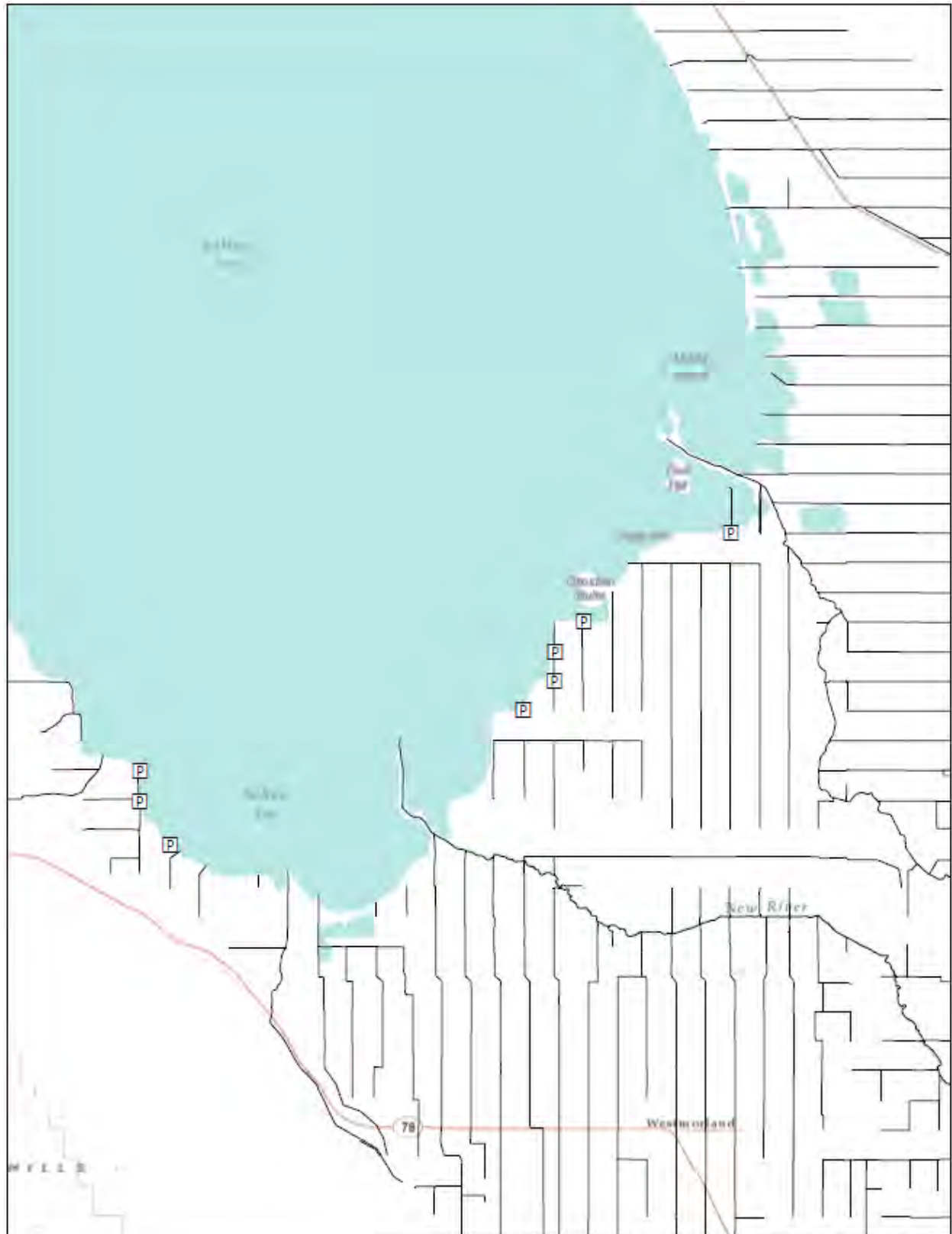


Figure 1-4 Salton Sea Pumps

1.5 Prior Environmental Analysis

In 2002, as the federal lead agency under NEPA, Reclamation certified a Final Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) evaluating the IID Water Conservation and Transfer Project and Habitat Conservation Plan (2002 EIR/EIS). IID was the state lead agency in compliance with the California Environmental Quality Act, California Public Resources Code Sections 21000, et seq. (CEQA). The 2002 EIR/EIS evaluated, among other things, the conservation and transfer of up to 300,000 AFY of Colorado River water to the SDCWA for a designated period of up to 75 years. IID adopted an Addendum to the 2002 EIR/EIS in 2003 that, among other things, modified certain mitigation measures referred to as “the Salton Sea Habitat Conservation Strategies,” including the temporary use of mitigation water, modifications to the terms of the water transfer, and modifications to the Endangered Species Act consultation strategies, allowing the water transfers to occur through a Section 7 consultation rather than with a Section 10 process, which would result in a Habitat Conservation Plan. The 2002 EIR/EIS and the 2003 Addendum are hereafter collectively referred to as the “QSA EIR/EIS.” This EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation efforts, and incorporating information and analysis from the QSA EIR/EIS where appropriate (43 CFR Sec. 46.135).

Simultaneously with the development of this EA, Reclamation prepared a Near-Term Colorado River Operations Final Supplemental Environmental Impact Statement, March 2024, for the 2007 Interim Guidelines (SEIS). The SEIS analyzed recent trends in hydrology relevant to the operation of critical elevation tiers in Lake Powell and Lake Mead. Because the SEIS considers effects of potential reduced flows in the Lower Colorado River Basin resulting from system conservation agreements, this EA does not specifically analyze the potential effects on the mainstem of the Colorado River. This EA incorporates the SEIS by reference in accordance with 43 CFR Sec. 46.135 for purposes of demonstrating consistency with the near-term Colorado River operations. This project contributes to the overall conservation goals of the SEIS. This EA analyzes the effects of the Proposed Action beyond the point of delivery.

1.6 Cumulative Projects List

Cumulative effects are potential impacts on the environment that result from the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7). A list of relevant past, present, and reasonably foreseeable projects that involve the potential for water conservation and reduced water flow to the Salton Sea is provided in **Table 1-1, Cumulative Projects List**.

Table 1-1 Cumulative Projects List

Name	Applicant	Summary	Status
Salton Sea Management Program (SSMP), Phase 1: 10-Year Plan; Species Conservation Habitat Project	DWR	Aquatic habitat and dust control projects	Partially in Planning and Partially in Construction
Lithium Valley Specific Plan	Imperial County	Specific Plan	In Planning
Quantification Settlement Agreement (QSA) Mitigation Monitoring and Reporting Program	IID	Wildlife habitat projects	Ongoing (Partially in Planning, Construction and Completed)
All American Canal Lining	IID	Lining of the canal	Completed
Salton Sea Air Quality Mitigation Program	IID	Dust suppression projects	Ongoing (Partially in Planning, Construction and Completed)
Managed Marsh Complex	IID	Aquatic habitat creation and management	Completed
Colorado River Conservation Agreement between IID and BOR 2023	IID	Colorado River Conservation for 2023	Completed
Coachella Canal Lining	CVWD	Lining of the canal	Completed
WRP No. 4 Recycled Water Improvement Project	CVWD	Enhancing wastewater treatment and diverting discharges to irrigation	In Planning
Colorado River Conservation Agreements between CVWD and BOR	CVWD	Groundwater recharge reduction and fallowing	Completed
Atlas Plant Energy Source Minerals LLC	Imperial County	Lithium zinc and manganese mining	In Planning
Hell's Kitchen PowerCo1 and LithiumCo 1 Project	Hell's Kitchen Geothermal, LLC	49.9 MW geothermal plant and lithium extraction and processing facilities	In Planning
Morton Bay Geothermal Project	Morton Bay Geothermal, LLC	50 MW geothermal plant and related facilities	In Planning
Black Rock Geothermal	Black Rock Geothermal, LLC	77 MW geothermal plant and related facilities	In Planning
Elmore North Geothermal	Elmore North Geothermal, LLC	140 MW geothermal plant and related facilities	In Planning
New River Improvement Project	City of Calexico	River water treatment infrastructure	In Construction

2.0 Description of Alternatives

2.1 No Action Alternative

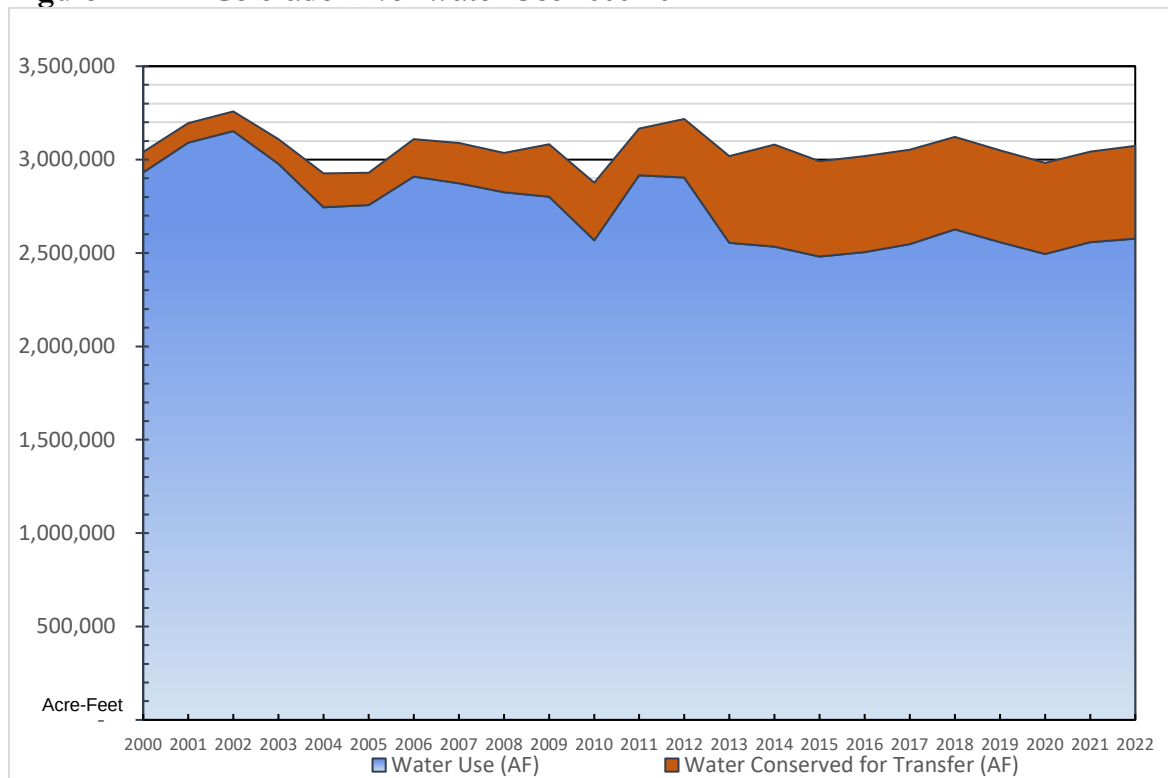
Under the No Action Alternative, IID would not participate in the LC Conservation Program. There would be no volume of conserved water created within IID's Contract Service Area under the LC Conservation Program. No changes to IID's Colorado River water deliveries or on-farm practices would occur.

2.2 Proposed Action Alternative

Pursuant to the Proposed Action, IID would agree to conserve a target volume of 250,000 AF, up to a maximum of 300,000 AF, of Colorado River water each year from 2024 through 2026, targeting a cumulative total of 800,000 AF, but no more than a cumulative maximum total of 900,000 AF, of water between 2024 and 2026, which will remain in Lake Mead to benefit the Colorado River System. The terms and conditions of the Colorado River System water conservation and funding are set forth in the SCIA.

IID has received delivery of approximately 2.5 MAFY from the Colorado River during the period from 2019 through 2022 as shown in **Figure 2-1, IID Colorado River Water Use 2000-2022**. (IID 2023.)

Figure 2-1 IID Colorado River Water Use 2000-2022



This volume is down from the approximately 3 MAFY volumes experienced prior to the implementation of water conservation programs initiated under the QSA beginning in 2003. (IID 2003, IID 2023.) Annual Colorado River water deliveries to IID vary annually primarily based on cumulative agricultural demands in the IID Contract Service Area that are affected by several factors, including economic and climatic conditions. The water conservation programs implemented pursuant to the Proposed Action would temporarily further reduce IID deliveries to approximately 2.2 MAFY for three years from 2024 through 2026. Colorado River water deliveries to IID would return to pre-Proposed Action volumes beginning in 2027 upon the expiration of the SCIA and conclusion of the water conservation programs provided for by the SCIA.

The Proposed Action will provide the funding for IID's implementation of water conservation programs under which agricultural water users conserve water, thereby reducing water diversions from the Colorado River at Imperial Dam. The potential conservation programs include the following:

- On-Farm Efficiency Conservation Program (OFECF) or Simplified OFECF,
- Deficit Irrigation Program (DIP), and
- Farm Unit Fallowing Program (FUFPP).

These water conservation programs are described in further detail below. One or a combination of two or more of these water conservation programs will be implemented from 2024 through 2026, to achieve the annual 250,000 AF water conservation volume target and the cumulative 800,000 AF water conservation volume target under the Proposed Action. All water conservation programs are voluntary and offered to all agricultural water users for all irrigable agricultural acreage (or fields) within IID's Contract Service Area. While the implementation of the programs will overlap in time, agricultural water users will only be able to have one field participate in one conservation program at a time. This is largely because on-farm efficiency conservation and fallowing are mutually exclusive. In other words, the OFECF or simplified OFECF requires active farming activities and irrigation on a field and the DIP and FUFPP require no irrigation or farming activities on a field. Therefore, participation in the OFECF or simplified OFECF and the DIP or FUFPP cannot be done simultaneously. Additionally, the DIP and FUFPP would have overlapping conservation periods and the requirements for each program are separate and unique to the program. Consequently, a field could only be in one program at a time.

The fallowing programs involve halting the application of irrigation water to fields for various periods of time. The FUFPP is for a 6-month to one-year period during which no crop is actively farmed on a field and no irrigation water is applied to the field. The DIP is a 45- to 60-day period in the summer during which no irrigation water is applied to alfalfa, bermuda grass, or klein grass crops, or seed crops of any of those three crops. The efficiency-based programs involve the implementation of one or more conservation measures on a crop and field to reduce the consumptive use of the crop and/or reduce delivery of irrigation water to the field while simultaneously maintaining crop production. IID intends to prioritize the OFECF and DIP water conservation programs.

2.2.1 On-Farm Efficiency Conservation Program (OFECF) and Simplified OFECF

Under the Proposed Action, IID may implement the existing OFECF or a simplified OFECF. The maximum acreage potentially participating in the OFECF or the simplified OFECF is 65,000 acres

per year resulting in up to a maximum of 50,000 acre-feet per year of efficiency-based conserved water. However, IID does not anticipate that the maximum acreage and acre-feet would be reached with implementation of the DIP and/or FUIFP because there is a finite amount of farmable agricultural acreage within IID's Contract Service Area and, as a result, there is an inverse dynamic relationship between the OFECP and the implementation of the DIP and/or FUIFP. As described above, the same farmable agricultural acreage cannot simultaneously be in the OFECP and another conservation program. Therefore, participation of fields in the DIP or FUIFP would reduce the acreage participating in the OFECP.

The OFECP results in no change in cropping patterns but reduces the amount of water consumptively used by a specific crop on a specific field through the use of field-level conservation measures that result in increased agricultural water use efficiencies. The conservation measures are selected by the agricultural water user and include, but are not limited to, the use of drip and sprinkler irrigation systems, tailwater return systems, field reconfiguration measures, and land-leveling. Some of the conservation measures require ground disturbance; these will be restricted to areas of existing and historical surface and vertical disturbance. The OFECP uses an algorithm to calculate a consumptive water use reduction associated with a specific crop on a specific field participating through implementation of one or more conservation measures for the crop season, which is a calendar year if it is a perennial crop. The algorithm uses field-specific water use histories by crop (or district-wide averages if there is no water use history for that crop on that field). Participating crops and fields that result in a consumptive water use reduction are paid for the water conservation volume on a per acre-foot basis.

The simplified OFECP is generally the same program as the OFECP, but modifies the water conservation calculation methodology. Rather than calculating the consumptive water use reduction volume associated with a specific crop on a specific field, the simplified OFECP would use an average consumptive water use reduction volume, using the historic IID-wide OFECP data set, associated with each specific combination of crop type, conservation measure(s), and soil type. The average conservation volumes would be recalculated each year based on updated data from the field-level OFECP consumptive water use reduction calculations. Participating crops and fields that implement one or more conservation measures resulting in a consumptive water use reduction would be paid for the IID-wide average water conservation volume on a per acre-foot basis.

2.2.2 Deficit Irrigation Program (DIP)

Under the Proposed Action, IID may implement the DIP for agricultural water users on fields anywhere in the IID Contract Service Area that are owned or leased for agricultural use and cultivating alfalfa, bermuda grass, or klein grass, or seeds for one of these three crops. Participating fields would be allowed to choose between a 45-day to 60-day time period within the months of June, July, August, and September during which time the field would not be irrigated. The maximum acreage potentially participating in the DIP is 180,000 acres per year resulting in up to a maximum of 226,000 acre-feet of conserved water per year. Participating fields would be paid for the water conservation volume attributable to the fallowed 45-day to 60-day time period on a per acre-foot basis.

2.2.3 Farm Unit Fallowing Program (FUDP)

Under the Proposed Action, IID may implement the FUDP. Farm units are an aggregation of fields managed by an agricultural water user. Participating farm units will forego delivery of irrigation water on certain fields within the farm unit for the term of 6 months to one year. The FUDP would be for a 6-month to one-year fallowing period beginning July 1st of one year up to June 30th of the following year consistent with typical agricultural lease terms. To implement the FUDP, IID will determine the total volume of conserved water required for the FUDP based on participation in the OFECP and/or DIP and the remaining conserved water volume needed to meet IID's conservation targets. Each farm unit would be offered a pro-rata share of the total FUDP conserved water volume. The agricultural water user would be allowed to accept the volume offered and identify which field(s) in a farm unit to be fallowed.

The maximum acreage potentially participating in the FUDP is 34,450 acres resulting in up to a maximum of 172,250 acre-feet of conserved water for a one-year period. However, due to the term of the FUDP, IID would only be able to implement one one-year program by the end of 2026, from July 1, 2025 through June 30, 2026. Under this one-year program, for the 6 months in 2025 (July 1 through December 31) the maximum acreage potentially participating in the FUDP is 34,450 acres resulting in a water conservation volume of up to a maximum of 86,125 acre-feet. Similarly, for the 6 months in 2026 (January 1 through June 30), the maximum acreage potentially participating in the FUDP is 34,450 acres resulting in a water conservation volume up to a maximum of up to 86,125 acre-feet. If IID implements a 6-month program before or after the one-year program, any 6-month period would be the same maximum acreage potentially participating in the FUDP and the same maximum water conservation volume resulting from that acreage as set forth above. Participating farm units would be paid for the water conservation volume attributable to the fallowed fields for the 6-months to one-year term on a per acre-foot basis.

To minimize the potential for dust emissions from fallowed lands, participants in the FUDP would be required to implement best management practices (BMPs) recommended by the U.S. Department of Agriculture Natural Resources Conservation Service, including the following:

- 1) Plan ahead to start with plenty of vegetation residue and maintain as much residue on fallowed fields as possible.
- 2) Avoid any tillage.
- 3) Avoid any traffic on the field or tillage when fields are extremely dry to avoid pulverization.
- 4) If residues are not adequate, either small grain can be seeded around the first of the year to take advantage of winter rains, or soil stabilization chemicals may be applied to fallowed lands.

2.2.4 IID Drain and Salton Sea Vegetation Monitoring and Reporting Plan

To ensure that the Proposed Action will not result in adverse effects to listed species within the IID Contract Service Area, specifically the desert pupfish and the Yuma Ridgway's rail, IID will implement this IID Drain and Salton Sea Vegetation Monitoring and Reporting Plan (Monitoring Plan) for the three years of the Proposed Action, calendar years 2024 through 2026. This Monitoring Plan includes three monitoring components. Section 2.2.4.2 Drain Monitoring and Section 2.2.4.3 Vegetation Monitoring identify ongoing drain and vegetation monitoring to be conducted by IID throughout the short-term period of the Proposed Action. This ongoing monitoring is to provide

context and information regarding the general conditions of the IID drains and adjacent vegetation along the southern shoreline of the Salton Sea during the implementation of the conservation programs under the Proposed Action. Section 2.2.4.4 Action Triggers establishes triggers that would require action to be taken by IID. Vigilant drain and vegetation monitoring will be conducted to identify if or when those triggers occur. Section 2.2.4.5 Impact Avoidance Measures sets forth the specific actions to be taken by IID, when an action trigger occurs, to ensure that there are no adverse effects to listed species under the Proposed Action. This Monitoring Plan will be conducted in coordination with USFWS, Reclamation, and CDFW to confirm that the Proposed Action will not adversely affect listed species within the IID Contract Service Area.

2.2.4.1 *Establish Monitoring Plan Area*

The Proposed Action will result in water conservation within the IID Contract Service Area, which will reduce the volume of water flowing into IID's drains for the temporary short-term period of three years. Desert pupfish and Yuma Ridgway's rails have been recorded within the terminus of certain IID drains that flow directly to the Salton Sea and within the vegetation occurring along the southern shoreline of the Salton Sea adjacent to the drains. This Monitoring Plan will be applicable to the IID drains that flow directly to the Salton Sea and the vegetated areas along the southern shoreline of the Sea receiving water from those IID drains.

2.2.4.2 *Drain Monitoring*

Flow Monitoring

During the short-term period of the Proposed Action, drain flow data will be collected from IID drains that flow directly to the Salton Sea on an ongoing basis using one of the two following methods:

1. Automatic sensors installed within the drain that collect data at one-hour intervals; or
2. Hand-held water current meters manually used by IID staff that collect data at weekly intervals.

Automatic sensors can be installed in drains where weir structures are located such that the physical conditions of the weir, drain banks and terrain of the drain terminus are sufficiently stable to allow for the installation and maintenance of the sensor and the reliable operation of the sensor to collect the data. Below are pictures of the automatic sensors used by IID.² The automatic sensors are ultrasonic water level sensors that are located above the water level of the drain and measures the distance between the sensor and the water surface using sound waves. The data is transmitted through IID's supervisory control and data acquisition (SCADA) computer system, which is a system of software and hardware elements that allow IID to transmit and receive electronic data. The water level data collected from the automatic sensors are converted to a flow rate calculated at that cross section of the drain per unit of time, or cubic feet per second (cfs) in this instance, using a hydrometric calculation of the weir length (width of the weir structure at the grade boards) and the water height (equal to the water level minus the weir elevation).

² The specifications for the automatic sensors are the following: ToughSonic 14 ultrasonic sensor/Senix. Long range — small housing, Rugged construction, IP68 rated, Indoor or outdoor uses, Straight or tapered thread options, Two outputs plus serial data, Serial data-only models. Temperature compensation options, Push-button or PC configurable, Open channel flow — flumes, weirs.

Automatic sensor (2 views)



An automatic sensor cannot be installed and properly operated within certain drains due to the physical conditions and terrain around and within the terminus of those drains. In those instances, the only feasible method of drain flow measurement will be hand-held water current meters. Below are pictures of the hand-held water current meters used by IID.³ The hand-held water current meters collect water velocity data through the probe that is placed in the water. The water velocity data is then transmitted from the probe through the probe cable into the hand-held controller that stores the data until it is exported from the controller into IID's computer system. Again, the water velocity data collected from the hand-held current meter at differing depths across a single cross section of the drain that are then converted to a flow rate calculated per unit of time, or cubic feet per second (cfs) in this instance, using a hydrometric calculation of the area of water at the cross section and the average velocity of the water at that cross section.

Hand-held water current meter (2 views)



The majority of the IID drains that flow directly to the Salton Sea have automatic sensors installed for the drain flow data collection as shown in **Table 2-1, IID Drain List** below. Table 2-1, IID Drain List includes the IID drain locations where desert pupfish have been recorded.

³ The specifications for the hand-held water current meters are the following: FlowTracker Handheld-ADV® (Acoustic Doppler Velocimeter) measures 2D or 3D currents, attaches easily to wading rods, and features an automatic discharge computation using a variety of international methods, including ISO and USGS standards. The FlowTracker also features SonTek's exclusive "SmartQC" which involves a series of built-in data quality checks, Unmatched performance in shallow water and low flows.

Table 2-1 IID Drain List

Drain Location⁴	Flow Data Collection Method
Niland Drain 1	Automatic Sensors
Niland Drain 2	Automatic Sensors
Niland Drain 3	Automatic Sensors
Niland Drain 4	Automatic Sensors
O Drain	Automatic Sensors
P Drain	Automatic Sensors
Poe Drain	Hand-held Current Metering
Pumice Drain	Hand-held Current Metering
Q Drain	Automatic Sensors
R Drain	Automatic Sensors
S Drain	Automatic Sensors
San Felipe Wash Drain	Automatic Sensors
T Drain	Automatic Sensors
Trifolium Drain No. 1	Automatic Sensors
Trifolium 12 Drain	Automatic Sensors
Trifolium 13 Drain	Hand-held Current Metering
Trifolium 14A Drain	Hand-held Current Metering
Trifolium 18 Drain	Hand-held Current Metering
Trifolium 19 Drain	Hand-held Current Metering
Trifolium 20 Drain	Hand-held Current Metering
Trifolium 20A Drain	Automatic Sensors
Trifolium 22 Drain	Automatic Sensors
Trifolium 23 Drain	Automatic Sensors
Trifolium Storm Drain	Hand-held Current Metering
U Drain	Automatic Sensors
Vail 5 Drain	Hand-held Current Metering
Vail Lateral 6	Automatic Sensors
W + Y Drain	Automatic Sensors
Vail Cutoff Drain	Hand-held Current Metering
Z Drain	Automatic Sensors

The drain flow data will be collected by the automatic sensors and hand-held current meters at the general location points shown on **Figures 2-2a, 2-2b, and 2-2c, Drain Flow Monitoring Locations**. It is anticipated that the exact locations where IID staff will be able to use the hand-held current meter will need to be coordinated with USFWS, Reclamation, and CDFW. Consideration will need to be given to IID staff safety to traverse through dense vegetation located within the terminus of each drain (downstream of the last structure) to collect the drain flow data. The drain

⁴ This list does not include the Niland 5 Drain, which has no record of pupfish being located within it, or the Trifolium 21 Drain, which is a pipeline. Vegetation monitoring set forth in this Monitoring Plan will address the volume of drain water from all IID drains that flow directly to the Salton Sea to ensure there are no adverse effects to Yuma Ridgway's Rails. Therefore, there is no purpose in monitoring drains in which pupfish have not been recorded, which includes only the Niland 5 Drain and the Trifolium 21 Drain.

flow data will be compiled to be available for review during the quarterly meetings with USFWS, Reclamation and CDFW and to be included in the annual reports submitted to USFWS, Reclamation and CDFW.

Visual Monitoring

IID staff will conduct weekly drain habitat monitoring by photographic documentation for each drain identified in Table 2-1, IID Drain List. The visual drain habitat monitoring will be conducted by IID staff at the general location points shown on **Figures 2-3a, 2-3b, and 2-3c, Drain Habitat Monitoring Locations**. These locations have been identified by IID staff as feasibly accessible for the visual monitoring to be safely conducted by IID staff near each drain terminus (downstream of the last structure) and to allow sufficient visual access to adequately document the conditions of the terminus of each drain. The drain habitat photographic documentation will be compiled to be available for review during the quarterly meetings with USFWS, Reclamation and CDFW and to be included in the annual reports submitted to USFWS, Reclamation and CDFW.

Farmland Mapping

IID will develop maps showing drain-sheds for the drains that flow directly to the Salton Sea. To document existing conditions, IID will develop a map showing the 5-year (2019-2023) historical field participation in the existing OFECP. The drain-shed map and the historical OFECP map will be provided to the USFWS, Reclamation, and CDFW upon completion. IID will also develop maps showing fields participating in the IID conservation programs under the Proposed Action. These maps will be updated each quarter and available for review during the quarterly meetings with USFWS, Reclamation and CDFW. These maps will also be included in the annual reports submitted to USFWS, BOR, and CDFW.

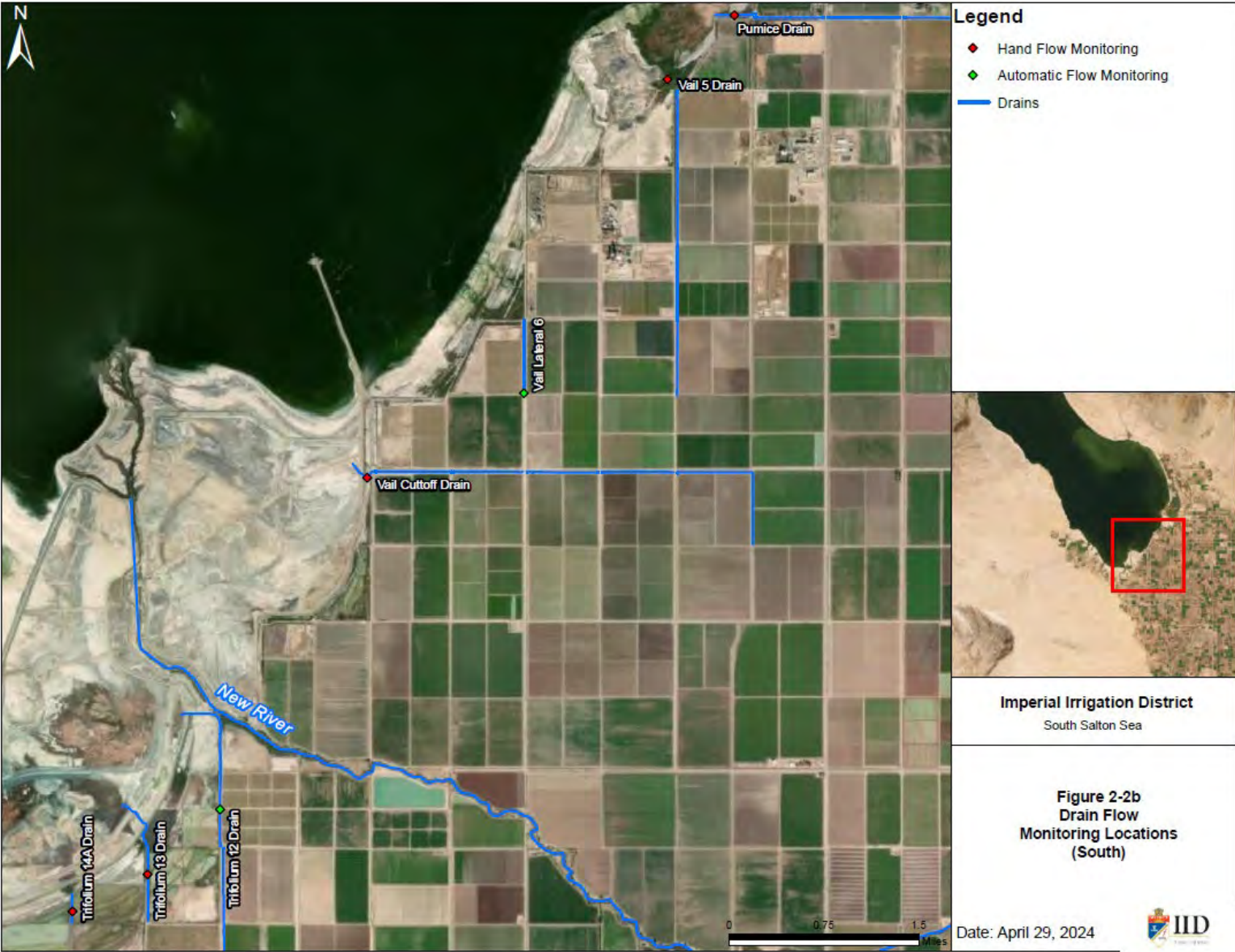
2.2.4.3 Vegetation Monitoring

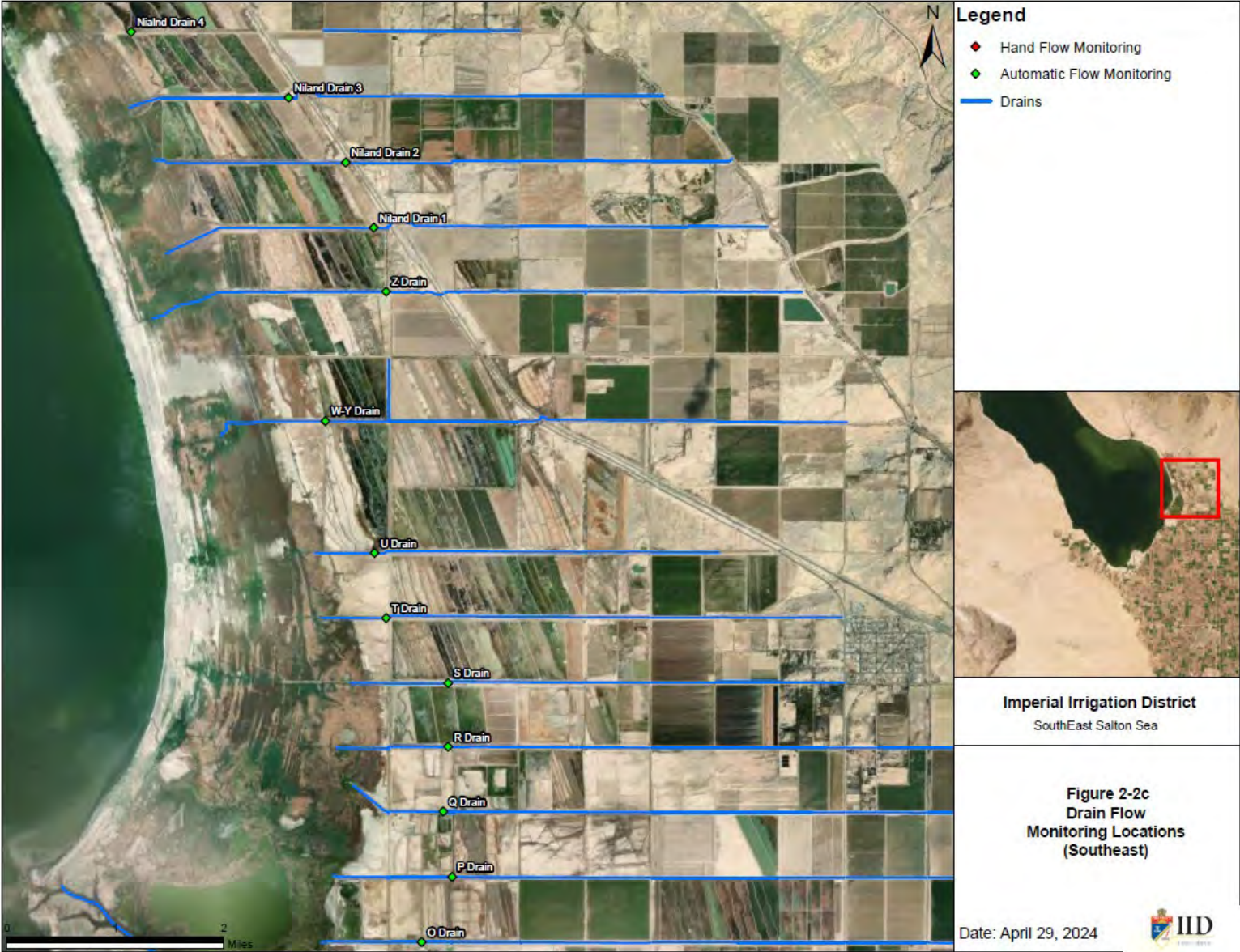
Satellite Imagery and Mapping

IID will map existing vegetation communities adjacent to the termini of IID drains along the southern shoreline of the Salton Sea within the three Vegetation Monitoring Areas shown on **Figures 2-4a, 2-4b, and 2-4c, Vegetation Monitoring Areas**, which will be provided to the USFWS, Reclamation, and CDFW upon completion. The Vegetation Monitoring Areas do not include vegetation within the CNRA's Salton Sea Species Conservation Habitat Project area because that area is under construction and subject to CNRA's obligations relating to the vegetation within that site.

Figures 2-2a, 2-2b, and 2-2c Drain Flow Monitoring Locations

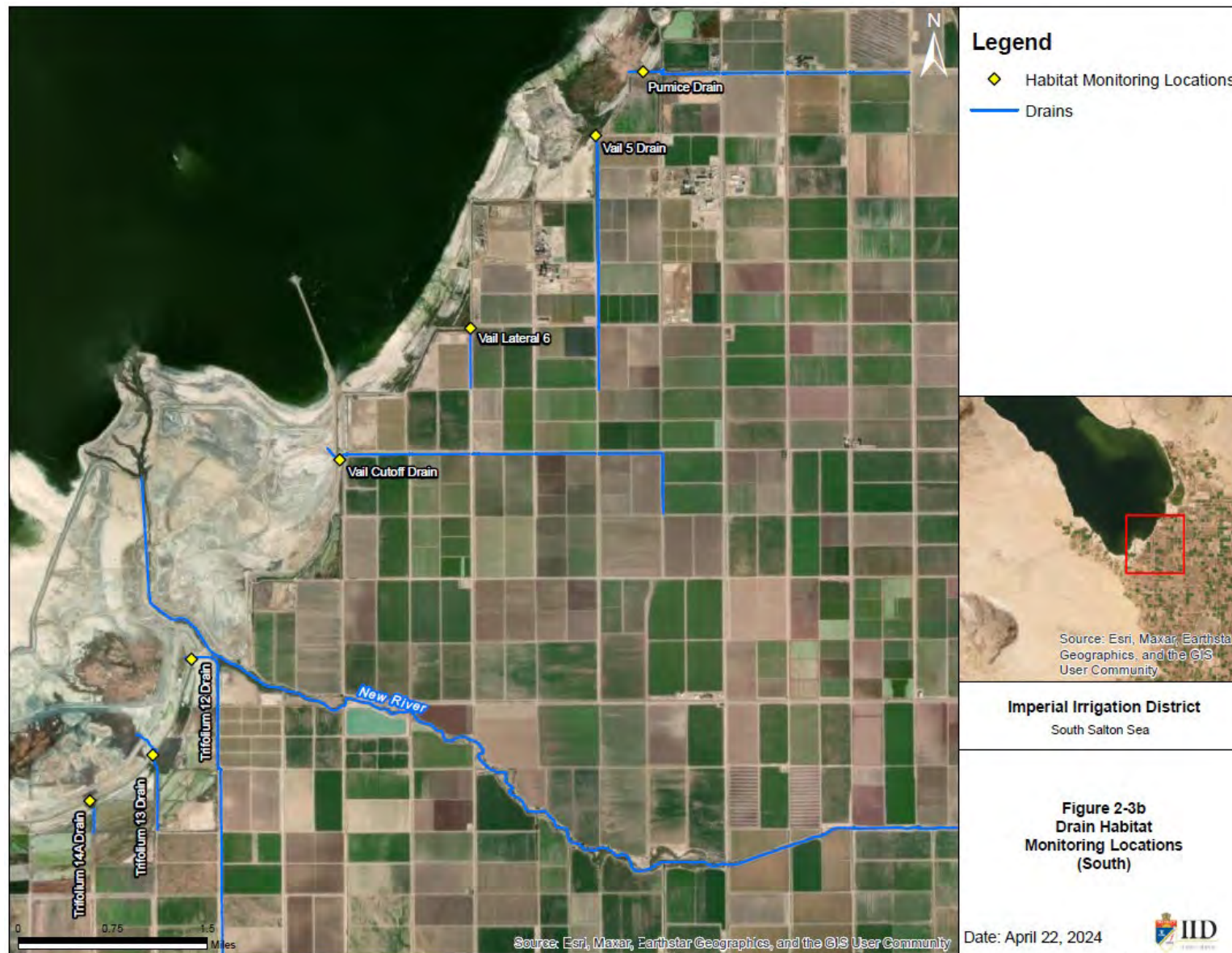


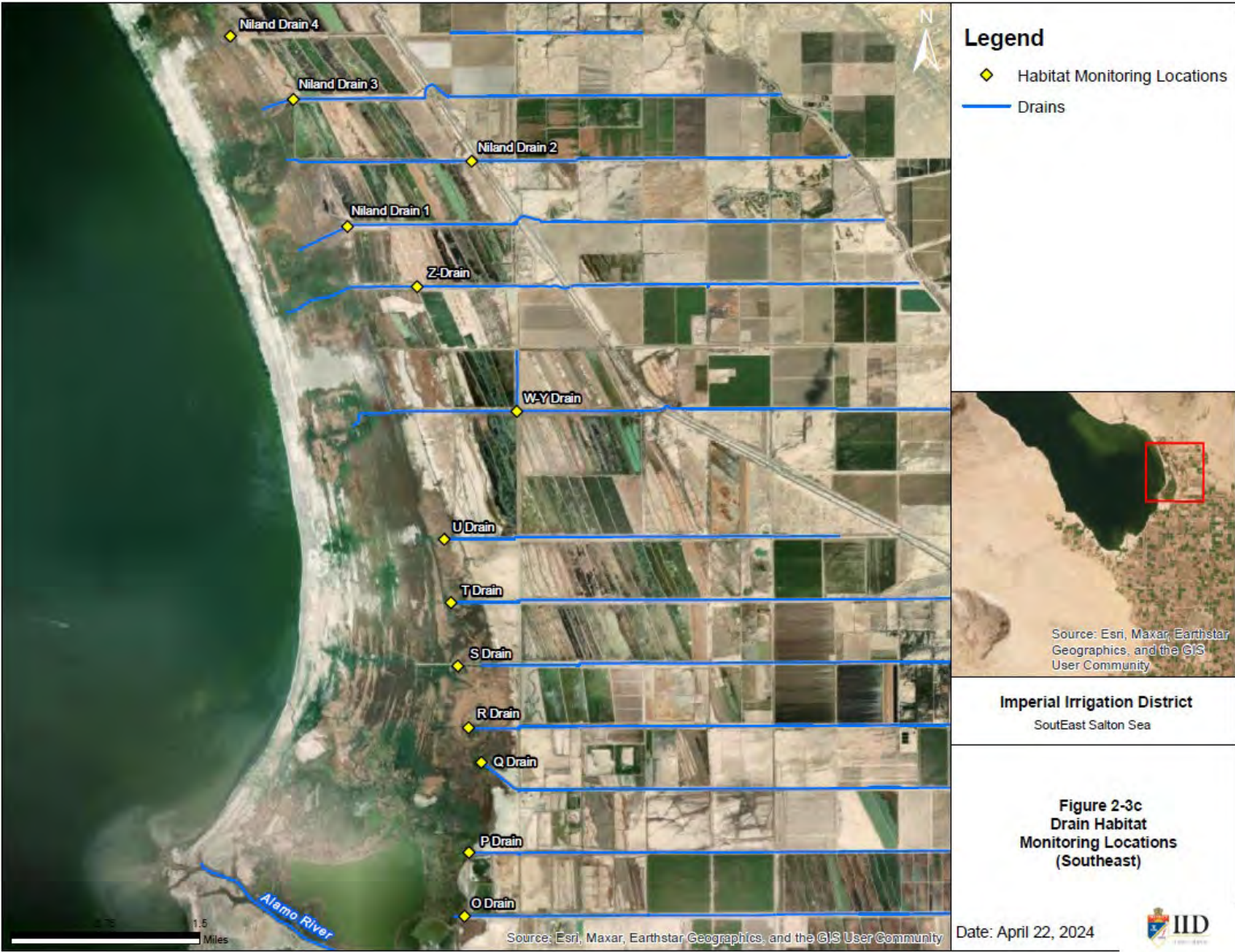




Figures 2-3a, 2-3b, and 2-3c Drain Habitat Monitoring Locations







Figures 2-4a, 2-4b, and 2-4c Vegetation Monitoring Areas







Mapping will be completed using a combination of high resolution multi-spectral satellite imagery and object-based image analysis techniques informed by field survey observations. Satellite imagery with ultra-high and high resolution will be acquired. The resolution specifications will be provided with any imagery submitted. Field surveys will be completed within 4 to 6 weeks of satellite imagery acquisition along the periphery of the vegetated areas within the Vegetation Monitoring Areas where accessible. Unmanned Aerial Vehicle (UAV) video transects will also be collected for interior portions of the vegetated areas inaccessible on foot. The satellite imagery and field survey data will be processed and analyzed to develop vegetation community maps. Processing the satellite imagery and field survey data involves 3 steps: 1) conversion to reflectance and calculation of vegetation indices, 2) classification, and 3) accuracy assessment.

Conversion to reflectance and calculation of vegetation indices. Reflectance of light spectra from plants/leaves changes with plant type, water content within tissues, and other intrinsic factors. The reflectance from vegetation to the electromagnetic spectrum allows for the mapping of vegetation using raw satellite imagery. The raw satellite imagery values are in Digital Number (DN). Vendor specified protocols will be used to convert DN values to reflectance values. Reflectance values are generally recommended for use in vegetation index calculations as it provides a more accurate representation and can be used analytically in a canopy reflectance model.

Classification. Satellite imagery will be analyzed using the Object Based Imagery Analysis (OBIA) technique. Specifically, imagery will be segmented to derive hierarchical objects that clearly delineate relevant plant communities at a fine scale. OBIA allows for incorporating meaningful non-spectral features (i.e. texture, size, shape, etc.) for class separation and classification and accounts for landscape hierarchy of vegetation ecosystem organization and structure. The field surveys will be used to classify a subset of objects as ground-truth and training data for the machine learning algorithm. A trained ecologist using photo-interpretive techniques and ground truth video transects will review the machine learning classification results.

Accuracy assessment. A subset of field survey points will be held out of the classification and used for an independent validation and accuracy assessment. Map accuracy will be reported for all classes using a fusion matrix approach. This will provide information on accuracy and misclassification within and between classes.

2.2.4.4 Action Triggers

Drains

Because each drain exhibits variable flow rates under existing conditions, recognizing that approximately 70% of fields within IID's contract service area are participating in existing conservation programs implemented under the QSA, this Monitoring Plan must consider that drain flow variability could occur due to factors unrelated to the Proposed Action. Therefore, these action triggers will focus on low flows at each drain where a majority of fields within the drain-shed are enrolled in the DIP or FUFPP or were not participating in the OFECP within the last 5 years (2019-2023) prior to 2024 and become enrolled in the OFECP (or the simplified OFECP) during the three-year period of the Proposed Action. Because participation in the conservation programs will vary throughout the year, IID will provide USFWS, Reclamation, and CDFW the list of drains that will be subject to these action triggers and the impact avoidance measures on a quarterly basis.

For the drains on the list provided to USFWS, Reclamation, and CDFW, the following action triggers will apply:⁵

- 1) **Automatic Sensors.** For the drains with automatic sensors installed, the automatic sensors have the capability of triggering a signal when flows reach a zero-flow level. That signal can be directed to designated IID staff when that occurs. To account for existing conditions, IID staff will calculate for each drain on the list the average number of consecutive days⁶ in a week (7-day period) that the flows reach a zero-flow level during the most recent 5-year period (2019-2023). On the next consecutive day following the average number of consecutive days for that drain to have a zero-flow signal, IID will follow the impact avoidance measures listed in Section 2.2.1.5 Impact Avoidance Measures. For example, if a drain is calculated to have an average of two consecutive days in a week of a zero-flow level during the most recent 5-year period (2019-2023), on the third consecutive day that IID receives a zero-flow signal, IID staff will follow the impact avoidance measures listed in Section 2.2.1.5 Impact Avoidance Measures. If a drain is calculated to have an average of no days in a week of a zero-flow level during the most recent 5-year period (2019-2023), on the day that IID receives a zero-flow signal, IID staff will follow the impact avoidance measures listed in Section 2.2.1.5 Impact Avoidance Measures.
- 2) **Hand-Held Current Meters.** For the drains measured with the hand-held current meters once a week, there is no historical data of the drain flows. However, an indication of drain flows are the irrigation delivery schedules of the fields that drain into that specific drain. To account for existing conditions, IID staff will calculate for each drain on the list the average number of consecutive days in a week (7-day period) that there are no deliveries to the fields that drain into that specific drain and no operational water discharges in that drain (if the drain receives operational water discharges) during the most recent 5-year period (2019-2023). On the next consecutive day following the average number of consecutive days for that drain to have no deliveries and no operational water discharges, IID will follow the impact avoidance measures listed in Section 2.2.1.5 Impact Avoidance Measures. For example, if a drain is calculated to have an average of two consecutive days in a week of no deliveries and no operational water discharges during the most recent 5-year period (2019-2023), on the third consecutive day that IID receives the irrigation delivery schedule showing no deliveries that day, IID staff will follow the impact avoidance measures listed in Section 2.2.1.5 Impact Avoidance Measures. If a drain is calculated to have an average of no days in a week of no deliveries and no operational water discharges during the most recent 5-year period (2019-2023), on the day that IID receives the irrigation delivery schedule showing no deliveries that day, IID staff will follow the impact avoidance measures listed in Section 2.2.1.5 Impact Avoidance Measures.

⁵ Action triggers will not apply if repair or maintenance work on a drain or canal lateral cause the action triggers set forth in this section (the zero-flow signal or no deliveries and no operational water discharges). Such repair or maintenance work occurs under existing conditions and not as a result of the Proposed Action.

⁶ “Days” shall mean a 24-hour period, but this Monitoring Plan expects monitoring, action triggers, and impact avoidance measures to occur during daytime hours to the maximum extent possible. The signal or data will be sent to or accessed by IID staff each morning.

Vegetation

IID will develop an early warning system focused on monitoring potential changes in the biophysical conditions of the mapped vegetation communities in the Vegetation Monitoring Areas (See Figures 2-4a, 2-4b, and 2-4c, Vegetation Monitoring Areas). The early warning system will involve the monitoring of the mapped vegetation communities using satellite-based indices representative of surface water stress and vegetation productivity/vigor. Specifically, this includes the use of the Normalized Difference Water Index (NDWI) for water stress and Leaf Area Index (LAI) for vegetation productivity/vigor. NDWI is a measure of surface water stress using a satellite-derived index from the Near-Infrared (NIR) and Short-Wave Infrared (SWIR) channels. NIR reflects leaf internal structure and leaf dry matter. SWIR reflects changes in both the vegetation water content and the spongy mesophyll structure in vegetation canopies. LAI is a plant-specific biophysical parameter that can be monitored *in situ* or remotely to quantify changes in vegetation productivity. LAI can be estimated using remote sensing techniques from satellite optical data based on the inversion of a physical canopy reflectance model.

The early warning system will include an analysis of the most recent 5-year historical conditions and changes to the mapped vegetation communities recognizing that the vegetation communities within the Vegetation Monitoring Areas change throughout any year due to seasonal and temperature changes, among other factors under existing conditions. Historical satellite imagery of the vegetation communities within the Vegetation Monitoring Areas from 2019 to 2023 will be analyzed to understand the recent past seasonal and inter-annual variability. Historical information is critical for developing statistics from which early warning thresholds of meaningful change can be developed. Past variability of vegetation attributes will be analyzed to identify, at an appropriate scale, thresholds for meaningful change in the mapped vegetation communities. If these thresholds of meaningful change are triggered, IID will follow the impact avoidance measures listed in Section 2.2.1.5 Impact Avoidance Measures.

2.2.4.5 Impact Avoidance Measures

Drains

When an action trigger set forth in Section 2.2.1.4 Action Triggers is reached for any of the drains, with or without automatic sensors, IID will implement the following impact avoidance measures:

- 1) IID staff responsible for monitoring the drains for the action triggers will notify operational and/or field staff to conduct a site visual check of the drain during that same day;
- 2) During the site visual check, IID staff will take photographic documentation of the conditions within the drain at or near the habitat monitoring locations shown on Figures 2-3a, 2-3b and 2-3c, Drain Habitat Monitoring Locations;
- 3) If there is no ponded water within or at the terminus of the drain that can be seen from the habitat monitoring location, within no more than 18 hours following the site visual check, IID staff will deliver water to the affected drain via water truck at a location that can be safely accessed by the water truck downstream of the last structure on the drain; and
- 4) IID will deliver water to the affected drain via water truck each following day until the automatic sensor indicates flows have returned to the affected drain or irrigation deliveries have resumed to fields draining into the affected drain.

Additionally, IID will analyze which fields respond to the DIP solicitation and corresponding drain-sheds. IID will coordinate with USFWS, Reclamation, and CDFW to determine whether participation in the DIP must be limited within certain drain-sheds to avoid adverse effects to listed species. If IID excludes all fields within a drain-shed from participating in the DIP, those drains will not be subject to the action triggers set forth in Section 2.2.1.4 Action Triggers, or the impact avoidance measures set forth above.

These drain impact avoidance measures will be conducted in coordination with USFWS, Reclamation, and CDFW to ensure maintenance of suitable habitat during low flow periods caused by the Proposed Action.

Vegetation

If an early warning threshold of meaningful change is triggered for the vegetation within the Vegetation Monitoring Areas shown on Figures 2-4a, 2-4b, and 2-4c, Vegetation Monitoring Areas, additional vegetation monitoring and analysis actions will be implemented to determine the cause of a meaningful change in the mapped vegetation communities. Within 15 days of the action trigger, IID will submit a set of actions to USFWS, Reclamation, and CDFW, which may include the additional collection and analysis of UAV imagery/video, ground-truth data, and high-resolution satellite imagery to determine whether there is a reduction in NDWI and LAI, the area of reduction, and whether the reduction is isolated to specific drain-sheds or part of a broader Salton Sea-wide phenomenon. If IID determines that the change is linked to a specific drain-shed affected by the conservation programs implemented under the Proposed Action, IID will take immediate action to deliver water to the affected vegetation via the drain or drains flowing water to the vegetation via water truck each following day until IID is able to limit participation in the conservation programs for the fields within that drain-shed. These impact avoidance measures will be conducted in coordination with USFWS, Reclamation, and CDFW to ensure maintenance of suitable habitat during this period of time.

2.2.4.6 Coordination and Reporting

IID will meet with USFWS, Reclamation, and CDFW staff on a quarterly basis during the short-term period of the Proposed Action to review the collected drain flow monitoring data and vegetation monitoring data for the prior quarter. During these meetings, IID will also report on the implementation of action triggers and impact avoidance measures for the prior quarter. IID will also prepare an annual report for submittal to USFWS, Reclamation, and CDFW by March 31 of each year under the Proposed Action. The annual report will include compiled drain and vegetation monitoring data for the year and information regarding the implementation of action triggers and impact avoidance measures during that year.

2.3 Alternatives Considered but Not Evaluated in Detail

A number of alternatives were considered that would result in lower volumes of water conserved within IID's Contract Service Area under the LC Conservation Program. The SCIA would indicate a potential maximum total of water conservation and would be less than or equal to the total volume analyzed within this EA. Lower water conservation volumes would therefore be included in the overall analysis of this EA and are not being evaluated separately.

3.0 Affected Environment and Environmental Consequences

The following section presents a description of the existing condition for the selected resource areas being reviewed as well as an analysis of the direct, indirect, and cumulative impacts of the Proposed Action on those resources.

3.1 Resources Not Discussed in Detail

The Proposed Action includes only conservation of water within the IID Contract Service Area, reducing water diversions from the Colorado River in the form of voluntary water conservation and efficiency programs for agricultural water users, and no construction would occur. Therefore, the following resources were considered and are either considered under other resource sections or not further addressed in this document because they would not be impacted by the Proposed Action.

Table 3-1 Resources and Issues Eliminated from Detailed Comparative Analysis

Resource	Discussion and Rationale
Agriculture/Forestry Resources	The Proposed Action would result in temporary modifications to farming practices, but would not alter land use or result in the loss of important farmland. No further assessment is necessary.
Energy	The Proposed Action involves water conservation programs and would not alter energy use or result in wasteful energy practices. Temporary reduction in farming activities would reduce energy uses slightly. No further assessment is necessary.
Floodplains and Wetlands	The Proposed Action would not alter floodplains. The analysis related to Wetlands is included under Section 3.4, Biological Resources.
Geology/Soils	The Proposed Action involves water conservation programs and would not include excavation or soil disturbance beyond normal farming activities on existing active farmland. No further assessment is necessary.
Greenhouse Gas Emissions	The Proposed Action involves water conservation programs and would not contribute to greenhouse gas emissions. No further assessment is necessary.
Hazards & Hazardous Materials	The Proposed Action involves water conservation programs and would not include activities that could use, transport, store or dispose of hazardous materials. No further assessment is necessary.
Land Use	The Proposed Action involves water conservation programs and would not change zoning or land uses. No further assessment is necessary.

Resource	Discussion and Rationale
Mineral Resources	The Proposed Action involves water conservation programs and would not include excavation or soil disturbance. Mineral resources or access to mineral resources would not be affected. No further assessment is necessary.
Noise	The Proposed Action involves water conservation programs and would not include any construction or new operational conditions that would increase noise levels. No further assessment is necessary.
Populations/Housing	The Proposed Action involves water conservation programs and would not include impacts to residential areas or existing housing. The Proposed Action would not induce growth or alter land use planning. No further assessment is necessary.
Public Services	The Proposed Action involves water conservation programs and would not require additional public services. No further assessment is necessary.
Recreation	The Proposed Action involves water conservation programs and would not impact recreational facilities. No further assessment is necessary.
Transportation	The Proposed Action involves water conservation programs and would not affect roadways, public transportation, parking or traffic patterns. No further assessment is necessary.
Utilities/Service Systems	The Proposed Action involves water conservation programs and would not require additional utilities and service systems or impact existing utilities or service systems. No further assessment is necessary.
Wildfire	The Proposed Action involves water conservation programs and would not increase the risk of wildlife in the area. No further assessment is necessary.
Indian Trust Assets (ITA)	The analysis related to Indian Trust Assets is included under Section 3.5, Cultural Resources.
Indian Sacred Sites	The analysis related to Indian Sacred Sites is included under Section 3.5, Cultural Resources.

3.2 Resources Discussed in Detail

The following resource areas are discussed below.

- Air Quality
- Biological Resources
- Cultural Resources
- Environmental Justice
- Human Health
- Hydrology / Water Quality
- Visual Resources

3.3 Air Quality

3.3.1 Affected Environment

Air quality in an area is determined by its topography, meteorology, and existing air pollutant sources. This section identifies the principal regulations applicable to the Proposed Action and the existing conditions within the IID Contract Service Area.

3.3.1.1 *Clean Air Act*

The Clean Air Act (CAA), passed by Congress in 1963 and last amended in 1990, is the federal legislation within the United States primarily designed to enhance air quality and safeguard public health by regulating the release of air pollutant emissions. The CAA requires the United States Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS), to protect public health and public welfare and to regulate emissions of hazardous air pollutants. California has adopted state air quality standards, known as the California Ambient Air Quality Standards (CAAQS), which are established by the California Air Resources Board (CARB). The NAAQS and CAAQS are provided in **Appendix AQ-1, Air Quality Regulatory Framework**.

Exposure to elevated outdoor levels of PM₁₀ and PM_{2.5} is associated with lung- and heart-related respiratory illness, including asthma (Johnston et al. 2019; Farzan et al. 2019). PM₁₀ and PM_{2.5} are particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) and 2.5 microns or less (PM_{2.5}), respectively. The populations most likely to experience adverse health effects with exposure to PM₁₀ and PM_{2.5} include older adults with chronic heart or lung disease, children, and asthmatics (CARB 2021). PM_{2.5} is a significant portion of PM₁₀ only in urban areas where mechanically generated and windblown dust are not significant source contributors.

The USEPA requires areas that do not meet a NAAQS to develop and submit a State Implementation Plan (SIP), which demonstrates how the area will meet the standard. Under California state law, CARB is responsible for submission of SIPs to EPA for approval. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. Air districts in California monitor air pollutant concentrations to determine whether the NAAQS are met in the air basin, and if not, what strategies will be employed to meet the standards. An air basin is classified as an attainment area (designated attainment and/or unclassifiable) or nonattainment area for a pollutant depending on whether the air quality standards are met or exceeded. In some cases, the USEPA is not able to determine an area's status after evaluating the available information and those areas are designated unclassifiable. If an area has been designated as nonattainment for a pollutant and later comes into attainment of the NAAQS, the area must maintain compliance with the NAAQS for a period of at least 10 years before being designated as attainment. These areas are commonly referred to as "maintenance areas."

3.3.1.2 *Salton Sea Air Basin*

The Proposed Action is located within the Salton Sea Air Basin (SSAB), which spans Imperial County and Riverside County. The SSAB is generally an arid desert region, with a significant portion located below sea level. A semi-permanent high-pressure cell blocks mid-latitude storms and causes sunny skies most of the time. The high-pressure zone tends to be weaker in the winter. The coastal mountains on the west side of the basin prevent the intrusion of cool, damp air from the Pacific

coast. Due to the barrier and weakened storms, the SSAB experiences clear skies, extremely hot summers, mild winters, and little rainfall. The Imperial County Air Pollution Control District (ICAPCD) oversees air quality planning and regulation for the Imperial County portion of the SSAB. The South Coast Air Quality Management District (SCAQMD) oversees air quality planning and regulation for the Riverside County portion of the SSAB.

Federal Air Quality Designations

The USEPA has designated the SSAB as nonattainment for the 8-hour ozone NAAQS. The Riverside County portion is designated as a severe nonattainment area for the 2015 8-hour ozone standard and an extreme nonattainment area for the 2008 and 1997 8-hour ozone standards. The Imperial County portion of the SSAB is designated as a marginal nonattainment area for the 2015 8-hour ozone standard and a moderate nonattainment area for the 2008 and 1997 8-hour ozone standards. The USEPA has designated the Riverside County portion of the SSAB as a serious nonattainment for the standard for PM₁₀ and the Imperial County portion of the SSAB as a maintenance area for PM₁₀. The USEPA has designated the portion of the SSAB within Imperial County south of the Salton Sea that includes the cities of Brawley, Calexico, El Centro, Holtville, Imperial, and Westmorland, as well as census-designated places of Heber and Seeley, as a moderate nonattainment area for the standard for PM_{2.5}.

Regional Air Quality

The air quality at any site is dependent on the regional air quality and local pollutant sources. The air quality at any location within the SSAB is determined by the release of pollutants throughout the SSAB as well as from air pollutants that travel from the coastal areas and Mexico to the SSAB. The pollutants of greatest concern in the SSAB are ozone (O₃) and ozone-precursors nitrogen oxides (NO_x) and reactive organic gases (ROG) also called volatile organic compounds (VOCs), and particulate matter (PM₁₀ and PM_{2.5}). NO_x, and VOCs are largely emitted from fuel systems and combustion in motor vehicles and equipment, PM_{2.5} from fuel combustion, and PM₁₀ from wind erosion in the form of fugitive dust. The Proposed Action would not contribute O₃, NO_x, ROG, or VOCs. Therefore, these pollutants are not discussed further.

Regulatory air quality monitoring stations in the vicinity of the Salton Sea are operated by the SCAQMD in Riverside County to the north of the Salton Sea, and by the ICAPCD to the south of the Salton Sea. The air districts operate monitoring stations to support the management of air quality in their districts. Monitoring stations in these networks are sited and operated consistent with stringent guidelines developed by the USEPA. ICAPCD operates and maintains air quality monitoring stations in Brawley, Calexico (3), El Centro, Niland, and Westmorland. SCAQMD operates and maintains air quality monitoring stations in the Coachella Valley in Indio and Palm Springs. Air quality monitoring data available from these monitoring stations are summarized in **Table 3-2, Air Quality Data**. As shown in Table 3-2, Ambient Air Quality Data, exceedance of O₃, PM₁₀ and PM_{2.5} CAAQS and NAAQS occur in the SSAB, although air quality is generally improving.

Table 3-2 Air Quality Data

Pollutant/Standard ^a	CAAQS ^c	NAAQS ^c	Riverside County/ Coachella Valley			Imperial County ^d		
			2019	2020	2021	2019	2020	2021
O₃ (1-hour) Maximum Concentration (ppm) Samples > CAAQS	0.09	-	0.103 4	0.119 9	0.110 10	0.106 16	0.119 14	0.122 10
O₃ (8-hour) Maximum Concentration (ppm) Samples > CAAQS Samples > NAAQS	0.070	0.070	0.087 43 43	0.094 49 49	0.092 35 38	0.089 63 59	0.094 69 66	0.094 49 43
NO₂ (1-hour) Maximum Concentration (ppm)	0.18	0.1	0.0414	0.0474	0.0356	0.118	0.110	0.113
NO₂ (Annual)^h Annual Arithmetic Mean (ppm)	0.030	0.053	0.0073	0.0066	0.0068	0.010	0.010	0.010
O (1-hour) Maximum Concentration (ppm)	20	35	1.3	0.8	0.8	Currently not monitored in Imperial County ^g		
CO (8-hour) Maximum Concentration (ppm)	9.0	9.0	0.7	0.5	0.4			
SO₂ (1-hour) ^b Maximum Concentration (ppm)	0.25	0.075	0.0018	0.0022	0.0021	Currently not monitored in Imperial County ^g		
PM₁₀ (24-hour) ^e Maximum Concentration (µg/m ³) Days > CAAQS Days > NAAQS ⁱ	50	150	154 44 0	259 69 1	147 69 0	150 142 0	189 206 1	153 189 1
PM₁₀ (Annual Average)^h Annual Arithmetic Mean (µg/m ³)	20	-	33.3	38.0	39.1	36.5	42.4	43.7
PM_{2.5} (24-hour) Maximum Concentration (µg/m ³) Days > NAAQS	-	35	15.5 0	25.6 0	13.5 0	53.1 1	46.2 7	60.9 3
PM_{2.5} (Annual)^h Annual Arithmetic Mean (µg/m ³)	12	12	6.05	8.41	6.2	10.7	11.35	10.3
Lead ^b Maximum 30-day average (µg/m ³)	1.5	-	0.008	0.016	0.008	Currently not monitored in Imperial County ^g		

NOTES:

^a ppm = parts per million; µg/m³ = micrograms per cubic meter

^b The Coachella Valley monitoring station most representative of the Salton Sea Air Basin for SO₂ and lead is the Metropolitan Riverside County 1 monitoring station.

^c California Ambient Air Quality Standards and National Ambient Air Quality Standards: <https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf>

^d California Air Resources Board Imperial County Daily Averages by year: High wind events are excluded: <https://www.arb.ca.gov/aqmis2/aqdselect.php>

^e High concentrations of PM₁₀ which exceed the National Ambient Air Quality Standard which occur on days when sustained hourly wind speeds are 25 mph or higher are flagged as exceptional events. Concentrations measured on these days are not used to determine compliance with the PM₁₀ NAAQS.

^f <https://www.arb.ca.gov/aqmis2/aqdselect.php> Current air monitors in Imperial County: <https://ww2.arb.ca.gov/applications/air-monitoring-sites-interactive-map>

^g Current air monitors in Imperial County: <https://ww2.arb.ca.gov/applications/air-monitoring-sites-interactive-map> ^h Imperial County values are based on the EPA Air Data Air Quality Monitors: <https://www.epa.gov/outdoor-air-quality-data/interactive-map-air-quality-monitors>

ⁱ Data which has been flagged in accordance with the Exceptional Events Rule is not included.

SOURCE: SCAQMD, Historical Data by Year, www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year; CARB, IADAM: Air Quality Data Statistics, <https://www.arb.ca.gov/adam>. Accessed October 2023.

Particulate Matter

According to the Emission Inventories published by the ICAPCD in the 2018 Redesignation Request and Maintenance Plan, the major sources of PM₁₀ emissions in Imperial County are attributed to fugitive windblown dust from area-wide dust sources (ICAPCD 2018). The 24-hour PM₁₀ NAAQS is exceeded in Imperial County only under high wind conditions where fugitive dust from the outlying desert and mountain areas becomes entrained (*Id.*). These exceedance events are primarily caused by gusty westerly winds brought on by low pressure systems, with a smaller fraction resulting from monsoonal fronts passing through the region. From 2014 through 2016, 58 days with PM₁₀ concentrations over the NAAQS were submitted and accepted by the USEPA as exceptional events (*Id.*). IID's Annual Emission Monitoring Program has documented similar conditions, noting that the natural desert surfaces west of the Salton Sea produce (on average) over 28,000 tons of PM₁₀ per year, with the majority of those emissions occurring in ~10 days per year (IID 2024f).⁷ Other significant sources of PM₁₀ emissions in the ICAPCD emission inventory include emissions from Mexico, unpaved roads, farming operations, mineral processing, and construction and demolition (ICAPCD 2018).

The Salton Sea Air Quality Mitigation Program (SS AQMP) was developed by IID, in collaboration with ICAPCD, to provide a comprehensive, science-based, adaptive approach to address air quality mitigation requirements associated with the Quantification Settlement Agreement (QSA) and the water conservation and transfers under the QSA. The objective of the SS AQMP is to proactively detect, locate, assess and identify options to mitigate dust emissions from exposed Salton Sea playa as it occurs. Each component of the program is used to identify, prioritize, and guide implementation of dust control measures on exposed Salton Sea playa. The main components of the SS AQMP include 1) an annual Emissions Monitoring Program to estimate emissions and to identify areas of exposed playa for proactive dust control, 2) an annual Proactive Dust Control Plan with recommendations and design for site-specific dust control measures, and 3) implementation of dust control measures to prevent PM₁₀ dust source areas from becoming significant sources of dust emissions, and also scaling and adapting dust control measures to efficiently achieve control at a larger scale. A summary of each component of the SS AQMP is provided in **Appendix AQ-2, SS AQMP Overview**. The annual Emissions Monitoring Program is designed to work with the development of the annual Proactive Dust Control Plan and subsequent implementation of dust control measures. Sites for dust control measures are identified by IID on an annual basis in the Proactive Dust Control Plan. This approach allows effective, targeted use of resources on areas that require proactive dust control to help protect the public health of communities near and around the Salton Sea. (IID 2016.)

The SS AQMP recognizes that current and future exposed Salton Sea playa is anticipated to be a new source of PM₁₀ dust emissions and the three main components of the SS AQMP provide an annual basis of identifying and addressing potential dust emissions from exposed Salton Sea playa. Until the playa is exposed, the location, frequency and magnitude of future emissions are unknown. It is important to note that the timing and location of playa exposure is a function of the Sea floor bathymetry and the Sea's response to inflows, salt loads, and evaporation rates. While models have been developed to predict future playa exposure (rate and extent), any model will have a margin of

⁷ These emissions estimates are not approved by ICAPCD, CARB, or the U.S. Environmental Protection Agency as emissions inventories for the Salton Sea playa or Salton Sea Air Basin. They are not intended to be the actual inventory numbers for regulatory purposes. Rather, the estimates are intended to prioritize dust source areas for mitigation.

error due to uncertainty regarding future conditions and the Sea’s response. Therefore, the objective and structure of the SS AQMP is specifically designed to be adaptive and proactively detect, locate, and assess potential dust emissions and identify options to mitigate those emissions from exposed Salton Sea playa as it occurs, regardless of timing, rate, and extent of playa exposure. Each component of the SS AQMP is used to proactively identify, prioritize, and guide implementation of dust control measures on exposed Salton Sea playa on an ongoing basis into the future. (See Appendix AQ-2.) For instance, the SS AQMP monitors actual playa exposure routinely regardless of what was projected to be exposed. This ensures that playa is characterized appropriately and monitored for potential emissions on a continual annual basis. (IID 2016.)

In addition to IID’s SS AQMP, the Salton Sea Management Program (SSMP) Dust Suppression Action Plan (DSAP) was developed by the California Natural Resources Agency (CNRA) to fulfill its obligations under the California State Water Resources Control Board Order WR 2017-0134, Condition #24. Dust suppression project sites are identified in the SSMP DSAP, including those close to residential populations (North Shore and Bombay Beach) to benefit communities (CNRA 2020) and cover playa that is identified by IID as priority for dust control implementation. Under the SSMP DSAP, other factors related to the feasibility of implementation of dust suppression projects were also considered: permitting, access authorization, and water supply for certain suppression methods (CNRA 2020).

Hydrogen Sulfide

Hydrogen sulfide (H₂S), a colorless gas that smells like rotten eggs, is formed by anaerobic organic decay at the bottom of the Salton Sea. Upwelling or mixing of the Sea by regional winds can bring H₂S to the surface (Hurlbert et al. 2007) and into nearby communities, causing foul odors that can affect residents in the Coachella Valley and beyond (SCAQMD 2021, 2022a, 2022b). These events are more prevalent during the hot summer months, especially when the southeasterly “monsoonal” flow events occur, but they sometimes occur at other times of the year. Elevated H₂S concentrations are typically measured near the Salton Sea during wind shifts that bring flows from the south or east. In this area, these shifts occur most often in the early morning or the late afternoon/early evening hours. The Salton Sea’s receding shoreline and shallower waters may affect the number or severity of these odor events in the future.

The pollutant is detectable at only a few parts per billion (ppb). California has set a nuisance odor standard for H₂S at 30 ppb (0.3 part per million [ppm]); there is no federal standard (SCAQMD 2022a). Exposure to ambient concentrations exceeding the standard may result in an objectionable odor and symptoms such as headaches, nausea, dizziness, nasal irritation, cough, and shortness of breath (SCAQMD 2022a). Since 2013, SCAQMD has operated H₂S monitors at two locations in the eastern Coachella Valley: at the SCAQMD Mecca air monitoring station (Saul Martinez Elementary School) and at the station operated by IID (Salton Sea Near Shore, Lincoln Avenue and 73rd Avenue, Mecca) (SCAQMD 2020).

Hazardous Air Pollutants

The SSAB’s air quality is also affected by Hazardous Air Pollutants (HAPs), which are also referred to as Toxic Air Contaminants (TACs) or air toxics. These are air pollutants which may cause or contribute to an increase in mortality or illness, or which may pose a present or potential hazard to human health. Due to the large number of different HAP/TAC pollutants and their generally low

concentrations, it has not been possible to set air quality standards for these pollutants or to monitor for their presence as a group. HAP emissions in the SSAB are discussed below.

In the SSAB, TACs or HAPs are generated as a result of various processes, including fuel combustion, windblown dust, mining, farming, pesticide use, and industrial processes. Sensitive receptors are located throughout the air basin. The most recent National Emission Inventory provides criteria air pollutant and HAP emission estimates for the Imperial County and Riverside County portions of the SSAB (USEPA 2023). These estimates provide an indication of potential criteria air pollutant and HAP emissions throughout the basin. As shown in **Table 3-3, Hazardous Air Pollutants Reported in Imperial County and Riverside County National Emissions Inventory**, criteria air pollutants and HAPs reported in the Imperial County and Riverside County National Emissions Inventory data are emitted by biogenics, stationary sources, mobile and fire sources.

One of the primary health risks of concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is a particular public health concern because it is currently believed by many scientists that there is no “safe” level of exposure to carcinogens, that is, any exposure to a carcinogen poses some risk of causing cancer. Health statistics show that one in four people, or 250,000 in a million, will contract cancer over their lifetime from all causes, including diet, genetic factors, and lifestyle choices.

Unlike carcinogens, for most noncarcinogens it is believed that there is a threshold level of exposure to the compound below which it will not pose a health risk. The California Environmental Protection Agency (CalEPA) and its Office of Environmental Health Hazard Assessment (OEHHA) have developed reference exposure levels (RELs) for noncarcinogenic TACs that are health-conservative estimates of the levels of exposure at or below which health effects are not expected. The noncancerous health risk due to exposure to a TAC is assessed by comparing the estimated level of exposure to the REL. The comparison is expressed as the ratio of the estimated exposure level to the REL, called the hazard index (HI).

Odors

The presence of odors at the Salton Sea currently affects both visitor and resident populations in the area. Factors contributing to odors at the Salton Sea include water quality, high nutrient levels, and biological factors such as fish, algal, and bird die-offs. Water quality at the Salton Sea is affected by a high concentration of sulfates and other compounds present in the saline Salton Sea, as well as inputs of agricultural drainage. Nutrient-rich runoff entering the Salton Sea produces eutrophic conditions that result in phytoplankton blooms. These microscopic organisms float close to the Salton Sea’s surface, and offensive odors are created when large numbers of organisms die and decompose. Odors resulting from algal bloom die-offs are most prevalent during the summer months, when inputs of freshwater to the Salton Sea are low and temperatures are high (SSA and Reclamation 2000).

Fish and bird die-offs at the Salton Sea also contribute to the odor problem. Several large die-offs in the past two decades have produced unpleasant odors as fish and birds decompose along the shoreline (SSA and Reclamation 2000).

Odors produced by decaying algal blooms, and fish and bird die-offs occur predominantly in the southern and eastern portions of the Salton Sea, although all areas of the Salton Sea are subject to these occurrences. The most prevalent odors exist during the summer months when temperatures are high and winds from the southeast are predominant. High winds in the Salton Sea area are most frequent during the months of April and May (SSA and Reclamation 2000).

**Table 3-3 Hazardous Air Pollutants Reported in Imperial County
and Riverside County National Emissions Inventory**

Source	Representative Hazardous Air Pollutants	Representative Criteria Air Pollutants
Imperial County		
Biogenics (naturally occurring emissions from soils and vegetation sources)	Methanol, formaldehyde, acetaldehyde	Volatile organic compounds, carbon monoxide, nitrogen oxides
Stationary Sources	Methanol, o-cresol, xylenes, naphthalene, n, n-dimethylaniline, methylene chloride, methyl methacrylate, methyl isobutyl ketone, methyl chloroform, methyl chloride, methyl bromide, acetaldehyde, ethylene glycol,	PM10, volatile organic compounds, carbon monoxide, ammonia, PM2.5, nitrogen oxides, sulfur dioxide
Mobile Sources	Xylenes, toluene, styrene, naphthalene, phenanthrene, propionaldehyde, formaldehyde, fluorene, fluoranthene, ethyl benzene, acetaldehyde, acrolein, 2,2,4-trimethylpentane, 1,3-butadiene,	Carbon monoxide, nitrogen oxides, volatile organic compounds, PM10, PM2.5, sulfur dioxide
Fire Sources	Acetaldehyde, formaldehyde, toluene, styrene, naphthalene, propionaldehyde, hexane, methanol, benzene,	Carbon monoxide, volatile organic compounds, PM10, PM2.5, nitrogen oxide
Riverside County		
Biogenics (naturally occurring emissions from soils and vegetation sources)	Methanol, formaldehyde, acetaldehyde	Volatile organic compounds, carbon monoxide, nitrogen oxides
Stationary Sources	Methanol, toluene, o-cresol, hexane, glycol ethers, ethylene glycol, acetaldehyde, styrene, phenol, methyl isobutyl ketone, methyl chloroform, methylene chloride, methyl isobutyl ketone	PM10, ammonia, volatile organic compounds, PM2.5, nitrogen oxides, sulfur dioxide
Mobile Sources	Toluene, xylenes, m-xylene, methanol, hexane, formaldehyde, ethyl benzene, benzene, acetaldehyde, 2,2,4-trimethylpentane,	Carbon monoxide, nitrogen oxides, volatile organic compounds, PM10, PM2.5, sulfur dioxide
Fire Sources	Formaldehyde, xylenes, toluene, methanol, methyl chloride, formaldehyde, acrolein, acetonitrile, acetaldehyde	Carbon monoxide, volatile organic compounds, PM10, PM2.5, nitrogen oxide

SOURCE: USEPA, EAP's 2020 National Emissions Inventory and Trends Report, July 31, 2023.
<https://storymaps.arcgis.com/stories/d7d730f974c6474190b142a49ae8d3bd>. Accessed October 2023.

3.3.1.3 General Conformity Rule

Section 176(c)(1) of the CAA (42 USC Section 7506(c)) is known as the General Conformity Rule and prohibits departments and agencies of the Federal Government from engaging in, supporting in any way or providing financial assistance for, licensing or permitting, or approving, any activity which does not conform to a SIP that has been approved by the USEPA. (USEPA 1994.) The General Conformity regulations incorporate a stepwise process, beginning with an applicability analysis. According to USEPA guidance (40 CFR Part 93), before any approval is given for a federal action to go forward, the regulating federal agency must apply the applicability requirements found at Title 40 Code of Federal Regulations (CFR) Section 93.153(b) to the federal action to evaluate whether, on a pollutant-by-pollutant basis, a determination of General Conformity is required. A General Conformity evaluation is only required for nonattainment areas and only required for the specific pollutants for which the area has been designated nonattainment. If the regulating federal agency determines that the General Conformity regulations do not apply to the federal action, no further analysis or documentation is required. In certain circumstances, the activity may be exempt (40 CFR 93.153, subdivisions (c), (d), and (e)). If the General Conformity regulations do apply to the federal action and the action is not exempt, the regulating federal agency must conduct a conformity evaluation.

A conformity determination is required for each criteria pollutant or precursor where the total of direct emissions of the criteria pollutant or precursor in a federal non-attainment or maintenance area would equal or exceed specified annual emission rates, referred to as “de minimis” thresholds. These de minimis thresholds are provided in 40 CFR 93.153(b)(1) and (2). For ozone precursor emissions, the de minimis thresholds depend on the severity of the non-attainment classification.

The de minimis thresholds for both VOCs and NO_x are 10 tons per year each in extreme nonattainment areas, 25 tons per year each in severe nonattainment areas, 50 tons per year each in serious nonattainment areas, and 100 tons per year for other ozone nonattainment areas. The de minimis thresholds for both PM₁₀ and PM_{2.5} are 70 tons per year each in serious nonattainment areas and 100 tons per year each in moderate nonattainment areas.

3.3.2 Environmental Consequences

3.3.2.1 No Action Alternative

Implementation of the No Action Alternative would involve no additional reductions in water diversions by IID from the Colorado River at Imperial Dam pursuant to the LC Conservation Program and would therefore not achieve conservation objectives. As a result, the implementation of conservation programs would not occur, eliminating effects from water conservation, including efficiency conservation and fallowing. The IID would continue to implement the SS AQMP as provided in the Mitigation, Monitoring and Reporting Program (MMRP) of the QSA EIR/EIS (see Section 3.3.2.4 for a discussion of the SS AQMP). Therefore, the No Action Alternative would not result in new additional adverse effects on air quality.

3.3.2.2 Proposed Action Alternative

The Proposed Action involves the conservation of water within the IID Contract Service Area, reducing water diversions from the Colorado River. The conservation of water would occur through the implementation of on-farm conservation programs, meaning all participation will be within

existing agricultural fields. Agricultural fields are intermittently disturbed (e.g. tillage, planting, or harvesting activities) on the surface. In fields with tile drains, small portions of the field may be temporarily disturbed down to three to six feet in narrow linear (~one- to two-foot wide) strips where tile drains are placed. The Proposed Action would not involve ground-disturbing or construction activities outside of normal agricultural practices and existing disturbed agricultural land.

The Proposed Action includes the implementation of conservation programs by IID within its Contract Service Area for a temporary, short-term three-year period of time. Participation in the conservation programs would be voluntary and incentivized by payment for the conserved water created by the programs. IID would implement a combination of conservation programs under the Proposed Action. By the structure and nature of each conservation program, fields cannot participate in more than one conservation program at a time. IID will prioritize the OFECP and DIP water conservation programs.

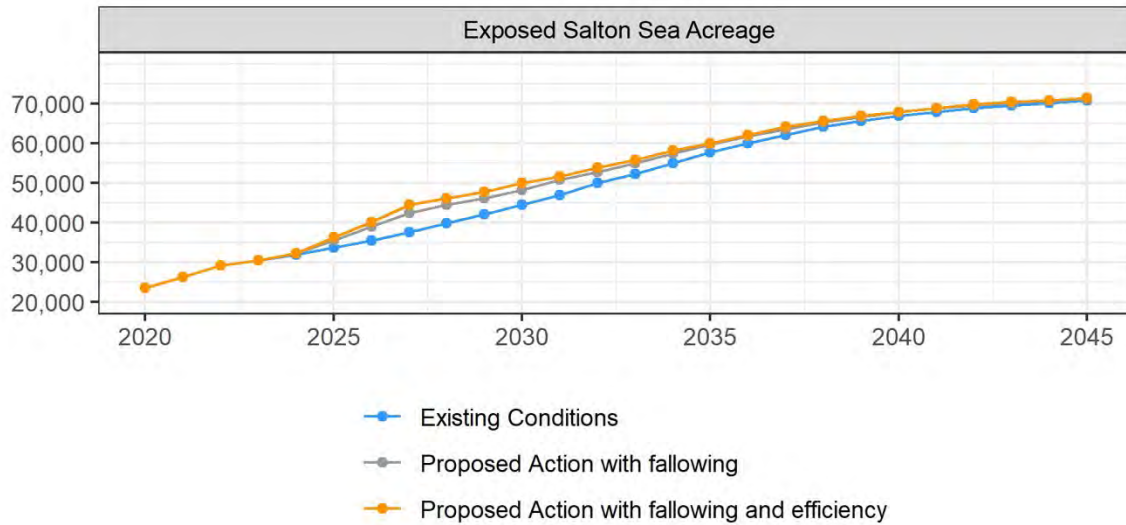
Under the Proposed Action, the combination of conservation programs may include the implementation of the fallowing-based conservation programs. If both the FUIFP and the DIP were to be implemented, the maximum potential acreage for either program would not be reached. Therefore, either the maximum participation of the DIP during the four-month period (June through September) or the maximum participation of the FUIFP would occur during the temporary, short-term three-year period, but neither program would be at maximum participation if both programs are implemented. Agricultural land cannot participate in both programs at the same time. Therefore, if one field is in one program, it cannot simultaneously be in the other program, thereby bringing down the maximum level of participation possible for that other program. The maximum level of participation for either fallowing-based conservation program will be even lower if there are fields participating in the OFECP and will then also not be eligible for participation in a fallowing-based conservation program.

If maximum participation were to occur in the DIP, up to 180,000 acres of agricultural land could stop being irrigated for a 45- to 60-day period between the months of June through September for each of the three years of 2024, 2025 and 2026. Fields participating in the DIP will be in active agricultural production. The crop will cease receiving water for 45 to 60 days, but then the agricultural activities will resume on the field following that period of time. Therefore, despite the DIP being a fallowing-based conservation program, the crop remains on the field (providing cover and protection from wind erosion). In other words, the agricultural land participating in the DIP would not be barren, unvegetated land susceptible to wind. It would be vegetated with an active crop on it. Although participating fields would not be irrigated for 45 to 60 days, that brief period of time would not significantly deteriorate the crop. The crop would remain in place protecting the land from wind erosion of the soils, thereby preventing dust emissions. Also, the DIP would only be implemented under the Proposed Action during the temporary, short-term span of three years. Further, participation in the DIP would include requirements for the implementation of Best Management Practices (BMPs) to ensure that potential dust emissions are controlled on participating fields. Consequently, along with the OFECP (or simplified OFECP), the implementation of the DIP would only involve agricultural land with an active crop on it during program implementation and, therefore, would not substantially increase the potential for dust emissions from the participating fields or the surrounding area compared to the No Action Alternative.

If maximum participation were to occur in the FUIFP as a result of the Proposed Action, up to a maximum of 34,450 acres throughout the IID Contract Service Area could participate in the FUIFP that would result in an increase in frequency of fields that will not be irrigated for 6 months to one year during the two years of 2025 and 2026. The implementation of the FUIFP would result in more fields lying fallow without the application of water than under existing conditions. Given the terms of the FUIFP, the first 6-month period would start in January 2025, leaving only 2 years maximum for this program. Agricultural activities will resume on the field following that period of time. If a field is allowed to participate in the FUIFP for consecutive years, it would be no longer than the temporary, short-term period of two years. Similar to the QSA, a three-year maximum allowed participation can be implemented and still maintain the integrity of the soils for resumed agricultural production. Nevertheless, crop cycling is common throughout the IID service area and unpredictable. Under current conditions, fields may be fallowed, idled or unplanted for long periods of time (ranging from a few months to over a year) due to economic or other reasons. The Proposed Action could increase the frequency of dry fields or fields with vegetative cover, but only up to the maximum acreage for participation in the FUIFP, which is 34,450 acres within over 400,000 acres of agricultural land being actively farmed within IID's Contract Service Area and only over the temporary short-term period of three years. Although the Proposed Action could result in additional fallowed acreage above the current amount, it would be distributed throughout the service area. There are no crop restrictions or other limitations to participation in the FUIFP that would isolate or aggregate participation in certain areas. Participation would be on a voluntary basis and a landowner's individual decision to fallow a field. Therefore, implementation of the FUIFP would not disproportionately impact any one area. Further, the FUIFP would include requirements for the implementation of Best Management Practices (BMPs) to ensure that potential dust emissions are controlled on participating fields.

Implementation of the Proposed Action would also result in the acceleration of the Salton Sea elevation lowering from its current elevation due to the QSA and other factors (See Hydrology/Water Quality Section 3.8, subsection 3.8.2.3 Proposed Action Alternative). While the Proposed Action would accelerate the exposure of areas of shoreline that are currently inundated, the acceleration would taper off to baseline projection levels by the year 2045. Because the Proposed Action would accelerate the exposure of playa at the Salton Sea, there would be an increase of the potential for fugitive dust emissions and related HAP emissions and exposure to communities surrounding the Salton Sea earlier than would otherwise occur. The acceleration of the reduction of the Salton Sea may also cause an earlier increase of anaerobic organic decay with increasing concentration of sulfates and other compounds present in the saline Sea, which would lead to an earlier increase in H₂S emissions. Odors could also occur earlier from increasing concentrations of nutrient levels and fish, bird, plant, algae, and phytoplankton die-offs. As shown in **Figure 3-1, Exposed Salton Sea Acreage**, hydrologic models developed by the Department of Water Resources (DWR) estimate that the Proposed Action would accelerate the exposure of the playa by approximately 5 to 10 years. The temporary acceleration of the lowering of the Salton Sea level would taper off to projected future baseline levels by the year 2045.

Figure 3-1 Exposed Salton Sea Acreage



The QSA involves implementation of long-term (up to 75 years) water conservation programs to conserve up to 300,000 acre-feet per year of Colorado River water and the transfer of this conserved water by IID to the San Diego County Water Authority, Coachella Valley Water District, and/or Metropolitan Water District of Southern California. As part of the Mitigation, Monitoring and Reporting Program (MMRP) of the QSA EIR/EIS, IID implemented Mitigation Measure AQ-7 parts 1, 2 and 4a which read as follows (IID 2003):

- Mitigation Measure AQ-7: (1) **Restrict Access.** Public access, especially off-highway vehicle access, will be limited, to the extent legally and practically feasible, to minimize disturbance of natural crusts and soils surfaces.
- Mitigation Measure AQ-7: (2) **Research and Monitoring.** A research and monitoring program would be implemented incrementally as the Salton Sea recedes. The research phase would focus on development of information to help define the potential for problems to occur in the future as the Salton Sea elevation is reduced slowly over time.
- Mitigation Measure AQ-7: (4a) **Direct Emissions Reductions at the Salton Sea.** Implementing feasible dust mitigation measures.

To comply with the MMRP, and as part of the QSA, IID developed the SS AQMP which provides air quality mitigation for impacts from the QSA water conservation and transfer. The objective of the SSA QMP is to proactively detect, locate, assess, and identify options to mitigate potential dust emissions from exposed Salton Sea playa. This approach allows effective use of resources to help mitigate impacts to the public health of communities near and around the Salton Sea. The SS AQMP consists of (IID 2016):

- An annual emissions monitoring program to estimate emissions and to identify areas of exposed playa for proactive dust control.
- An annual Proactive Dust Control Plan (PDCP) which recommends and designs specific dust control measures.

- Implementation of dust control measures to prevent PM10 dust source areas from becoming significant sources of dust emissions, and also scaling and adapting dust control measures to efficiently achieve control at a larger scale.

The SS AQMP includes a network of special purpose air quality monitoring stations for the purpose of monitoring and characterizing windblown dust from the upwind desert surface as well as Salton Sea Playa. Playa and desert surfaces are characterized annually to better understand the type, location, and extent of surfaces vulnerable to erosion. Weather variables, such as wind speed and direction, are modeled to determine the emissions potential of the exposed playa and desert surfaces. Finally, emissions estimates for the playa and the desert are modeled and an annual PDCP is developed for priority playa areas with increased emission potential. The annual PDCP provides recommendations on where and what type of dust control measures to use for these priority playa areas on the Salton Sea. The primary dust control measures are surface roughening and vegetation.

IID would continue to implement its SS AQMP, including the implementation of dust control measures pursuant to the annual PDCP, as required in the MMRP of the QSA EIR/EIS for the IID Water Conservation and Transfer Project (see Section 3.3.2.4 for a discussion of the SS AQMP). The SS AQMP would continue to be implemented, in the same manner as under existing conditions. (See Appendix AQ-2.) Therefore, because the Proposed Action would not increase overall acreage of exposed playa compared with future baseline projections and the acceleration of the exposed playa would be mitigated through implementation of the SS AQMP in accordance with the MMRP, it also would not result in disproportionately high and adverse effects on air quality.

The following programs would be subject to best management practices (BMPs) outlined in the MMRP including following the US Department of Agriculture Natural Resources Conservation Service recommendations that include the following:

- 1) Plan ahead to start with plenty of vegetation residue and maintain as much residue on fallowed fields as possible.
- 2) Avoid any tillage.
- 3) Avoid any traffic on the field or tillage when fields are extremely dry to avoid pulverization.
- 4) If residues are not adequate, either small grain can be seeded around the first of the year to take advantage of winter rains, or soil stabilization chemicals may be applied to fallowed lands.

In addition, ICAPCD Rule 806 (conservation management practices) may apply to some agricultural water users participating in the following programs. However, the BMPs listed above are consistent with Rule 806, ensuring that potential dust emissions are controlled on participating fields.

3.3.2.3 Cumulative Impacts

The Proposed Action would accelerate the lowering elevation of the Salton Sea, thereby accelerating the exposure of the shoreline. This acceleration in turn would result in the earlier potential for increasing fugitive dust emissions and related HAP emissions and exposure to communities surrounding the Salton Sea. The reduction of the Salton Sea may also result in an earlier increase of anaerobic organic decay with increasing concentration of sulfates and other compounds present in the saline Salton Sea, which would lead to increasing H₂S emissions. Odors could also occur earlier from increasing concentrations of nutrient levels and fish, bird, plant, algae, and phytoplankton die-

offs. However, while it is possible that these events may occur earlier, they will still occur without the Proposed Action.

A list of relevant past, present, and reasonably foreseeable projects that involve the potential for water conservation and/or reduced water flow to the Salton Sea is provided in Table 1-1, Cumulative Project List above. As indicated, these projects are either completed or already in planning. The Proposed Action involves the temporary, short-term conservation of water during three years and would accelerate the lowering elevation of the Salton Sea and overall water surface area; however, the temporary impacts associated with the Proposed Action would taper off to projected future baseline levels by the year 2045 as shown in Figure 3-1, Salton Sea Acreage. (See **Appendix HYDRO-3, SSAM.**) Thus, the Proposed Action, when considered with relevant past, present, and reasonably foreseeable projects that involve the potential for water conservation and reduced water flows to the Salton Sea, would not substantially increase overall emissions.

3.4 Biological Resources

3.4.1 Affected Environment

Biological resources include the species of plants and animals which are regulated by Federal, state or local regulations. This section identifies the principal regulations applicable to the biological resources and the existing conditions within the IID Contract Service Area.

3.4.1.1 Methodology

Literature and Database Review

ESA reviewed existing environmental documentation for the IID Contract Service Area and conducted queries of available resource inventory databases to analyze the potential for sensitive resources to be affected by the Proposed Action. The literature and database review included the following sources:

- California Department of Fish and Wildlife (CDFW). 2023a. *California Natural Diversity Data Base*.
- CDFW. 2023b. *California Sensitive Natural Communities*. June 1, 2023.
- California Natural Resource Agency (CNRA). 2015. *Salton Sea Species Conservation Habitat Monitoring and Adaptive Management Plan*. May 2015.
- Environmental Science Associates (ESA). 2017. *Salton Sea Species Conservation Habitat, Desert Pupfish Adaptive Management and Monitoring Plan*.
- Environmental Science Associates (ESA). 2022. *Salton Sea Monitoring Implementation Plan*. November 2022.
- Imperial Irrigation District (IID). 2001. *Habitat Conservation Plan IID Water Conservation and Transfer Project*. December 2001. Prepared by CH2MHill.
- IID. 2003. *Imperial Irrigation District Water Conservation and Transfer Project, Habitat Conservation Plan, Final Environmental Impact Report/Environmental Impact Statement*, State Clearinghouse Number 99091142, June 2002. Prepared by CH2MHill; *Amended and Restated Addendum to Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Imperial Irrigation District (IID) Water Conservation and Transfer Project*, September 2003.
- Lower Colorado River Multi-Species Conservation Program (LCR MSCP). 2004. *Lower Colorado River Multi-Species Conservation Program, Volume II: Habitat Conservation Plan*. Final. December 17, 2004. (J&S 00450.00) Sacramento, CA.
- United States Army Corps of Engineers (USACE). 2022. *Salton Sea Management Program, Phase 1: 10-Year Plan, Imperial and Riverside Counties, California, Draft Environmental Assessment*. June 2022.
- U.S. Bureau of Reclamation. 2024. *Near-term Colorado River Operations, Final Supplemental Environmental Impact Statement*. March 2024.
- U.S. Fish and Wildlife Service (USFWS). 2023c. *Information for Planning and Consultation (IPaC)*.
- U.S. Fish and Wildlife Service (USFWS). 2023d. *Environmental Conservation Online System (ECOS)*.

Field Mapping Effort and Desktop Analysis

Existing conditions within the IID Contract Service Area were determined through a combination of the review of existing documentation referenced above and a field mapping effort completed along the southern shoreline of the Salton Sea adjacent to the termini of IID's drains as shown in **Figure 3-2, Salton Sea Vegetation Study Area**. The field mapping effort was conducted by ESA biologists Brenda McMillan and Dillon Travis on October 10-13, 2023. The survey was completed by driving to locations within the Salton Sea Vegetation Study Area accessible by vehicle and using binoculars to characterize and map existing vegetation between the terminus of IID drains, and the southern shoreline of the Salton Sea. Whenever feasible, biologists approached vegetation on foot to obtain greater detail regarding species dominance and/or physical characteristics. Aerial imagery uploaded onto field note pads was used to estimate species dominance and vegetation community and to draw vegetation community polygons in areas not visible from each access location. These estimates of vegetation community type and spatial extent were based on best estimate made by biologists in the field through a comparative analysis of what is seen on the ground as compared to discernable shapes and species in the aerial imagery.

Most descriptions were characterized in the field in accordance with *A Manual of California Vegetation* (MCV) (Sawyer et al. 2009); however, those which were not adequately described in the MCV were instead characterized based on consideration of species dominance or other notable descriptors. All natural communities and land cover types characterized and mapped within the Salton Sea Vegetation Study Area were digitized on aerial maps using Geographic Information System software (i.e., ArcGIS).

3.4.1.2 Regulatory Requirements

A summary of the federal, state, and local environmental regulations that govern the biological resources applicable to the Action Area are presented in **Appendix BIO-1, Biological Resources Regulatory Framework**.

3.4.1.3 Existing Conditions

Natural Communities and Land Cover Types

The analysis below describes the ecological conditions within the IID Contract Service Area, including any changes observed since certification of the QSA EIR/EIS. The analysis is based on a review of the sources listed above, field visits and vegetation mapping, and a review of agricultural drain flow data. These conditions, including the current Salton Sea elevation, are materially similar to conditions predicted in the QSA EIR/EIS for the present timeframe.

IID Contract Service Area (Excluding the Southern Shoreline of the Salton Sea)

Canals and drains traverse the IID Contract Service Area as shown on Figure 1-2a, IID Canal System and Figure 1-2b, IID Drain System. Natural communities and land cover types within IID Contract Service Area (excluding the southern shoreline of the Salton Sea), as described in the QSA EIR/EIS (IID 2003), are paraphrased below.

Drains – IID operates and maintains approximately 1,456 miles of agricultural drains in its Contract Service Area. (IID 2023.) These drains typically consist of unlined dirt channels; however, approximately 134 miles of this network have been buried in pipes. (IID 2021.) Drain channel banks

are generally constructed at 45-degree slopes between 6 and 15 feet in depth. Drain channel depths are constructed and maintained at elevations needed to properly drain the subsurface tile drainage water in addition to the surface drainage water. As a result, typical drainage water levels within drain channels are generally at significantly lower depths than the height of the drain channel banks. Vegetation within the drains is typically dominated by 1 or more of the following species: saltbush (*Atriplex* sp.), Bermuda grass (*Cynodon dactylon*), saltgrass (*Distichlis spicata*), common reed (*Phragmites australis*) and tamarisk (*Tamarix* sp.); interspersed with various other upland and emergent vegetation such as buckwheat (*Eriogonum* sp.), alkali heliotrope (*Heliotropium curassavicum*), rush (*Juncus* sp.), bulrush (*Scirpus* sp.), Russian thistle (*Salsola tragus*) and cattail (*Typha* sp.). Emergent vegetation tends to occur in isolated portions of the drain system, whereas more extensive stands occur at the mouths of drains where they empty into the Alamo and New Rivers and Salton Sea. Two surveys of various drains were completed within the IID Contract Service Area in 1994 by IID and again in 1997 by Hurlbert. The 1994 survey included approximately 506 miles of drain and indicated that vegetation within the surveyed area consisted primarily of Bermuda grass, common reed, mallow (*Malvella leprosa*), saltbush and saltgrass. The 1997 survey included 10 drains and approximately 78 miles. This survey revealed that common reed was the most prevalent species, while emergent vegetation (e.g., bulrush, rush and cattail) was the least common, only occurring in isolated stands. (IID 2003.)

Canals – Canals that convey water from the Lower Colorado River to and throughout the IID water contract service area generally support little vegetation; approximately 70 percent of the approximately 1,668 miles of canals within the IID Contract Service Area are lined with concrete or contained in pipes. (IID 2023.) The remaining canals of approximately 30 percent are earthen (IID 2023) and support various forms of vegetation, generally dominated by common reed, bermuda grass, salt grass and tamarisk. In addition, the East Highline Canal supports adjacent phreatophytic vegetation resulting from seepage. Vegetation observed within these seepage communities is typically dominated by arrow weed, common reed and/or tamarisk and is interspersed with small, isolated patches of cattail, cottonwood and mesquite (*Prosopis* sp.) throughout. (IID 2003.)

All-American Canal – Channel vegetation along earthen portions the All-American Canal is overwhelmingly dominated by common reed. However, seepage along the canal allowed for the development of phreatophytic vegetation. Approximately 1,422 acres of phreatophytic vegetation occurs between Drops 3 and 4, which consists of approximately 111 acres of emergent vegetation (e.g., cattail), approximately 755 acres of tamarisk, approximately 233 acres of arrow weed, approximately 251 acres of mesquite and approximately 39 acres of cottonwood/willow. A total of between approximately 200 and 250 acres of un-characterized phreatophytic vegetation occurs between Drop 4 and the East Highline Canal and in proximity to Mission Wash. (IID 2003.)

Southern Shoreline of the Salton Sea

The IID Contract Service Area includes the southern shoreline of the Salton Sea. (See Figure 1-1, IID Contract Service Area/Proposed Action Area.) The natural communities and land cover types along the southern shoreline of the Salton Sea are depicted in **Figures 3-3a, 3-3b, 3-3c, and 3-3d, Vegetation and Land Cover Types**. These natural communities and land cover types were characterized during the field mapping effort by ESA on October 10-13, 2023.

Figure 3-2 Salton Sea Vegetation Study Area



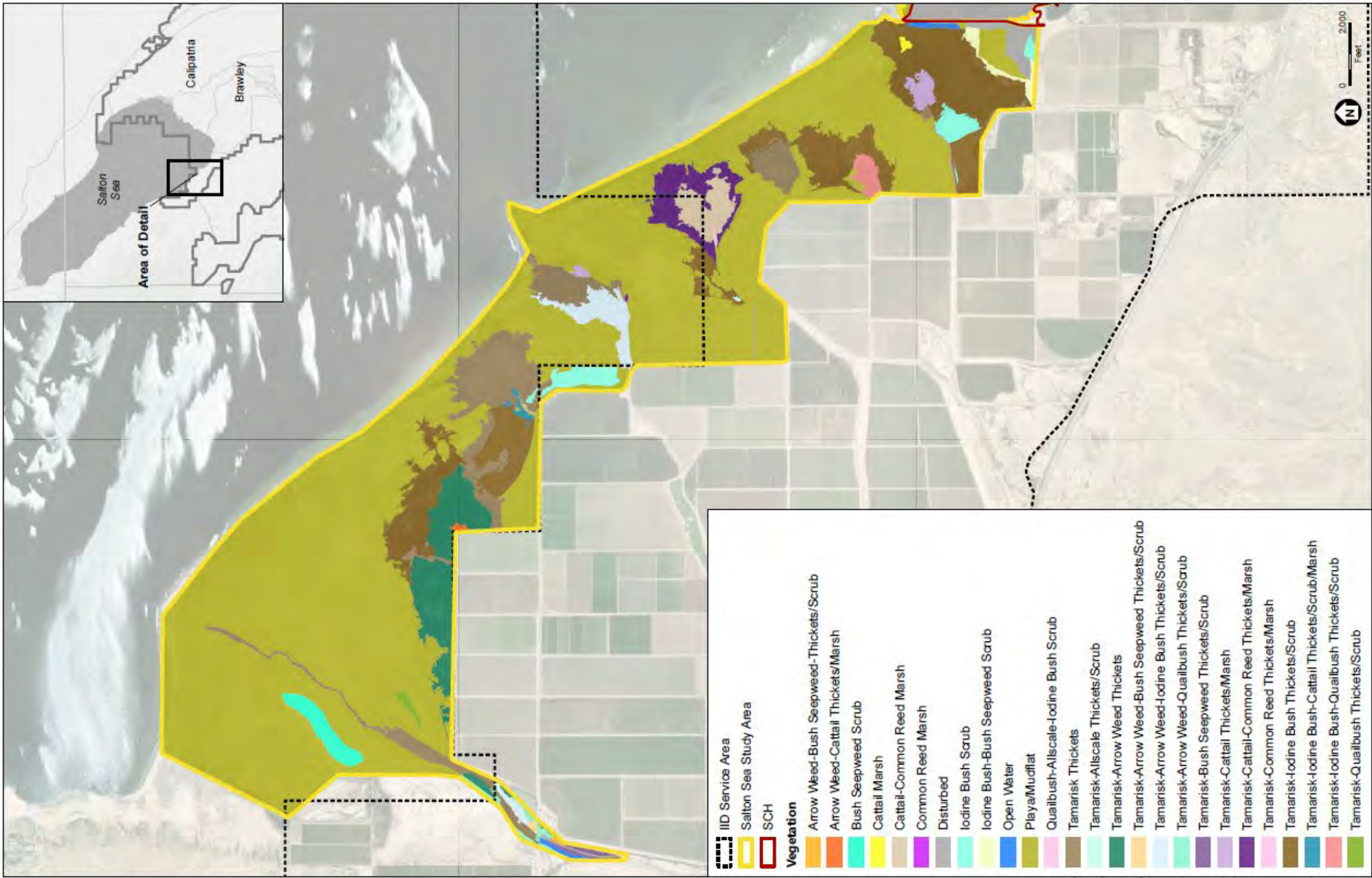
SOURCE: IID, 2023; CDFW, 2023; USFWS, 2023; ESA, 2023

Imperial Irrigation District
2024-2026 Temporary Colorado river System Water Conservation Project

Figure 3-2
Salton Sea Vegetation Study Area



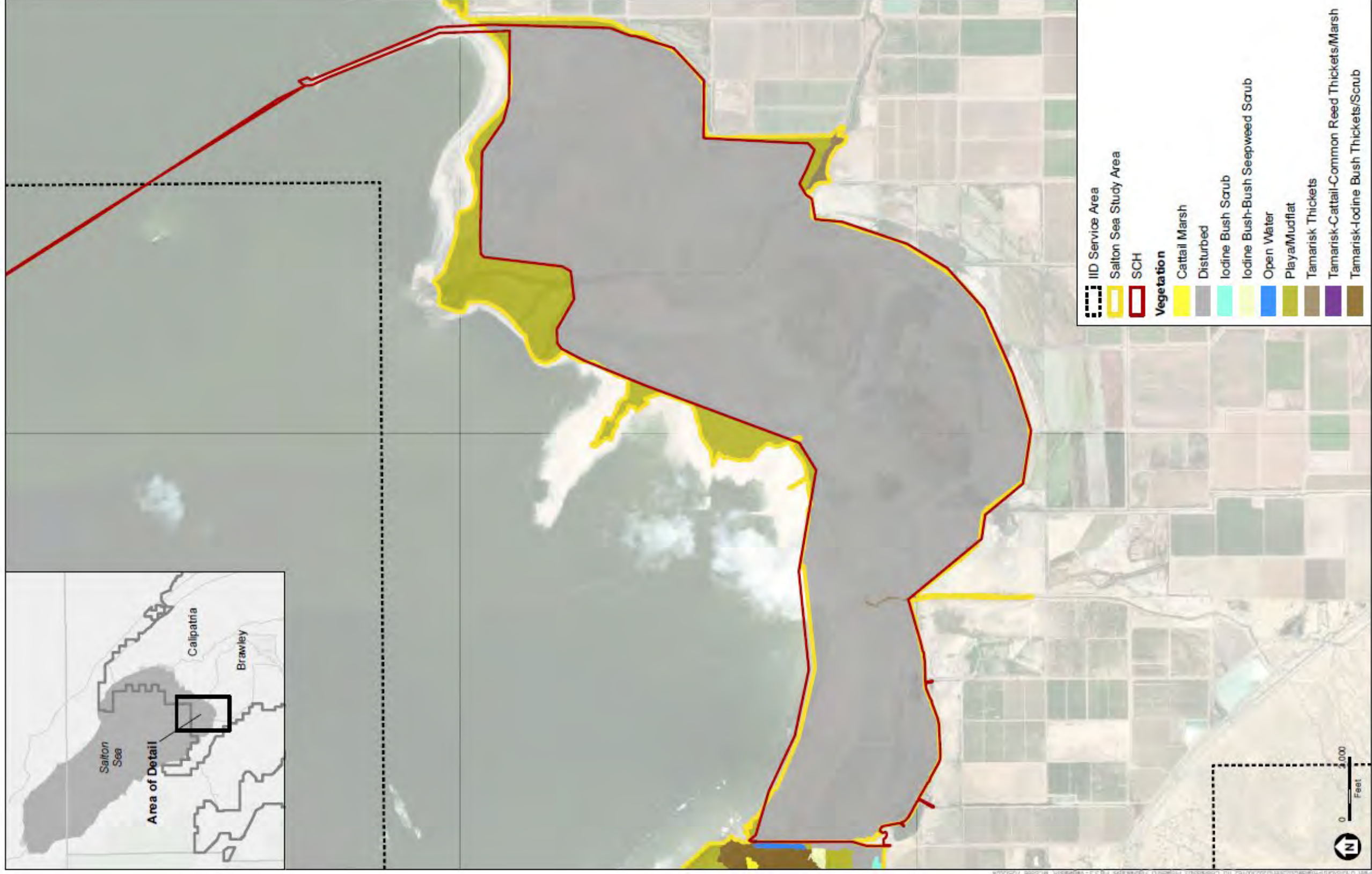
Figures 3-3a, 3-3b, 3-3c, and 3-3d Vegetations and Land Cover Types



SOURCE: ESA, 2023

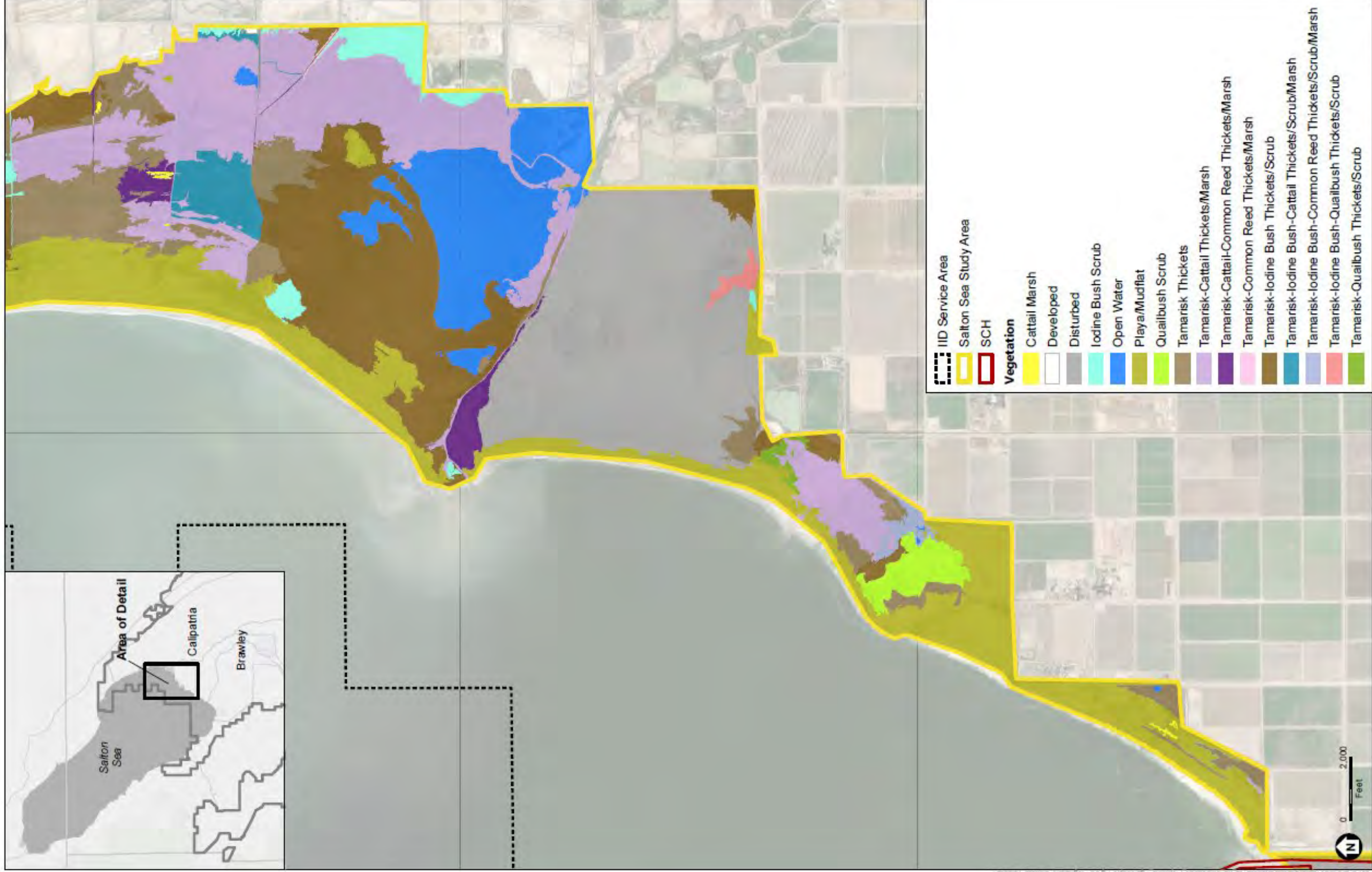


Figure 3.3a
Natural Communities
and Land Cover Types



Imperial Irrigation District

Figure 3.3b
Natural Communities
and Land Cover Types

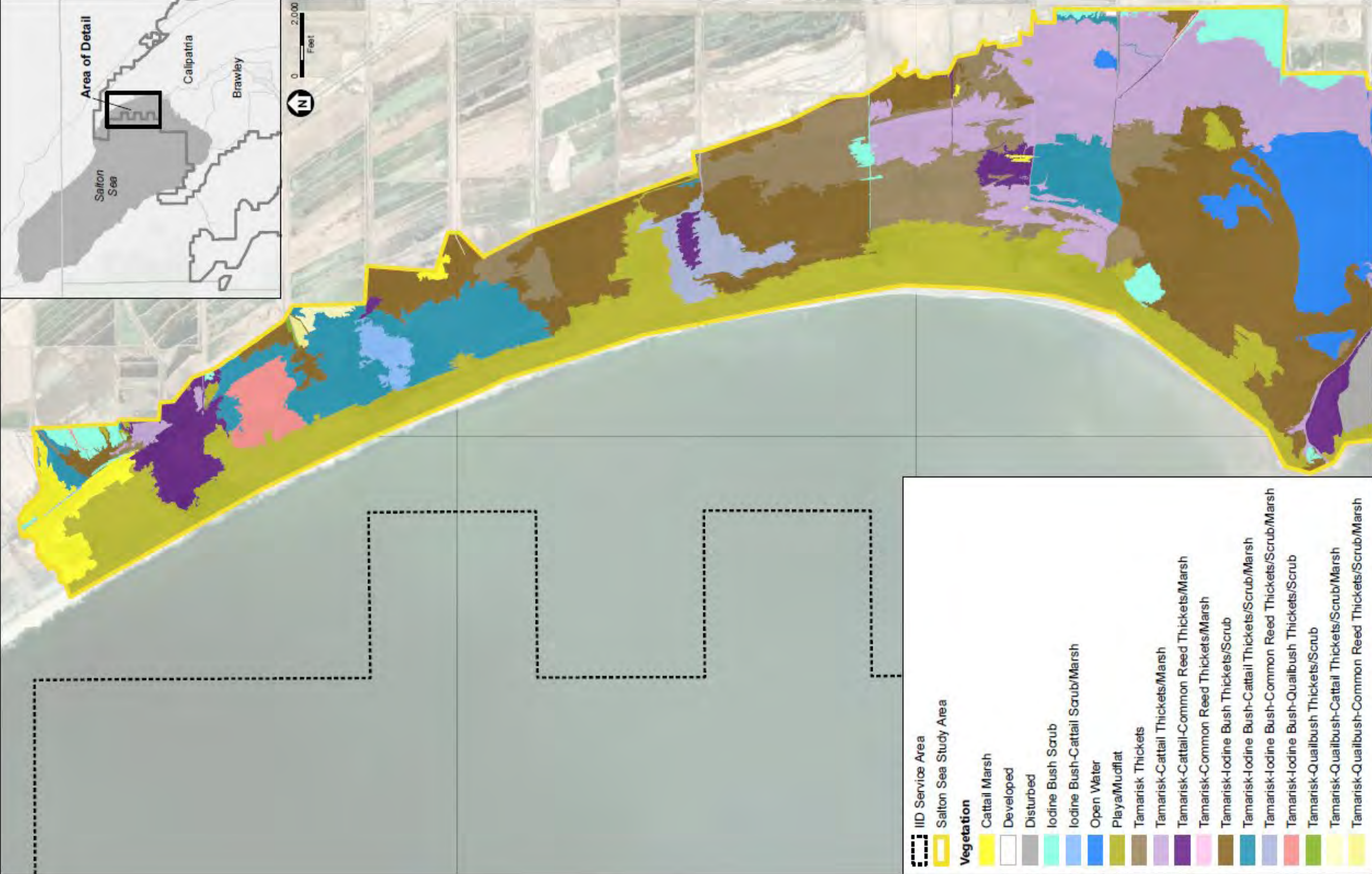


SOURCE: ESA, 2023

Imperial Irrigation District



Figure 3.3c
Natural Communities
and Land Cover Types



SOURCE: ESA, 2023



Figure 3.3d
Natural Communities
and Land Cover Types

The southern shoreline of the Salton Sea includes approximately 19,000 acres of shoreline and exposed playa adjacent to the Sea as set forth in **Table 3-4, Natural Communities and Land Cover Types Along the Salton Sea**. Prior to certification of the QSA EIR/EIS, most of the southern shoreline of the Salton Sea was inundated by water. After 2003, when irrigation drain water flows were reduced and the Salton Sea started receding, playa around the Salton Sea became exposed and drains no longer reached the Sea, which resulted in the creation of discrete patches of vegetation (approximately 8,677 acres total). The field mapping effort within the Salton Sea Vegetation Study Area identified 31 distinct natural communities and land cover types within this portion of the IID Contract Service Area. As described in Section 3.4.1.1 Methodology, natural communities and land cover types were characterized based on species dominance or other relevant descriptor (such as disturbed, developed, barren, mudflat, etc.) and are presented below.

Table 3-4 Natural Communities and Land Cover Types Along the Salton Sea

Natural Community/Land Cover Type	Acres
Arrow Weed-Bush Seepweed Thickets/Scrub	0.92
Arrow Weed-Cattail Thickets/Marsh	2.49
Bush Seepweed Scrub	36.53
Cattail Marsh	154.04
Cattail-Common Reed Marsh	58.77
Common Reed Marsh	1.55
Iodine Bush Scrub	258.13
Iodine Bush-Bush Seepweed Scrub	17.12
Iodine Bush-Cattail Scrub/Marsh	52.10
Quailbush Scrub	96.01
Quailbush-Allscale-Iodine Bush Scrub	1.32
Tamarisk Thickets	1,126.67
Tamarisk-Allscale Thickets/Scrub	0.72
Tamarisk-Arrow Weed Thickets	183.48
Tamarisk-Arrow Weed-Bush Seepweed Thickets/Scrub	5.16
Tamarisk-Arrow Weed-Iodine Bush Thickets/Scrub	59.40
Tamarisk-Arrow Weed-Quailbush Thickets/Scrub	20.33
Tamarisk-Bush Seepweed Thickets/Scrub	6.89
Tamarisk-Cattail Thickets/Marsh	1,216.50
Tamarisk-Cattail-Common Reed Thickets/Marsh	360.62
Tamarisk-Common Reed Thickets/Marsh	2.40
Tamarisk-Iodine Bush Thickets/Scrub	2,268.50
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	597.34
Tamarisk-Iodine Bush-Common Reed Thickets/Scrub/Marsh	151.66
Tamarisk-Iodine Bush-Quailbush Thickets/Scrub	137.45

Natural Community/Land Cover Type	Acres
Tamarisk-Quailbush Thickets/Scrub	31.50
Tamarisk-Quailbush-Cattail Thickets/Scrub/Marsh	15.63
Tamarisk-Quailbush-Common Reed Thickets/Scrub/Marsh	6.27
Subtotal of Vegetation (above)	6,869.50
Open Water	620.80
Playa/Mudflat	5,333.67
Developed	2.15
Disturbed	5,755.51
Total	18,581.63
SOURCE: ESA, October 2023.	

Sensitive Natural Communities

“Sensitive” natural communities and habitats are defined by CDFW as those natural communities that have a reduced range and/or are imperiled because of various forms of development and other anthropogenic stressors, including residential and commercial expansion, various forms of agriculture, energy production, mining, etc. These communities are evaluated using NatureServe’s Heritage Methodology (NatureServe 2023), which is based on the knowledge of range and distribution of a specific vegetation type and the proportion of occurrences that are of good ecological integrity. Evaluation is done at both a global (natural range within and outside of California [G]) and subnational (State level for California [S]) level, each ranked from 1 (“critically imperiled” or very rare and threatened) to 5 (demonstrably secure). A community or habitat with a State rank of S1 through S3 is considered “sensitive” natural community and may require review when evaluating environmental impacts (CDFW 2024b). For the purposes of this EA, if a natural community supports a co-dominance of a species that is typically associated with “sensitive” community (e.g., state rank S1-3), it is presumed “sensitive.”

Several sensitive natural community types have been documented within the IID Contract Service Area, sixteen along the southern shoreline of the Salton Sea and two within the remaining area of the IID Contract Service Area. Each natural community, its presumed State Rank and approximate acreage within each area of the Proposed Action Area is presented below in **Table 3-5, Sensitive Natural Communities and Land Cover Types**.

Table 3-5 Sensitive Natural Communities and Land Cover Types

Natural Community/Land Cover Type	State Rank	Acres
IID Contract Service Area (Excluding Southern Shoreline of the Salton Sea)		
Cottonwood and mesquite-dominated communities	S3	Unknown*
Southern Shoreline of the Salton Sea		
Arrow Weed-Bush Seepweed Thickets/Scrub	S3	0.92
Arrow Weed-Cattail Thickets/Marsh	S3	2.49
Bush Seepweed Scrub	S3	36.53
Iodine Bush Scrub	S3	782.09
Iodine Bush-Bush Seepweed Scrub	S3	17.12
Iodine Bush-Cattail Scrub/Marsh	S3	52.11
Quailbush-Allscale-Iodine Bush Scrub	S3	1.32
Tamarisk-Arrow Weed Thickets	S3	183.50
Tamarisk-Arrow Weed-Bush Seepweed Thickets/Scrub	S3	5.16
Tamarisk-Arrow Weed-Iodine Bush Thickets/Scrub	S3	59.40
Tamarisk-Arrow Weed-Quailbush Thickets/Scrub	S3	20.33
Tamarisk-Bush Seepweed Thickets/Scrub	S3	6.89
Tamarisk-Iodine Bush Thickets/Scrub	S3	3,527.55
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	S3	597.39
Tamarisk-Iodine Bush-Common Reed Thickets/Scrub/Marsh	S3	151.68
Tamarisk-Iodine Bush-Quailbush Thickets/Scrub	S3	137.46
Total		33,210
SOURCE: ESA, IID		
*The quantity of cottonwood and mesquite-dominated communities within the IID Contract Service Area, excluding the southern shoreline of the Salton Sea, has not been quantified for this analysis.		

Habitat Management and Restoration Lands

Managed lands are located within the IID Contract Service Area. Managed lands include those that have been recognized for their biological value, or those that have been created either as mitigation for impacts incurred from implementation of the QSA or as restoration projects implemented by the State of California (pursuant to the Salton Sea Restoration Act, California Fish and Game Code Sections 2930 et al. and the Salton Sea Management Program). **Table 3-6, Managed Habitat Mitigation and Restoration Lands**, presents the managed lands, managing entity and acreage.

Table 3-6 Managed Habitat Mitigation and Restoration Lands

Land	Managing Entity	Acres
Imperial Irrigation District Managed Marsh Complex	IID	969
Imperial Wildlife Area	CDFW	7,900
Sonny Bono Salton Sea National Wildlife Refuge	USFWS	3,000
Chanan Remington Memorial Wetland	CDFW	44
Species Conservation Habitat Project*	DWR	4,110

SOURCE: ESA 2022; IID

*SCH project is currently under construction

Imperial Irrigation District Managed Marsh Complex

The IID Managed Marsh Complex is situated between Highway 111 and English Road and was constructed to mitigate for impacts associated with implementation of the QSA per the QSA EIR/EIS. Phase I of the complex was completed in October of 2008 and is comprised of three habitat types, desert riparian, emergent wetland and scrub-shrub bosque, that total 375 acres. Phase II of the complex was completed in December 2014 and is comprised of two habitat types, desert riparian and emergent wetland that total 360 acres. Phase III of the complex was completed in 2020 and is comprised of two habitat types, desert riparian and emergent wetlands that total approximately 350 acres. The IID Managed Marsh Complex is intended to provide habitat for common and sensitive bird species, particularly those specific to marsh and shoreline habitats. (IID 2024a, 2024c.)

Imperial Wildlife Area

The Imperial Wildlife Area is intended to provide habitat for wildlife, as well as provide opportunities for recreation, including wildlife viewing, fishing and hunting. It is comprised of three units that include Wister, Hazard and Finney-Ramer. The Wister unit is located southeast of the Salton Sea and west of the town of Niland extending to the north. The Hazard unit is also located southeast of the Salton Sea and northwest of the town of Calipatria. The Finney-Ramer unit is located along the Alamo River south of Calipatria. These units support various habitat types, including fresh and saline wetland and desert scrub. (CDFW 2024a.)

Sonny Bono National Wildlife Refuge

The Sonny Bono Salton Sea National Wildlife Refuge, approximately 3,000 acres, is located adjacent to the southern and southeastern shorelines of the Salton Sea. This refuge is comprised of two separate units, approximately 18 miles apart, both bordered by the Salton Sea to the north or northwest and agriculture in all other directions. The refuge manages land intended for the maintenance of wildlife habitat, both to reduce crop damage to surrounding agricultural land and protect migratory birds and other special-status species. (USFWS 2023b.)

Chanan Remington Memorial Wetland

The Chanan Remington Memorial Wetland, approximately 44 acres, is located adjacent to the All-American Canal between Drops 3 and 4 as mitigation for the loss of seepage wetlands due to the All-American Canal Lining Project. Lining of the canal reduced percolation of the surface water to

adjacent seepage wetlands. The expanded and enhanced wetland acreage includes honey mesquite and/or cottonwood willow, and marsh vegetation. (IID 2024b.)

Species Conservation Habitat Project

The Salton Sea Species Conservation Habitat Project (SCH Project), approximately 4,100 acres, is located along the receded shoreline of the Salton Sea on the east and west sides of the New River. The goal of the SCH Project is to utilize areas of exposed playa to create habitat for fish and wildlife species that are dependent on the Salton Sea. The SCH Project objectives are as follows:

1. Provide habitat for piscivorous birds;
2. Develop physical structure and microhabitat elements for piscivorous bird species;
3. Support a sustainable, productive aquatic community;
4. Provide suitable water quality for fish;
5. Minimize adverse effects on desert pupfish;
6. Minimize risk of selenium toxicity; and
7. Minimize risk of disease/toxicity impacts. (CNRA 2015.)

Special-Status Species

Special-status plants and wildlife occur within the IID Contract Service Area and are defined as those that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies as imperiled in some way. Some of these species receive specific protection that is defined by federal or state endangered species legislation while others have been designated as special-status based on adopted policies (e.g., counties and cities) and/or the expertise of state resource agencies or non-profit organizations (e.g., CNDDB or CNPS). For purposes of this report, special-status plant and wildlife species are defined as follows:

- Plants that are listed or proposed for listing as threatened or endangered or are candidates for possible future listing as threatened or endangered, under the FESA or the California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050, et seq.).
- Plants that meet the definitions of rare or endangered under State CEQA Guidelines Section 15380.
- Plants considered by the CNPS to be rare, threatened, or endangered (Rank 1A, 1B, 2A and 2B plants) in California.
- Plants listed as rare under the California Native Plant Protection Act (Fish and Game Code Sections 1900, et seq.).
- Wildlife listed or proposed for listing as threatened or endangered or are candidates for possible future listing as threatened or endangered, under the FESA or the CESA.
- Wildlife that meets the definitions of rare or endangered under State CEQA Guidelines Section 15380.
- Wildlife designated by CDFW as species of special concern, CDFW Watch List species, or have a state rank of S1-S3 on CDFW's Special Animals List (CDFW 2023a).
- Wildlife "fully protected" in California (FGC Sections 3511, 4700, and 5050).

- Bird species protected by the MBTA.
- Bat species considered priority by the Western Bat Working Group (WBWG).

A review of the CNDDDB (CDFW 2023a) and existing documentation revealed that many special-status plant and wildlife species have been reported within the vicinity of the IID Contract Service Area. **Figures 3-4a and 3-4b, Special-Status Plant and Wildlife Species** depict the location of recorded occurrences of those special-status plant and wildlife species within the IID Contract Service Area. The potential for special-status species to occur is based on existing vegetation and habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences and geographic ranges, and known occurrences within the IID Contract Service Area.

This has been analyzed based on the criteria provided below and is included in **Appendix BIO-2, Special Status Species with Potential to Occur:**

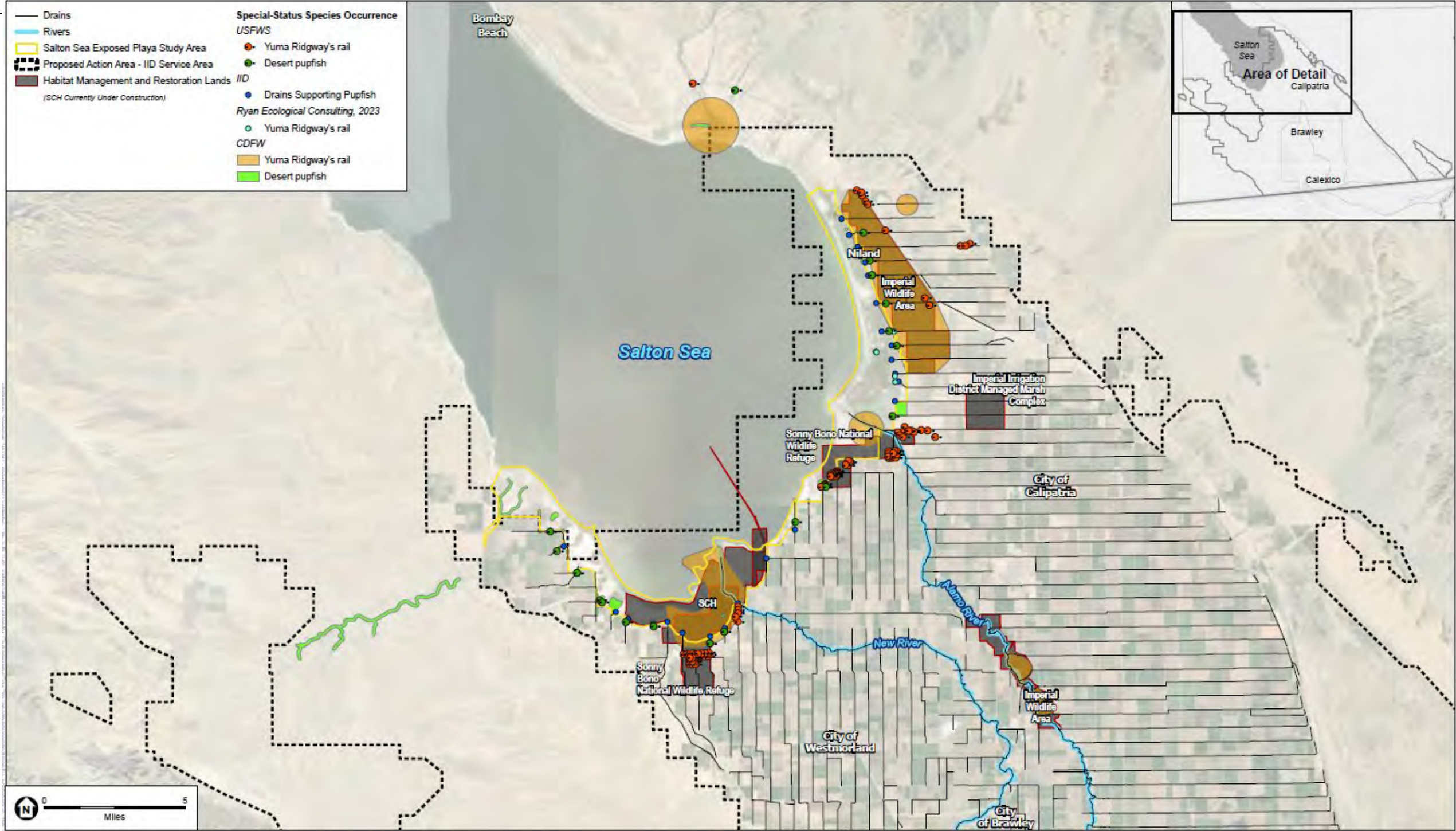
- **Not Expected:** The Action Area does not support habitat for a particular species or is outside of its known range.
- **Low Potential:** The Action Area supports limited habitat for a particular species. For example, the appropriate vegetation assemblage may be present while the substrate preferred by the species may be absent, or the preferred habitat may be present, but has undergone substantial disturbance, such that the species is not expected to occur.
- **Moderate Potential:** The Action Area supports marginal habitat for a particular species. For example, the available habitat may be somewhat disturbed, however, still supports important components, such as a particular soil or community type.
- **High Potential:** The Action Area provides suitable habitat conditions for a particular species and/or known populations occur in the immediate vicinity.
- **Present:** The species has been observed within a particular portion of the Action Area.

A total of six plant and forty-five wildlife species have a moderate to high potential to occur or have been observed within the IID Contract Service Area and have been put into two groups, those that depend on upland habitats and those that depend on fresh aquatic, riparian and marsh habitats.

Upland plant and wildlife species

A total of 16 species occur within and depend primarily upon upland desert scrub and dune habitat types dominated by plant species such as creosote bush (*Larrea tridentata*) and quailbush (*Atriplex lentiformis*). These include Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii*), ferruginous hawk (*Buteo regalis*), mountain plover (*Charadrius montanus*), Wiggin's croton (*Croton wigginsii*), desert tortoise (*Gopherus agassizii*), merlin (*Falco columbarius*), Algodones Dunes sunflower (*Helianthus niveus* spp. *Tephrodes*), banded Gila monster (*Heloderma suspectum* ssp. *cinctum*), cave myotis (*Myotis velifer*), big free-tailed bat (*Nyctinomops macrotis*), cheeseweed moth lacewing (*Oliarces clara*), flat-tailed horned lizard (*Phrynosoma mcallii*), Andrew's dune scarab beetle (*Pseudocotalpa andrewsi*), Couch's spadefoot toad (*Scaphiopus couchii*), crissal thrasher (*Toxostoma crissale*) and Le Conte's thrasher (*Toxostoma lecontei*). Upland habitats primarily depend on seasonal precipitation and are not reliant on perennial sources of water, natural or supplemental. The 16 species listed above will not be affected by the Proposed Action and will not be discussed further in this section.

Figures 3-4a and 3-4b Special-Status Plant and Wildlife Species

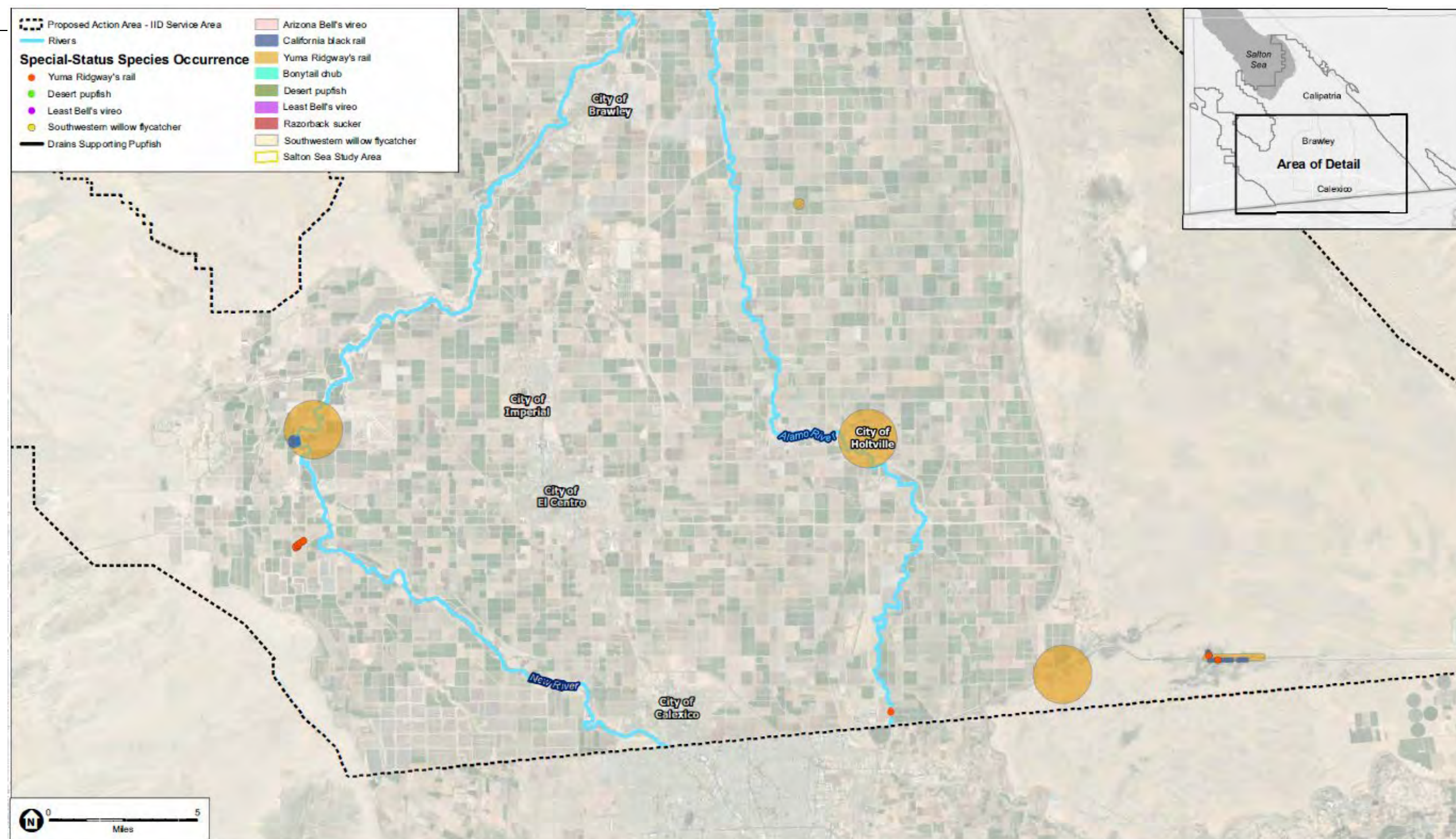


SOURCE: IID, 2023; CDFW, 2023; USFWS, 2023; Ryan Ecological Consulting, 2023; ESA, 2023

Imperial Irrigation District
2024-2026 Temporary Colorado river System Water Conservation Project



Figure 3-4a
Special-Status Plant and Wildlife Species
IID Contract Service Area
(Northern Portion)



SOURCE: IID, 2023; ESA, 2023

Imperial Irrigation District
2024-2026 Temporary Colorado river System Water Conservation Project



Figure 3-4b
Special-Status Plant and Wildlife Species
IID Contract Service Area
(Southern Portion)

In addition, the burrowing owl (*Athene cunicularia*) is known to occur in a variety of upland and wetland habitats throughout much of the IID Contract Service Area. This owl principally uses upland habitats and agricultural fields to forage and breed; however, it preys on invertebrates that depend on aquatic, riparian and marsh habitats, as well as active farmland.

Aquatic, riparian, and marsh wildlife species

A total of 32 species occur within and depend primarily upon aquatic, riparian and marsh habitats, which consist of open water/backwater along rivers and other waterways, and/or vegetation communities that are dominated by plant species such as cattail, cottonwood, willow, etc. These include Cooper's hawk (*Accipiter cooperii*), short-eared owl (*Asio flammeus*), long-eared owl (*Asio otus*), Aleutian Canada goose (*Branta canadensis* ssp. *leucopareia*), western snowy plover (*Charadrius nivosus* ssp. *alexandrinus*), black tern (*Chlidonias niger*), gilded flicker (*Colaptes chrysoides*), desert pupfish (*Cyprinodon macularius*), southwestern willow flycatcher (*Empidonax traillii* ssp. *extimus*), bonytail chub (*Gila elegans*), bald eagle (*Haliaeetus leucocephalus*), yellow-breasted chat (*Icteria virens*), least bittern (*Ixobrychus exilis*), Sonoran mud turtle (*Kinosternon sonoriense*), Yuma Ridgway's rail (*Rallus obsoletus yumanensis*), California black rail (*Laterallus jamaicensis* ssp. *coturniculus*), lowland leopard frog (*Lithobates yavapaiensis*), California leaf-nosed bat (*Macrotus californicus*), Gila woodpecker (*Melanerpes uropygialis*), elf owl (*Micrathene whitneyi*), brown-crested flycatcher (*Myiarchus tyrannulus*), cave myotis (*Myotis velifer*), American white pelican (*Pelecanus erythrorhynchos*), brown pelican (*Pelecanus occidentalis* ssp. *californicus*), summer tanager (*Piranga rubra*), white-faced ibis (*Plegadis chihi*), vermilion flycatcher (*Pyrocephalus rubinus*), bank swallows (*Riparia riparia*), black skimmer (*Rynchops niger*), yellow warbler (*Setophaga petechia*), Yuma hispid cotton rat (*Sigmodon hispidus* ssp. *eremicus*) and razorback sucker (*Xyrauchen texanus*).

One fish species and four bird species are discussed below in further detail, based on their known presence in the IID Contract Service Area. Known occurrences for these species documented by the CDFW (2023a) and the USFWS (2023b) are depicted in Figures 3-4a and 3-4b, Special-Status Plant and Wildlife Species.

Desert Pupfish

The desert pupfish is state and federally endangered. This species is a resident of small streams and the shallow margins of larger bodies of water, and in California is known to occur within the Salton Sink (San Felipe/San Sebastian Marsh, Salt Creek and the Salton Sea). They prefer areas with soft substrate, clear water and an abundance of aquatic vegetation and aquatic invertebrates (USFWS 1993, 2010). This species is tolerant of high temperatures and salinities and low dissolved oxygen concentrations and is far more tolerant to abrupt changes in salinity than virtually all other native fish that share their habitat (USFWS 2023a). Quantitative habitat metrics preferred/required for the species are listed below:

- shallow water, ranging between 0.5 inch and ~3 feet
- water less than 36 degrees C; upper lethal tolerance of 42.4 degrees C
- water greater than 0 degrees C
- water salinity of less than 68 ppt
- less than 100 percent cover of emergent vegetation
- surface water velocity of 1.0 foot per second or greater (ESA 2017)

Desert pupfish are known to occur along the shoreline of the Salton Sea and in irrigation drains. They have been documented within the Sonny Bono National Wildlife Refuge and the Imperial Wildlife Areas (CDFW 2023a).

California Black Rail

The California black rail is state threatened. This species is a resident in saline, brackish and fresh emergent wetlands in the San Francisco Bay area, Sacramento-San Joaquin Delta, coastal southern California, and the Salton Sea. Suitable habitat along the Salton Sea consists of freshwater emergent marsh dominated by bulrush, cattail and saltgrass, with either moist substrate or shallow water (i.e., up to 1.2 inches deep). They typically do not occur in low wetland areas with considerable annual and/or daily fluctuations in water levels and instead are found in the high wetland zones near the upper limit of tidal flooding. They are carnivorous, gleaning isopods, insects and other arthropods within suitable habitat. This species is known to breed between March and June (CDFW 1999). It typically nests at the base of tall vegetation, in moist substrate, but may place material in up to 1-inch deep of water (Cornell Lab of Ornithology 2019).

The California black rail has been documented in the Imperial Wildlife Area and within the IID Contract Service Area. Further within the IID Contract Service Area, the California black rail has been observed along the New River and the southwestern border of the Chocolate Mountains (CDFW 2023a).

Least and Arizona Bell's Vireo

Least Bell's Vireo is state and federally endangered, and the Arizona Bell's Vireo is state endangered. Both insectivorous subspecies breed within dense riparian and shrub vegetation associated with aquatic habitats in Southern California (including the Lower Colorado River) and Baja California. They are both commonly associated with habitats that include willow and mulefat (*Baccharis salicifolia*) and are known to breed between March and August (USFWS 2023e). Least Bell's Vireo have been documented in the IID Contract Service Area within the Imperial Irrigation District Managed Marsh Complex (CDFW 2023a).

Southwestern Willow Flycatcher

The Southwestern willow flycatcher is state and federally endangered. This insectivorous species breeds within dense riparian and shrub vegetation associated with aquatic habitats in southwestern North America, near or adjacent to surface water. This species is commonly associated with habitats that include willow and mulefat (*Baccharis salicifolia*). This species is known to breed between May and August (USFWS 2002). Southwestern willow flycatcher has been documented along the Lower Colorado River near the Palo Verde Diversion Dam, Imperial National Wildlife Refuge and south towards the Laguna Mountains (CDFW 2023a).

Yuma Ridgway's Rail

The Yuma Ridgway's rail is state threatened and fully protected and federally endangered. Yuma Ridgway's rails construct nests on stable substrates (e.g., at bases of emergent vegetation or in mats of dead vegetation) in shallow water along the shoreline of marsh habitat or over deeper water. Often, male birds will build multiple nests, to which they can physically move eggs in the event of predators or unexpected increases in water level (USFWS 1983). Water depths within proximity of active nests have been documented ranging between 5 centimeters and 1 meter (USFWS, 2023c).

The Yuma Ridgway's rail has been documented in the Salton Sea emergent vegetation, the Sonny Bono National Wildlife Refuge, within the IID Contract Service Area along drains and canals, along the Alamo River and within the Imperial Wildlife Area (CDFW 2023a).

3.4.2 Environmental Consequences

3.4.2.1 No Action Alternative

Implementation of the No Action Alternative would involve no additional reductions in water diversions by IID from the Colorado River at the Imperial Dam and would therefore not achieve conservation objectives. As a result, the water conservation would not occur, eliminating effects from the water conservation programs, including efficiency conservation and fallowing. There would be no additional reductions of water flows to the Salton Sea.

3.4.2.2 Proposed Action Alternative

The Proposed Action involves the conservation of water within the IID Contract Service Area, reducing water diversions from the Colorado River. The analysis of the Proposed Action follows an approach similar to that used in the QSA EIR/EIS to identify impacts for biological resources due to reduced flows. The QSA EIR/EIS assessed the following water conservation measures for their potential to effect biological resources: (1) IID system efficiencies (e.g., 12-hour delivery and seepage recovery programs), (2) on-farm irrigation system improvements (e.g., tailwater return systems and drip irrigation) and (3) temporary fallowing farmland and select Salton Sea mitigation sites (IID 2003).

Appendix BIO-3, QSA EIR/EIS Comparison Impact Table provides a comparison of the impacts identified in the QSA EIR/EIS with those associated with implementation of the Proposed Action. The Proposed Action will be limited to water conservation and will not involve the construction of projects; therefore, seven impacts involving construction of projects under the QSA (i.e., BR-14-16, BR-18, BR-25, BR-28 and BR-30) were omitted from this analysis. Additionally, the draft Habitat Conservation Plan (HCP) (IID 2001) prepared in tandem with the QSA EIR/EIS (IID 2003) included proposed beneficial impacts associated with the creation of managed marsh and native tree habitat and the implementation of avoidance measures for sensitive species (i.e., burrowing owl and razorback suckers). Some of these measures have been implemented by IID since certification of the QSA EIR/EIS to varying degrees; however, the 13 HCP-specific QSA impacts (i.e., HCP-BR-32-40 and HCP1-BR-52-55) were also omitted from this analysis (see Appendix BIO-3).

The remaining 34 impacts included in the QSA EIR/EIS (BR-1-13, BR-17, BR-19-24, BR-26, BR-27, BR-29, BR-31 and BR-41-51) were considered when assessing the effect on biological resources as a result of the Proposed Action.

IID Contract Service Area

The QSA EIR/EIS identified 13 impacts (BR-10-13, BR-17, BR-19-24, BR-26, BR-27) to biological resources (see Appendix BIO-3) within the IID Contract Service Area resulting from water conservation of up to 300,000 AFY. Some of these impacts (BR-10, BR-13, BR-17, BR-20-23, BR-

28, BR-29, BR-30 and BR-31) were identified as either less than significant or as having no impact to biological resources; these included effects to drain and river (Alamo and New) vegetation, fallowing of agricultural fields, effects to fish habitat due to decreases in water depths and a reduction in availability of insects to burrowing owls. QSA impacts requiring mitigation included increases in salinity, selenium and pesticide concentrations in the drains, and reduced habitat availability (i.e., emergent vegetation) for the Yuma Ridgway's rail and desert pupfish (i.e., aquatic habitat) due to decreases in water level.

IID maintains flow data for drains within the IID Contract Service Area, including for the New and Alamo Rivers. The drainage flow data presented and discussed in Section 3.8, Hydrology/Water Quality includes many of the drains that flow to the Salton Sea, but not all. Some drains that flow to the Sea have not been actively monitored for the collection of drain flow data. However, the dataset provides a robust representation of the water that moves through IID's drain system and discharges into the Salton Sea.

The Proposed Action is expected to result in an average annual reduction in drain flows of 11.9 percent during three years, calendar years 2024 through 2026 (See Section 3.8, Hydrology/Water Quality, Table 3-11, Existing Conditions Monthly Evapotranspiration, Mean Monthly Drain Flows, Water Balance for Natural Communities). To assess the effects of these drain flow reductions, an analysis of existing flow variability was conducted. Existing drain flow conditions are highly variable both seasonally and daily corresponding to agronomic practices and existing water conservation activities. Drain flows are generally higher during the hotter months of the year. The drain flow data was analyzed to determine mean on an annual and monthly timestep for the years 2019 to 2023 to reflect recent hydrology. The standard deviation of drain flow was calculated for existing conditions for each drain. The average annual flow reduction resulting from the Proposed Action (11.9 percent) would be well within the existing standard deviation of mean monthly flows at every drain (See Section 3.8, Hydrology/Water Quality, Table 3-11, Existing Conditions Monthly Evapotranspiration, Mean Monthly Drain Flows, Water Balance for Natural Communities, and Table 3-12, Proposed Action Monthly Evapotranspiration, Mean Monthly Drain Flows, and Water Balance for Natural Communities). That is to say, flow variability within each month in each drain under existing conditions is greater than the increment of flow reduction caused by the temporary conservation under the Proposed Action, assuming flow reductions are applied evenly spatially and temporally.

To further analyze the potential effects of the Proposed Action to drain flows to the Salton Sea, drain flow data for the most recent 5 years (2019-2023) was compiled for 20 of the drains that flow directly to the Sea. Hydrographs were prepared to illustrate the monthly median flow from January to December as well as the recorded highs and lows for each drain. The hydrographs shown on **Figure 3-5, Drain Flow Hydrographs**, demonstrate the annual flow variability in each of the drains and the reduction of the annual average drain flows by 11.9 percent are generally within the recorded variability. The hydrographs also show the brief periods that drain flows may occur lower than the 5-year historical lows if the DIP were to be implemented at maximum participation during the summer months of June through September. Only in this scenario is there an indication from the data that drain flows may be reduced to lower than the 5-year historical lows. However, in those instances, the drain flows are generally at higher levels during these months and the reduction in flows only represents a reduction to that volume, but does not result in no flows in those drains.

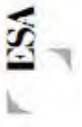


Figure 3-5 Drain Flow Hydrographs

Imperial Irrigation District 2024-2026 Temporary Colorado River System Water Conservation Project

SOURCE: ESA, 2024

Figure 3-5
Drain Flow Hydrographs



It is anticipated that drains will continue to show variable flows corresponding to agronomic practices and existing water conservation programs. The Proposed Action is expected to reduce annual average drain flows by 11.9 percent. This reduction when added to the lowest drain flows on record for each month may result in brief periods of drain flows that are lower than the most recent 5-year historical lows. However, this condition would be temporary, and would recover within the month as demonstrated in the historic flow data.

Nevertheless, the Proposed Action includes the Monitoring Plan, which provides for the ongoing monitoring of the drain flows during the short-term period of the Proposed Action. Implementation of the Monitoring Plan would ensure that any drain flow reductions under the Proposed Action, that do not already occur under existing conditions, would be addressed immediately. The Monitoring Plan requires certain actions to be taken to ensure that there would not be adverse effects to listed species or their habitat resulting from the Proposed Action.

Aquatic, Riparian, and Marsh Habitat and Species

While the Proposed Action would result in an annual average reduction in drain flows of approximately 11.9 percent for the three-year period of calendar years 2024 through 2026, the Alamo River and New River, the San Felipe Wash and drains within IID's Contract Service Area would continue to convey the remaining flows, with the primary impact being a minor reduction in water depth. Characteristic drain morphology within the IID Contract Service Area typically consists of channels between 6 and 15 feet deep with 45-degree banks (IID 2003). The reduction in flow is expected to reduce water depth by less than 1 foot of surface elevation. Flow variability under existing conditions results in greater depth fluctuations.

Temporary reductions in water levels in drains are not expected to increase salinity or selenium concentrations that could affect desert pupfish by reducing water quality and available foraging/breeding opportunities. The flow reductions would represent a small percentage of the overall flows and occur only over the three-year period of calendar years 2024 through 2026. Projected increases in salinity would be accelerated by 3 to 4 years when compared to baseline future projections (2045), based on the trajectory predicted by hydrologic models developed by DWR. However, the temporary impacts associated with the Proposed Action would taper off to projected future baseline levels by the year 2045. (See Appendix HYDRO-3.)

Sensitive fish species, namely desert pupfish, are found in open water and drains that currently have sufficient flow to reliably maintain suitable habitat, even under the existing substantial flow variability. The IID drains in which the presence of desert pupfish have been recorded are identified in Table 2-1, IID Drain List. The flow reductions caused by the Proposed Action may reduce moisture or ponding in some of the marsh vegetation responding to flow variability. The spatial and temporal extent of flow reductions remains unknown and will depend on agronomic practices and the locations and timing of participating fields in the conservation programs implemented under the Proposed Action.

While adverse effects to desert pupfish would be unlikely during the short-term period of the Proposed Action, to ensure that drain flows are sustained spatially and temporally and to ensure that

there are no adverse effects to listed species, the Proposed Action includes the implementation of the Monitoring Plan. The Monitoring Plan requires certain actions to be taken to ensure that there would not be adverse effects to the desert pupfish or its habitat resulting from the Proposed Action. Therefore, implementation of the Monitoring Plan would ensure that any drain flow reductions under the Proposed Action, that do not already occur under existing conditions, would be addressed immediately.

CDFW Sensitive Natural Communities

Based on review of the QSA EIR/EIS, two types of CDFW sensitive natural communities have been documented within the IID Contract Service Area, those dominated by cottonwood and mesquite-dominated communities. (See Table 3-5, Sensitive Natural Communities and Land Cover Types). As stated above, the average annual percent reduction in drain flows of 11.9 percent is expected to have a minimal effect on these vegetation types, which would be temporary and would return to baseline conditions following completion of the Proposed Action. And as noted above, the month-to-month flow variability under existing conditions is greater than the monthly effect of reduced flows under the Proposed Action, assuming flow reductions are applied evenly spatially and temporally, which suggests that stress to sensitive natural communities resulting from reduced water availability under the Proposed Action is within the current flow variability. As noted above, implementation of the Monitoring Plan would ensure that any drain flow reductions under the Proposed Action, that do not already occur under existing conditions, would be addressed immediately.

Sensitive Wildlife Utilizing Active Farmland

As noted in the QSA EIR/EIS (Impact BR-29), special-status species frequenting agricultural fields for foraging include mountain plover, sandhill cranes, black terns, and white-faced ibis. Implementation of the Proposed Action would not substantially reduce the availability of agricultural lands in the IID Contract Service Area. Any sensitive species utilizing a particular location affected by temporary fallowing would be able to move and utilize adjacent farmland in proximity.

Southern Shoreline of the Salton Sea

The QSA EIR/EIS identified 11 impacts (BR-41-51) to biological resources (see Appendix BIO-3) along the Salton Sea. Some of these impacts (BR-41-45 and BR-47-51) were identified as less than significant or as having no impact to biological resources. These include effects to adjacent wetland vegetation resulting from reduced rain flow and Salton Sea elevation, increased salinity and selenium concentrations, a reduction in invertebrate resources for shorebirds, effects to colonial nest/roost sites, a reduction in available mudflat and shallow water habitat, and an increase in avian disease outbreaks. QSA impacts requiring mitigation included effects to piscivorous birds due to reduced fish abundance and the isolation of desert pupfish populations from increased salinity.

Aquatic, Riparian, and Marsh Habitat and Species

Approximately 8,677 acres of wetlands have emerged on the playa along the southern shoreline of the Salton Sea (see Table 3-4, Natural Communities and Land Cover Types Along the Salton Sea).

As the Salton Sea has receded (IID 2024a, 2024c), river and drain water no longer directly reaches the Sea in most locations, creating vegetation as the water disperses on the playa before reaching the Sea. The Proposed Action would reduce flows from the IID drains. If the flow reductions were sufficient to reduce the quantity or quality of the vegetative habitats along the southern shore of the Salton Sea, aquatic, riparian and marsh species including desert pupfish and Yuma Ridgeway's rails could be affected.

To determine the current water demand of the vegetative habitats, an analysis was conducted to estimate evapotranspiration (ET) rates of the natural communities mapped within the Salton Sea Vegetation Study Area in 2023 (See Section 3.8 Hydrology/Water Quality). Species dominance within each natural community was used to create representative ET values. ET demands were calculated for several representative areas of the Salton Sea Vegetation Study Area where drain data was available. A comparison of monthly drain flow and ET demands was conducted under existing conditions and under Proposed Action conditions.

The ET analysis presented in Section 3.8, Hydrology/Water Quality suggests that the annual ET demand of the existing vegetation within the Salton Sea Vegetation Study Area would be met in all locations under the Proposed Action during a normal (mean flow) year. The ET analysis shows that for normal years under existing conditions, some areas experience a water deficit compared with ET demand during summer months. The Proposed Action would potentially add to the existing monthly deficits during these months. However, the incremental increase in monthly deficits in certain areas is limited when compared to existing conditions, and the flow interruptions would be temporary, would occur within existing daily flow variability, and would recover as quickly as a few days, but no more than a few months. Due to the short duration of the minor flow deficits, vegetation is not expected to recede due to water stress such that species habitat would be adversely affected either temporarily or permanently.

To evaluate whether the reduced drain flows could adversely affect species, such as desert pupfish or Yuma Ridgeway's rail, an analysis was conducted of the flow consistency within each drain (Section 3.8 Hydrology/Water Quality) to establish the existing drain flow conditions. As described in Section 3.8 Hydrology/Water Quality, existing drain flow conditions are highly variable both seasonally and daily corresponding to agronomic practices and existing water conservation activities. The Proposed Action is expected to reduce annual average drain flows by 11.9 percent. This reduction when added to the lowest flows on record for each month may result in brief periods of drain flows that are lower than the most recent 5-year historical lows. However, under existing conditions, vegetated areas that support nesting for sensitive rails and other avian species are subject to flow variability during nesting season.

To further analyze the potential effects to drainages that discharge to the Salton Sea, drain flow data were compiled for 20 of the drains that flow directly to the shoreline of the Sea (See Section 3.8, Hydrology/Water Quality). The agricultural drain hydrographs show the monthly median flow from January to December as well as the recorded highs and lows for each drain (See Figure 3-5, Drain Flow Hydrographs). The hydrographs show annual flow variability, and the reduction of the annual average drain flows by 11.9 percent is generally within the recorded variability. The hydrographs also

show the brief periods that drain flows may occur lower than the 5-year historical lows if the DIP were to be implemented at maximum participation during the summer months of June through September. Only in this scenario is there an indication from the data that drain flows may be reduced to lower than the 5-year historical lows. However, in those instances, the drain flows are generally at higher levels during these months and the reduction in flows only represents a reduction to that volume, but does not result in no flows in those drains.

Under the Proposed Action flow variability in each drain will remain high. The spatial and temporal extent of flow reductions remains unknown and will depend on farming practices and the locations and timing of participating fields in the conservation programs implemented under the Proposed Action. The effects to vegetation and nesting habitat would be minimal because the ecosystem is accustomed to the existing high flow variability. Further, desert pupfish utilize open water within drains that currently exhibit substantial flow variability. The proposed reduction in flows may create drier conditions temporarily in certain areas, but would not permanently eliminate habitat.

The expected deficit in drain flows during certain months of the Proposed Action may add to those observed under existing conditions. However, because drain flows within the IID Contract Service Area are highest each year March through September, drain flows will remain substantial during this period. Reductions in flow will be proportionally less during the avian nesting season (March through September) than during months with lower drain flows, which would reduce effects to Yuma Ridgway's rail breeding activities. Additionally, large areas of nesting habitat are available to nesting birds within the Salton Sea Vegetation Study Area allowing movement during these months. Given the Proposed Action is for a limited, short period of time of three years, areas affected by periods of lower flow will recover when flows resume to existing conditions.

While adverse effects to aquatic, riparian and marsh species, such as desert pupfish and Yuma Ridgway's rail, would be unlikely during the three-year period of the Proposed Action, to ensure that drain flows are sustained spatially and temporally within the Proposed Action Area and to ensure that take is avoided and there are no adverse effects to these listed species, the Proposed Action includes the implementation of the Monitoring Plan. In addition to the extensive drain flow and vegetation monitoring requirements and responsive actions to be taken to avoid any adverse effects to these species resulting from the Proposed Action, at several points throughout the implementation of the Monitoring Plan IID must also coordinate with and report to USFWS, Reclamation and CDFW. This is an integral part of the Monitoring Plan to ensure that IID is implementing the Monitoring Plan and providing ample communication and information to USFWS, Reclamation and CDFW throughout the three years of the Proposed Action. With the incorporation of the Monitoring Plan, the Proposed Action is not likely to adversely affect these species, particularly the desert pupfish and Yuma Ridgway's rail.

Shorebirds and Waterbirds

The Proposed Action may result in a temporary acceleration in exposure of Salton Sea acreage by 5 to 10 years based on the trajectory predicted by hydrologic models developed by DWR (See Figure 3-1, Exposed Salton Sea Acreage; Appendix HYDRO-3); however, drain water from the IID

Contract Service Area would continue to flow to the Sea. Shorebirds and waterfowl utilizing the Salton Sea, adjacent vegetated areas, and drains would continue to do so under the Proposed Action.

CDFW Sensitive Natural Communities

A total of 16 CDFW sensitive natural communities have been documented within the Salton Sea Vegetation Study Area, as presented in Table 3-5, Sensitive Natural Communities and Land Cover Types. As stated above, the ET analysis suggests that water-dependent vegetation along the Salton Sea would not be adversely affected. Moreover, the Proposed Action includes extensive drain flow and vegetation monitoring requirements and responsive actions to be taken to avoid any adverse effects to sensitive species resulting from the Proposed Action.

3.4.2.3 Cumulative Impacts

A list of relevant past, present, and reasonably foreseeable projects that involve the potential for water conservation and reduced water flow to the Salton Sea is provided in Table 1-1, Cumulative Projects List, above. These projects are either completed or already in planning.

The projects included in Table 1-1 may alter flows in the water delivery and drainage system, but would not reduce overall flows in IID's canal system. Therefore, these projects are not expected to contribute to cumulative flow reductions occurring under the Proposed Action. The Proposed Action would accelerate the lowering elevation of the Salton Sea, thereby accelerating the exposure of the shoreline, but the acceleration would taper off to baseline projection levels by 2045 based on the trajectory predicted by hydrologic models developed by DWR. Many of the projects in Table 1-1 are assumed in the analysis prepared in the SSAM model (see Section 3.8 Hydrology/Water Quality; Appendix HYDRO-3). Thus, the Proposed Action, when considered with relevant past, present, and reasonably foreseeable projects that involve the potential for water conservation and reduced water flows to the Salton Sea, would not substantially increase potential effects to biological resources.

3.5 Cultural Resources

3.5.1 Affected Environment

This section addresses the cultural resources in the IID Contract Service Area and potential impacts to cultural resources associated with the implementation of the Proposed Action. Effects considered under NEPA include cultural and historic (40 CFR 1508.1[g][4]). Cultural resources include buildings, sites, structures, or objects, each of which may be considered sacred or have historical, architectural, archaeological, cultural, and/or scientific importance. Historic properties, a subset of cultural resources, consist of “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register [of Historic Places]” (36 CFR Part 800.16[a][1]).

The principal federal law addressing historic properties is the National Historic Preservation Act (NHPA), as amended (United States Code Title 54, Sections 300101 et seq. [54 USC 300101 et seq.]), and its implementing regulations (Code of Federal Regulations Title 36, Part 800 [36 CFR Part 800]). Section 106 of the NHPA (54 USC 306108) requires a federal agency with jurisdiction over a proposed federal action (referred to as an “undertaking” under the NHPA) to consider the effects of the undertaking on historic properties, and to provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the undertaking. The implementing regulations (36 CFR Part 800) describe the process for identifying and evaluating historic properties; for assessing the potential adverse effects of federal undertakings on historic properties; and for seeking to develop measures to avoid, minimize, or mitigate adverse effects. Reclamation has determined that the proposed action meets the definition of undertaking (36 CFR 800.16[y]) but does not have the potential to cause effects as defined at 36 CFR 800.3(a)(1).

Whereas Reclamation has determined that the proposed action does not have the potential to affect historic properties, if present, pursuant to 54 USC 306108, it must consult with stakeholders, including Native American Tribes, with an interest in the area of the proposed action and/or the cultural resources that may be impacted by the proposed action (40 CFR 1508.1[g][4]). Consultation with Native American Tribes regarding issues related to Section 106 and other authorities, such as NEPA and Executive Order 13007, must recognize the government-to-government relationship between the federal government and Native American Tribes, as set forth in Executive Order 13175, “Consultation and Coordination with Indian Tribal Governments” (November 6, 2000; *Federal Register* Title 65, Pages 67249–67252, November 9, 2000), and the Presidential Memorandum of November 5, 2009.

3.5.1.1 Physical Setting

The Colorado Desert is located in the Salton Trough, which is a massive graben (geologic depression) formed by the interface of parts of the North American and Pacific plates. The trough formed by the ongoing movement of these faults and the general subduction of the basement formations has been filled by immense quantities of colluvial and alluvial sediments that in places are up to 20,000 feet deep (Morton 1977). Ancient river meandering reworked these sediments. Where the Colorado River empties into the Gulf of Mexico, finer sediments are released onto a vast and

growing delta while coarser materials fall out along the bed and nearby floodplains of the River. The trough is being constantly filled with sediments as it deepens while portions of the Imperial Valley remain well below sea level (IID 2003).

Before dams controlled the flows of the Colorado River, deposited sediment in the lower channels of the delta encouraged local flooding that dropped even more sediments on the fan. Gradual silt accumulation raised the delta and lowered stream-channel margins above the average grade of the main Colorado River channel to the north, resulting in an impoundment. This happened frequently after large flood events when the receding waters of the Colorado were unable to find a route back through the newly reworked delta. Then, rapid filling of the trough by the Colorado resulted in the formation of a vast freshwater lake. The filling generally continued until the impounding delta was breached (often after many decades or centuries) (IID 2003).

The most dominant lacustrine feature was Lake Cahuilla, a large, extensive freshwater lake that filled the northern part of the Salton Trough for several thousand years. Lake Cahuilla, too, attracted prehistoric occupation and use for long time periods. The ancient shoreline of Lake Cahuilla nearly surrounds the Salton Trough. On the surface, the Salton Trough province exhibits ancient lakebed sediments, alluvial channels, and dune sands. The central portion (Imperial and Coachella Valleys, Salton Sink) is covered by clay and silt deposits from the prehistoric lakestands. Shoreline deposits circumscribe the central lakebed deposits and consist mostly of unconsolidated sand and gravel, grading into silts and clays. During the Late Prehistoric period, Lake Cahuilla stretched from north of Indio to south of Mexicali. The Colorado River fed it, and, when full, it spilled southward to the Colorado delta and the Gulf of California (Laylander 1995).

The most recent flooding occurred between 1904 and 1907, when the Colorado entered the irrigation system leading to the Sink. In the winter of 1904-05, floodwaters from the Colorado and Gila Rivers combined, producing an abnormally high discharge, which flowed through an unprotected headgate and down the steeper grade of the canal. The canal and tributary channels began to cut and enlarge. By 1905, almost the entire Colorado discharge was flowing into the Salton Trough. The Colorado was finally returned to its channel in early 1907, but not before the Salton Sea was formed (Sykes 1914).

3.5.1.2 *Ethnographic Context and Historic Setting*

The traditional territories of two modern Native American groups—Cahuilla and Kumeyaay—encompass the Salton Sea, with possible ethnohistoric use by the Quechan and Halchidhoma. The traditional tribal lands of the Kumeyaay primarily encompass the southern half of the Sea. It has been speculated that the Quechan and Halchidhoma may have occupied the region, at least seasonally, in the past. The Quechan have been described by Kroeber (1920) and Forde (1931); the Kamia (or eastern Kumeyaay) by Gifford (1931), Knack (1981), and Spier (1923); and the Cahuilla by Barrows (1900), Bean (1972), Bean and Saubel (1972), Curtis (1926), Drucker (1937), Heizer (1974), Hooper (1920), Kroeber (1908), and Strong (1929).

Quechan. The Quechan are a Yuman-speaking group living upriver from the Colorado River Delta with linguistic and cultural ties to the Cochimi, Cocopah, Halyikwamai, Kohuana, Kumeyaay, Kiliwa,

Walapai, Havasupai, Yavapai, Halchidhoma, Maricopa, and Mohave (Forde 1931, Kroeber 1920). Traditionally friendly with the Kumeyaay, Yavapai, Papago and Mohave, they were typically enemies of the Cocopah and Maricopa and got along poorly with the Cahuilla. Between 1780 and 1850, the Quechan experienced lengthy hostilities with the Halchidhoma, resulting in the displacement of the Halchidhoma from the Colorado River to the middle Gila River (IID 2003). The Quechan's traditional economy was a mix of floodplain horticulture, fishing, and hunting-gathering, as detailed by Castetter and Bell (1951).

The Quechan lived in dispersed settlements along the Colorado River and lower Gila River and today, the 33,000-acre Fort Yuma Indian Reservation remains the center of cultural and political life for the 3,000-plus members of the Quechan Nation (Bee 1981, 1983, 1989). Pilot Knob, located near the beginning of the AAC, is the Quechan sacred site, *Avikwalal*. Pilot Knob was the first stop in a four-day ceremonial journey up the Colorado River to the creation site at *Avikwame*, near the City of Needles (Raven and Raven 1986; Ezzo and Altschul 1993; Altschul and Ezzo 1994).

Kumeyaay/Kamia. The indigenous people who occupied the southern Imperial Valley area at Spanish Contact were the Tipai and Ipai (Kroeber 1925; Luomala 1978; Spier 1923), who largely prefer the term Kumeyaay. Until the 1960s, ethnographers used the term Diegueno for these peoples. South of the Salton Sea was home to the easternmost *Tipais*, the Kamia, who lived along sloughs such as the New River, and in the adjoining desert (Luomala 1978). The Kamia, or Imperial Valley, or Valley Tipai, were culturally related to the River Yumans, including the Quechan, to the east. Their territory extended southward to the Colorado delta below the International Line in Baja California, westward to the Coast, and eastward to the Sand Hills near the eastern shore of the Salton Sea. It included the New and Alamo Rivers, and innumerable temporary sloughs and shallow lakes (Van Camp 1979).

The Kumeyaay were seasonal hunters and gatherers (and occasional agriculturists) who used all major ecological zones at various times of the year, including the coast and its maritime resources, the mountain oaks and piñon, and the desert foothill agave and mesquite. Most groups had a mountain home base that provided acorns, greens, fruits, and abundant game. Each group operated out of its home base for most of the year. Seasonal campsites were scattered throughout their territory and used as needed, but their central villages were larger and permanently situated (see Schaefer 1998 for Kumeyaay settlement patterns and Luomala 1978 and Spier 1923 for traditional Kumeyaay mountain dwellings).

Although the Kumeyaay have been depicted as hunter/gatherers in ethnographic documents, some groups practiced agriculture in the Imperial Valley (Gifford 1931). Shipek (1989) suggested that horticultural practices among the Kumeyaay were widespread and intensive, involving transplantation and cultivation of several native plant species. The Salton Sea and the Laguna Salada area were desert oases during some portions of the year. They grew beans, corn, and squash whenever the floodwaters of the Colorado River backed up into the area through various overflow channels, such as the New and Alamo Rivers. Lands along New River belonged to individuals and/or families who cleared and leveled them, built dams and levees, and maintained canals. Any Kumeyaay from any band (coastal, foothill, or mountain), could acquire New River floodplain land

by clearing additional land, helping to build dams, and extending the levee and canal system to the newly cleared land (Shipek 1982).

By the late 19th and early 20th centuries, Kamia society had nearly collapsed from disease, assimilation, and warfare. The remaining bands and once-autonomous tribelets were combined by the American government to form larger groups that were assigned reservations established throughout San Diego County following the Mexican-American War (IID 2003).

Cahuilla. The Cahuilla are a Takic-speaking group that occupied areas in the northwestern portion of Imperial County and most of the western portion of Riverside County. The northern part of the Salton Sea was, at contact, home to the Desert Cahuilla (Strong 1929; James 1969) who practiced some agriculture (Bean and Saubel 1972). Shipek (1982) puts their southern border at San Felipe Creek while Strong (1929) puts the border between the Cahuilla and Kumeyaay around the Riverside/Imperial County line.

Cahuilla society was set up with a dozen or more land-holding clans, each with territory that ranged from desert or valley floor to mountain areas within which several biotic zones could be exploited. Each clan included several lineages, each with an independent community area it owned within a larger clan area. Each lineage had ownership rights to various hunting and gathering areas. Cahuilla clans varied in size but some numbered up to several thousand people. Clans were arranged so each lineage/community had access to water and food resources. Within each community, houses and structures were placed at some distance from each other; often a community would be spread over a mile or two, with each nuclear and extended family having houses and associated structures for storage of food, and shaded work places to manufacture tools and process food (Schaefer 1998). Hilly, rocky areas, cave sites, or walled cave sites were used for temporary camping, food storage, hunting blinds, and as fasting places for shamans (IID 2003).

By 1823, the Cahuilla had adopted elements of Hispanic lifeways. At that time, Mexicans were running livestock through the San Geronimo Pass as far as Palm Springs. The 1823 Romero expedition reported that the Cahuilla at Toro were growing corn and melons and were already familiar with the use of horses and cattle (Schaefer 1998). In 1851, the Cahuilla and Luiseño leaders signed a treaty that was never ratified by Congress. In the 1860s, epidemic disease virtually wiped out the Cahuilla and survivors of decimated lineages and clans joined villages to maintain their ceremonial, cultural, and economic institutions (Schaefer 1998).

There are two Cahuilla reservations in close proximity to the Salton Sea today – the Torres Martinez Desert Cahuilla Indians reservation located in the northwestern portion of the Sea spanning Imperial and Riverside Counties and the Cabazon Band of Cahuilla Indians reservation located north of the Sea in Riverside County. In 1876, the Torres and Martinez reservations were created by an Executive Order. In 1891, under the Relief of Mission Indians Act, the Torres and Martinez reservations were combined. In 1903, another 640 acres of state lands were added to the reservation. In 1991, the area under trust was about 14,000 acres, with 192 people living on the reservation and 57 were living adjacent to the reservation at that time (Schaefer 1998). The Cabazon Reservation was established near Indio by an Executive Order in 1876. In 1895, the area was increased by an Act

passed in 1891. Around 1923, 60 to 70 acres of the reservation were under irrigated cultivation. By 1991, the reservation totaled 1,382 acres. At that time, the BIA had listed the Cabazon population as 17 within the reservation and 8 adjacent (Schaefer 1998).

3.5.1.3 Known Cultural Resources

The current distribution and availability of cultural resources are the consequences of several environmental and historical factors, including the periodic flooding of ancient Lake Cahuilla and the New and Alamo Rivers. Pre-contact settlement, resource exploitation, and horticulture focused on their shorelines and riverbanks, but seasonally available resources were distributed across the Imperial Valley. Intensive use of the Imperial Valley for irrigation agriculture since the beginning of the 20th Century, however, has disturbed most archaeological resources that might have existed on land that is now farmland or under the Salton Sea.

Schaefer's (1994b) review of archaeological research in the Colorado Desert addresses the difficulty inherent in site detection in the Imperial Valley vicinity. Schaefer (1994a) observed that many sites relating to the reoccupation of the Salton Trough (after the desiccation of Lake Cahuilla) along the New and Alamo Rivers were destroyed in the great flood of 1905-1906, or by later agricultural activities. When sites are discovered on or near the banks of New River, they usually consist of scatters of broken pottery. While pottery was not essential for these groups, it conferred considerable advantages and may have enabled them to be more sedentary, leading to larger populations and the establishment of more permanent residences. It is also possible that use of more reliable storage containers and a greater dependence on stored plant foods might have facilitated the introduction of horticulture (Van Camp 1979). Pottery is the most visible indicator (along with isolated lithic debitage) of prehistoric occupation in the IID Contract Service Area because fired ceramics survive well, and perishable basketry does not.

In contrast to the Imperial Valley bottom land, archaeological sites along the ancient shorelines of the Salton Trough often include a number of distinctive features, such as house rings with associated artifacts, sandstone slab hearths, cremations, artifacts sometimes covered with travertine, abundant obsidian and quartzite lithic debris, shell (abalone, *Olivella*, cardium, limpet, and mussel), fishbone, bird bones, and mammal bones. Many sites along the ancient shorelines consist of elaborately constructed stone fish-traps located below the maximum shoreline. Examination of fish-trap sites has recently shed greater light on the importance of fishing by peoples ancestral to the historic Cahuilla and Kamia, and to reconstructing the nature and timing of Lake Cahuilla infillings and recessions (Schaefer 1998).

Von Werlhoff (1974) evaluated the archaeological potential of the Imperial Valley from the perspective of modern geomorphological changes that occurred in the early 20th century. His main finding is that early 20th Century settlers had seen artifacts (portable mortars and pestles, metates and manos, projectile points, knives, scrapers, and hearthstones) at an undetermined number of temporary campsites along the old wash prior to the 1906 flood. The flood destroyed such evidence as the wash became the New River, and collectors obliterated what other evidence of Indian habitats that might have existed nearby. The lack of depth to aboriginal sites in the valley, coupled with extensive land developments in historic times, render dim the prospects of discovering

archaeological sites in this large region. Nonetheless, a possibility exists, regardless of how remote, that some sites escaped damage or destruction (IID 2003).

According to von Werlhoff, about 800 historic sites (including trash dumps) have been recorded in Imperial County (Heuberger [no date]). Important resources date back to 1540, when Hernando de Alarcón was the first European to visit, at the Colorado River delta, what would later be called Alta California (California Historical Landmark [CHL] No. 568). In 1774, Juan Bautista de Anza passed through the area, reaching Monterey before returning to Tubac. De Anza's subsequent, and larger expedition, of 1775-1776 is commemorated by the Anza Trail, itself, is a significant cultural resource, and a National Historic Trail, as is the later Sonoran/Southern Emigrant Trail that served as a major route to and from coastal California, from 1825 to 1865. Significant resources from the Spanish period (1769-1821) include the La Purísima Conception Mission site (CHL No. 350) and the San Pedro y San Pablo de Bicuñer Mission site (CHL No. 921). The former was built in 1780 at the request of the local Indians; the latter was built in January, 1781, as a strategic settlement for those crossing the Colorado River. Both were attacked and destroyed in July, 1781, by the Quechan during the Yuma Revolt (IID 2003), effectively closing the route de Anza had found for the Spanish and eliminating further incursion by the Spanish into the Imperial Valley and necessitating the use of sea routes.

One of the few known Mexican-period (1821-1848) sites is Fort Romualdo Pacheco (CHL No. 944). Located about 7 miles west of the City of Imperial, near the New River, it was the only Mexican fort in Alta California, and was built to help maintain the Sonoran Trail. It was constructed in 1825 and attacked by the Kamia on April 26, 1826, resulting in the deaths of three soldiers and its abandonment. Low, adobe mounds remained in 1968, but were leveled for agricultural purposes shortly thereafter. Imperial Valley College excavated this site in 1978. Few early American-period (1848–early 1900s) sites remain (except for the Southern Pacific Railroad) because little settlement or other use occurred until irrigation water became available in 1901 (IID 2003).

Most sites have been disturbed by agricultural activities and town construction. One site has received a historical monument designation for being the location where the first irrigation water entered the county—a few feet from the U.S. Mexican border on Barbara Worth Road, between Calexico and the Alamo River. Another significant site is Plank Road near I-8 along the Algodones Sand Dunes, which was used from 1914 to 1927 (CHL No. 845). Sites of local importance are documented in Imperial Valley Historical Markers (Little 1982). Plat maps from the early 1900s indicate numerous structures throughout Imperial Valley. While many of these structures are no longer standing, the potential exists for subsurface features, such as house foundations, privies, and trash deposits (IID 2003).

The Boulder Canyon Project Act of 1928 began one of the most monumental public reclamation projects ever undertaken in the western U.S. The Act authorized construction of Boulder Dam (Hoover Dam), Imperial Dam, the AAC, and the Coachella Branch of the AAC (Schaefer and O'Neill 1998). Boulder Dam was dedicated in 1935. Some 300 miles downstream, Imperial Dam was constructed between 1935 and 1938. This was the diversion point for the AAC, where three enormous desilting basins cleansed the muddy Colorado River waters. The AAC was excavated

between 1934 and 1940 to carry water 82 miles to the Imperial Valley; the last element to be completed was the 123.5-mile Coachella Branch, which began in 1934 but did not open until 1949 because of a construction hiatus during World War II. The original Coachella Canal supplied water to the Coachella Valley until 1982, when portions of it were replaced by a concrete-lined canal designed to greatly reduce seepage. The AAC is a historic property (CA-IMP-7130-H) and has been assigned the National Register Status Code 3D (appearing to be eligible for listing in the National Register of Historic Places, as a contributing property of a district) (Reclamation 1994). The Old Coachella Canal is also a historic property (CA-IMP-7658) that has been evaluated by Schaefer and O'Neill (1998) as eligible for listing in the NRHP, under Criteria A.

3.5.2 Environmental Consequences

Prior to the formation of the Salton Sea, in the early years of the 20th Century, prehistoric and historic archaeological sites were present in what is now the Salton Sea. Creation of the Salton Sea flooded prehistoric and historic sites that were present. In the later part of the 20th Century through present day, the Salton Sea received drain water flows from the Imperial Valley.

3.5.2.1 No Action Alternative

Implementation of the No Action Alternative would involve no additional reductions in water diversions by IID from the Colorado River at the Imperial Dam under the LC Conservation Program and would therefore not achieve conservation objectives. No additional water conservation would be created. Therefore, the anticipated exposure of Salton Sea acreage would not be accelerated. There would be no impact to cultural resources other than what would already occur under existing conditions.

3.5.2.2 Proposed Action Alternative

The Proposed Action would consist of normal agricultural practices and restrict ground-disturbing activities to areas of disturbed agricultural land, both on the surface and to existing vertical depth. These practices are unlikely to encounter known or unknown archaeological, historic, paleontological resources. It is, likewise, unlikely that the Proposed Action would impact Tribal Cultural Resources, as defined in CEQA. The conservation programs are on-farm programs; all participation will be within existing agricultural fields. Agricultural fields are disturbed on the surface down to at least the tile drains – most commonly placed 3 to 6 feet below the surface. As a result, the Proposed Action would not be expected to encounter previously unknown cultural resources. Impacts of the Proposed Action would be similar to the No Action Alternative.

On November 9 and 13, 2023, Reclamation delivered, via email and certified mail, digital and hardcopy versions of the Proposed Action's announcement and consultation invitation letter to 27 identified Tribes. Reclamation has since received responses from several Tribes. Reclamation has been informed of the presence of specific traditional cultural resources; these are, however, located outside of the area of the Proposed Action and will not be affected. Information regarding prior ground disturbance in the area of the Proposed Action and clarification of the nature and scope of the ground-disturbing activities funded by the Proposed Action was gathered by Reclamation from IID and disseminated, via email and telephone to Tribes requesting that information. A decision has not been made and consultation continues. Reclamation continues to seek input from its

participating Tribal partners regarding the potential for effects to places of significance for them and/or Tribal Cultural Resources, as defined in CEQA. For reasons previously stated, however, the Proposed Action is not expected to encounter previously unidentified places of significance for Tribes or other cultural resources and impacts of the Proposed Action Alternative would be similar to the No Action Alternative.

The presently submerged playa will be exposed as the elevation of the Salton Sea lowers as a result of the QSA water conservation and transfers and other factors regardless of the Proposed Action. (IID 2003, 2024a, 2024c.) (See Hydrology/Water Quality Section 3.8, subsection 3.8.2.3 Proposed Action Alternative.) The Proposed Action will, however, accelerate that exposure. (See Appendix HYDRO-3.) As the elevation lowers, submerged sites, if present, will be exposed. These archaeological sites would, due to their exposure, be at risk to vandalism, but would be protected by public law, subject to the mitigation measures of the QSA, and no more at risk than sites that are presently exposed. Exposed sites would, however, likely be obscured by the sediment accumulated through years of inflow deposits, mitigating the risk of detection and destruction. The Proposed Action would accelerate the anticipated exposure of the playa, but would return to projected conditions by 2045. (See Figure 3-1, Exposed Salton Sea Acreage; Appendix HYDRO-3.) Accelerated exposure is not anticipated to affect cultural resources and would be similar to the No Action Alternative.

3.5.2.3 Cumulative Impacts

The implementation of water conservation programs under the Proposed Action would not contribute to cumulative impacts to cultural resources in the Proposed Action Area. The Proposed Action would not involve land-disturbing activities beyond the present boundaries of existing fields with a recent demonstrated history of water usage and will not exceed the depth of the drain tiles or other prior disturbance – areas where extensive, historical, ground disturbance has already occurred. The intent of the Proposed Action is the conservation of water. As less water will leave the fields, the near-term (between implementation of the Proposed Action and 2045) shoreline recession of the Salton Sea would accelerate. By 2045 the Sea would, however, be at projected conditions and not lower based on the trajectory predicted by hydrologic models developed by DWR. Many of the projects in Table 1-1 are assumed in the analysis prepared in the SSAM model (see Section 3.8 Hydrology/Water Quality; Appendix HYDRO-3). Thus, the Proposed Action, when considered with relevant past, present, and reasonably foreseeable projects and the near-term accelerated lowering of the Salton Sea is not anticipated to effect cultural resources compared with the No Action Alternative.

3.6 Environmental Justice

3.6.1 Affected Environment

Executive Order (EO) 12898 requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the U.S. Minority populations include persons identified by the Census of Population and Housing to be of Hispanic or Latino Origin, as well as, non-Hispanic persons who are African American, American Indian and Alaska Native, Native Hawaiian, or other Pacific Islander.

Low-income populations are those that fall within the annual statistical poverty thresholds from the U.S. Census Bureau for the 2020 Census. The definition of poverty is dependent upon the size of the family. The 2023 poverty threshold for a family of three is \$24,860, and for a family of six is \$40,280 (CDPH 2023a). According to the data in the SEIS, 94.8% of employment within Imperial County is “non-farm employment,” with 5.2% in “farm employment.” (Reclamation 2024.)

Executive Order 14008 directed the Council on Environmental Quality (CEQ) to develop the Climate and Economic Justice Screening Tool, an interactive map that uses datasets that are indicators of burdens in eight categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. The tool uses information to identify communities that are experiencing burdens and are disadvantaged because they are overburdened and underserved. According to the Climate and Economic Justice Screening Tool, the majority of census tracts within the IID Contract Service Area, with the exception of two within the City of El Centro, are considered disadvantaged because they meet one or more burden threshold and the associated socioeconomic threshold.

According to the 2020 Census, Imperial County has a total population of 179,702, of which more than 86 percent of the population classified as Hispanic or Latino, over 3 percent Black or African American, 2 percent American Indian or Alaskan Native, 2 percent Asian, 0.2 percent Native Hawaiian/Other Pacific Islander and 1.7 percent of two or more races (**Table 3.6-1**). More than 17 percent of Imperial County residents have incomes that fall below the poverty level threshold. (USCB 2020.) The Proposed Action would occur within the IID Contract Service Area. The Cities of Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial, and Westmorland and census-designated places (CDP) of Heber, Niland, and Seeley are located within the IID Contract Service Area. These cities and CDPs range in population from approximately 39,000 to 775 residents. There is a large representation of both minority and low-income populations within the broad vicinity of the IID Contract Service Area. As shown on **Table 3-7, U.S. Census Bureau Data on Race, Income, and Housing**, approximately 73 to 99 percent of the population of each city and CDP within the IID Contract Service Area is identified as Hispanic or Latino. This is compared to an approximately 40 percent Hispanic/Latino population for California. Households below the poverty level within the IID Contract Service Area range between approximately 9 to 61 percent of their respective populations as shown on Table 3-7, U.S. Census Bureau Data on Race, Income, and Housing. Approximately 16 percent of Imperial County residents, and 12 percent of California residents as a whole fall below the poverty level. (USCB 2020.)

Table 3-7 U.S. Census Bureau Data on Race, Income, and Housing

	Imperial County	Brawley	Calexico	Calipatria	El Centro	Heber	Holtville	Imperial	Niland	Seeley	Westmorland	California	United States
Population, Census April 2020	179,702	26,416	38,633	6,515	44,322	6,896	5,605	20,263	756	1,729	2,014	39,538,223	331,449,281
Race and Hispanic Origin													
White	90.20%	63.40%	56.10%	33.40%	31.90%	50%	46.70%	60.80%	30.60%	24%	32%	70.70%	75.50%
Black or African American	3.20%	0.80%	0.30%	16.90%	3.00%	0%	1.60%	1.90%	33.20%	3.70%	1.10%	6.50%	13.60%
American Indian or Alaska Native	2.60%	1.60%	0.90%	1.60%	0.80%	1.60%	0.20%	0.10%	2.10%	1.80%	1.40%	1.70%	1.30%
Asian	2.10%	0.70%	1%	0.80%	1.50%	0.90%	0.70%	3.70%	3.60%	1.60%	0.54%	16.30%	6.30%
Native Hawaiian and other Pacific Islander	0.20%	0.30%	0%	0.60%	0%	0%	0%	0%	0%	0%	0%	0.50%	0.30%
Two or more Races	1.70%	12.60%	14.90%	12.40%	15.50%	23.20%	11.30%	17.50%	4.71%	27%	31%	4.30%	3%
Hispanic or Latino	86.10%	83.60%	97.80%	73.40%	88.60%	99%	82.80%	80.20%	74.00%	88.00%	89%	40.30%	19.10%
White alone, not Hispanic or Latino	9.10%	13.60%	1%	6.70%	31.90%	0.40%	14%	14%	17.60%	70%	0%	0.98%	58.90%
Income and Poverty													
Median Household Income, 2017-2021	\$49,078	\$50,964	\$47,390	\$39,217	\$49,244	\$54,668	\$45,759	\$81,657	(\$2,500)	\$43,500	\$33,444	\$84,097	\$69,021
Person in Poverty	17.3%	25.8%	21%	29.2%	23.7%	13.4%	22.1%	9.2%	61.1%	25.9%	40.8%	12.2%	11.5%

**IID 2024-2026 Temporary Colorado River
System Water Conservation Project
LC-24-07**

	Imperial County	Brawley	Calexico	Calipatria	EI Centro	Heber	Holtville	Imperial	Niland	Seeley	Westmorland	California	United States
Housing													
Housing Units (V2022)	57,666	N/A	N/A	N/A	N/A	N/A	N/A	N/A	330	539	655	4,627,460	143,786,655
Owner- occupied housing unit rate (2017- 2021)	58.0%	53.6%	52.5%	68.3%	48.7%	69.9%	50%	65%	0%	9.5%	5.7%	55.5%	64.6%
Median value of owner- occupied housing units (2017- 2021)	\$219,800	\$225,300	\$233,100	\$148,800	\$221,500	\$220,200	\$220,200	\$261,700	N/A	N/A	N/A	\$573,200	\$244,900
Median gross rent (2017- 2021)	\$892	\$851	\$998	\$791	\$868	\$860	\$628	\$1,173	\$1,870	\$813	\$818	\$1,698	\$1,163

SOURCE: United States Census Bureau ([U.S. Census Bureau QuickFacts: Imperial County, California](#))

3.6.2 Environmental Consequences

3.6.2.1 No Action Alternative

Implementation of the No Action Alternative would involve no additional reductions in water diversions by IID from the Colorado River at the Imperial Dam under the LC Conservation Program and would therefore not achieve conservation objectives. As a result, the additional water conservation would not occur. There would be no changes to existing conditions. Therefore, there would be no adverse effects on the environment of minority or low-income populations other than what would already occur under existing conditions.

3.6.2.2 Proposed Action Alternative

The Proposed Action includes the conservation of water within the IID Contract Service Area, reducing water diversions from the Colorado River. The conservation of water would occur through the implementation of on-farm conservation programs, meaning all participation will be within existing agricultural fields. Agricultural fields are disturbed on the surface down to at least the tile drains, which are most commonly placed 3 to 6 feet below the surface. The Proposed Action would not involve ground-disturbing or construction activities outside of normal agricultural practices and existing disturbed agricultural land.

IID would implement a combination of conservation programs under the Proposed Action. By the structure and nature of each conservation program, fields cannot participate in more than one conservation program at a time. IID intends to prioritize the OFECP and DIP water conservation programs. The implementation of the OFECP (or simplified OFECP) would result in no changes to or adverse effects on the environment of minority or low-income populations. The agricultural land would remain in production to the same extent it would otherwise be in production. The implementation of conservation measures under either the OFECP or the simplified OFECP would result in conserved water from existing agricultural land.

Under the Proposed Action, the combination of conservation programs may include the implementation of the fallowing-based conservation programs. If both the FUEP and the DIP were to be implemented, the maximum potential acreage for either program would not be reached. Agricultural land cannot participate in both programs at the same time. Therefore, if one field is in one program, it cannot simultaneously be in the other program, thereby bringing down the maximum level of participation possible for that other program. The maximum level of participation for either fallowing-based conservation program will be even lower if there are fields participating in the OFECP and will then also not be eligible for participation in a fallowing-based conservation program.

If maximum participation were to occur in the DIP, up to 180,000 acres of agricultural land could stop being irrigated for a 45- to 60-day period between the months of June through September for each of the three years of 2024, 2025, and 2026. Fields participating in the DIP would only be alfalfa, bermuda grass and klein grass crops, which are perennial crops grown year-round and would be in active agricultural production before and after participation in the DIP. The crop would cease receiving water for 45 to 60 days, but then the agricultural activities would resume on the field following that period of time for the remainder of the year. Therefore, despite the DIP being a fallowing-based conservation program, the agricultural activities on a field are only interrupted for a

short period of time (45 to 60 days out of 365 days) and only during the temporary, short-term span of three years. Additionally, alfalfa, bermuda grass and klein grass are perennial forage crops that are traditionally flood irrigated and harvested through the use of farm equipment, as opposed to other crops that utilize more labor-intensive harvesting methods, such as fruit and vegetable crops. While local businesses and farm workers may be employed to irrigate and harvest forage crops, a small number of workers and labor hours are required to operate the farm equipment and trucks that perform the mowing, raking, baling, transport, and stacking of the bales. As a result, on-farm labor demand would not significantly change as a result of the Proposed Action. Although some reduction in agricultural-related business activities may occur during the 3 years of the Proposed Action, layoffs of farm workers are not anticipated for the 45 to 60 days of deficit irrigation during the DIP. Furthermore, market conditions for alfalfa, bermuda grass and klein grass are highly variable and low market conditions and pricing can negatively affect agricultural water users' decisions, utilization of agricultural support services and farm irrigation services independent of the DIP. IID anticipates that DIP participation will fluctuate based on market conditions and will allow agricultural businesses to maintain operational continuity during these summer months. Consequently, there would be negligible direct or indirect impacts to the businesses within the agricultural industry and negligible effects on the environment of minority or low-income populations.

If maximum participation were to occur in the FUIFP, up to 34,450 acres of agricultural land could be fallowed for 6 months to one year during the two years of 2025 and 2026. Fields participating in the FUIFP will be in active agricultural production prior to participation in the program. The field will be fallowed for 6 to 12 months during which time all agricultural activities on the field will cease. However, the agricultural activities will resume on the field following that period of time. If a field is allowed to participate in the FUIFP for consecutive years, it would be no longer than the temporary, short-term period of two years. Similar to the QSA, a two-year maximum allowed participation in the FUIFP can be implemented and still maintain the integrity of the soils for resumed agricultural production. Although some businesses may be directly affected by the reduced farming activity, economic impacts of the FUIFP implemented under the Proposed Action would be negligible given the longest possible period of fallowing would be a temporary, short-term period of two years.

Additionally, as provided in the SEIS (pages 3-327 and 3-328), by “avoiding higher levels of modeled shortage through increased system conservation, available water supply for irrigation use would be maintained in a manner that would reduce irrigation impacts for all entities who rely on the Lower Basin water supply for irrigation use, including those located in environmental justice counties in... California (Imperial and Riverside Counties).” The Proposed Action also involves the funding of conserved water. The federal funding has limitations for its use under the Inflation Reduction Act of 2022 and, therefore, is paid for the conserved water that will remain in Lake Mead for the benefit of the Colorado River System. However, Reclamation only has authority to disburse these funds to the public entity under contract and cannot direct how they are used after that disbursement. Per the SEIS (page 3-333), Reclamation anticipates compensation for the conserved water to “offset to some degree the level of economic impacts associated with reduced agricultural production.”

Therefore, although the IID Contract Service Area includes a higher rate of Hispanic/Latino populations and higher rate of residents below the poverty level when compared to the overall State of California, the Proposed Action would not disproportionately affect the minority and low-income populations in the area because the Proposed Action is not expected to appreciably affect local

socioeconomic conditions due to the short duration of the reduced farming activities and the compensation for conserved water under the Proposed Action.

3.6.2.3 Cumulative Impacts

The Proposed Action would temporarily reduce water deliveries to agricultural operations within the IID Contract Service Area for three years. The temporary, short-term water delivery reductions combined with other delivery reductions would not contribute to permanent reductions in agricultural practices of the region supporting the local economy, which includes a high rate of minority and low-income population households. The Proposed Action involves the implementation of temporary water conservation programs and would not disproportionately impact disadvantaged communities. Thus, the Proposed Action, when considered with relevant past, present, and reasonably foreseeable projects would not substantially contribute to cumulative impacts related to environmental justice issues in the IID Contract Service Area.

3.7 Human Health

3.7.1 Affected Environment

3.7.1.1 CalEnviroScreen 4.0

The California Environmental Protection Agency developed CalEnviroScreen which is a mapping tool that helps identify California communities that are most affected by many sources of pollution. It uses environment, health, and socioeconomic indicators to produce scores for every census tract in the state. The indicators help to present a broad picture of the vulnerabilities that communities may face from pollution across the state. The scores are mapped so that different communities can be compared to other census tracts in the state. An area with a high score is one that experiences a much higher pollution burden than areas with low scores. **Figure 3-6, CalEnviroScreen Recorded Pollution Levels in the IID Contract Service Area**, is an image from the CalEnviroScreen of the IID Contract Service Area. Values were given to each color-coded section to compare the different scores among indicators. As shown in Figure 3-6, CalEnviroScreen Recorded Pollution Levels in the IID Contract Service Area, large areas of the IID Contract Service Area exhibit high pollution levels compared with other parts of California.

3.7.1.2 Chronic Disease and Respiratory Illness

Poor air quality is related to adverse public health outcomes such as chronic disease and respiratory illness. Asthma is an indicator of public health related to air quality, with the caveat that many factors besides dust emissions are possible contributors.

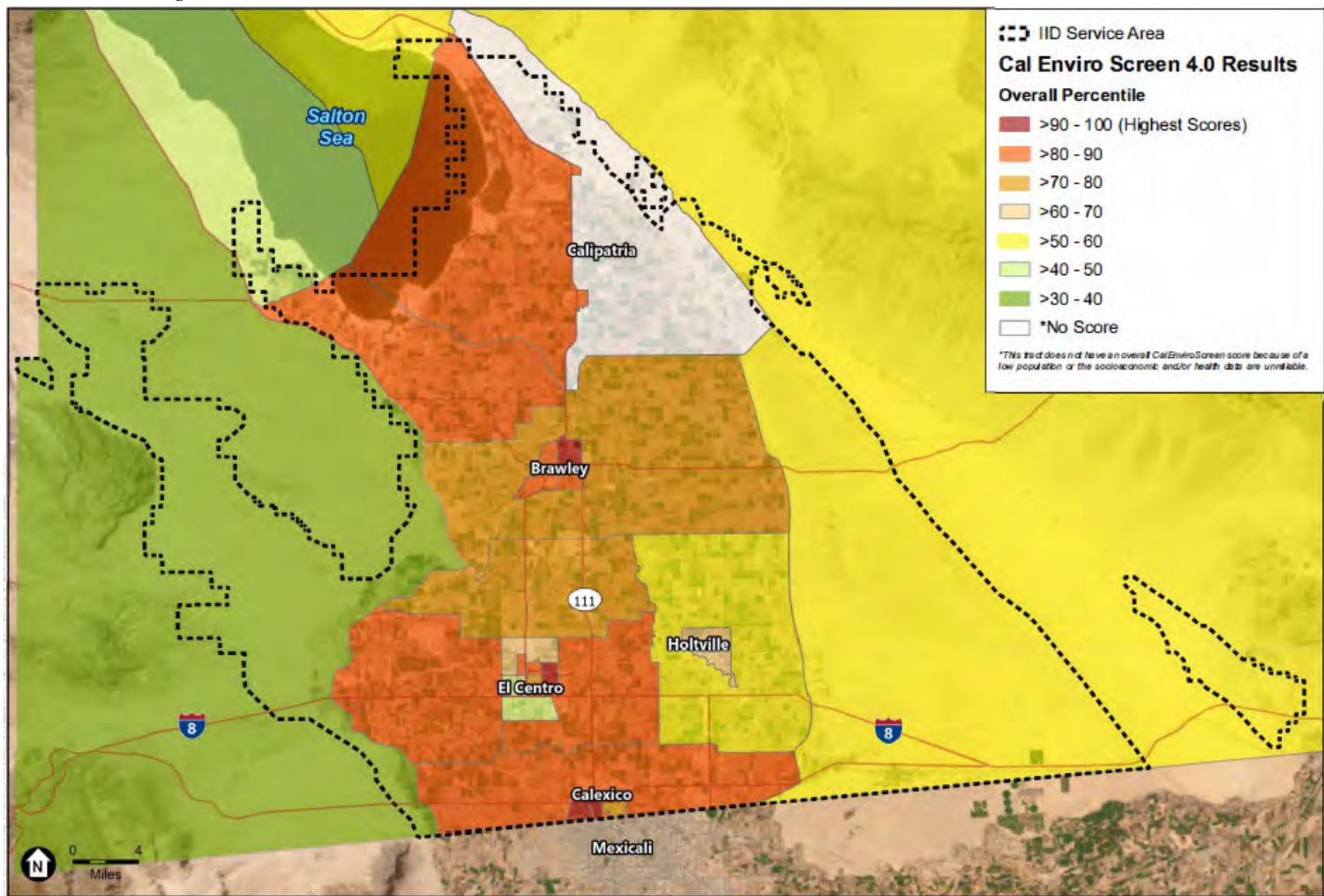
Imperial County has an overall asthma prevalence of approximately 10.6 percent as compared to California at 8.7 percent (CDPH 2023a). Hospitalizations and emergency room visits caused by asthma in Imperial County are higher than statewide averages. In Imperial County, hospitalizations attributable to asthma were 6.0 per 10,000 individuals and emergency room visits were 60.2 per 10,000 individuals in 2019, while in California the totals were 4.5 per 10,000 individuals and 42.6 per 10,000 individuals in 2019 (CDPH 2023a).

Studies have also shown a high incidence of childhood asthma in the Imperial Valley. Based on parent-reported survey information, an overall asthma prevalence of 22.4 percent was observed in school-aged children in Imperial County, which is significantly higher than the state average of 14.5 percent in children ages 0–17 (Farzan et al. 2019). Additional respiratory symptoms such as wheezing, allergies, bronchitic symptoms, and persistent dry cough were prevalent in both asthmatic and non-asthmatic children, further suggesting that childhood asthma rates in Imperial County may be underdiagnosed (*Id.*). To date, the factors contributing to the high rates of adverse adult and childhood respiratory health conditions in Imperial Valley have not been studied (*Id.*).

3.7.1.3 Air and Dust-Borne Diseases

Two airborne diseases and public health risks potentially exist within the IID Contract Service Area: Valley fever (or coccidiomycosis) and Hantavirus Pulmonary Syndrome (HCPS). Valley fever is an infection caused by *Coccidioides* spp. fungi. It can cause fever, chest pain and coughing, among other signs and symptoms. *Coccidioides* spp. that cause valley fever are commonly found in the soil in certain areas. *Coccidioides* fungal spores can grow under environmental extremes of temperature,

Figure 3-6 CalEnviroScreen Recorded Pollution Levels in the IID Contract Service Area



SOURCE: CalEnviroScreen 4.0; IID; ESA, 2023

Imperial Irrigation District

Figure 3-6
Cal Enviro Screen 4.0 Results



salinity, and alkaline conditions. These fungi can be stirred into the air by anything that disrupts the soil, such as farming, construction, and wind. Airborne spores can be inhaled into the lungs, where they multiply and grow. Most people who breathe the spores (about 60 percent) develop no symptoms at all. The rest develop flu-like symptoms. Without treatment, valley fever can lead to severe pneumonia, meningitis, and even death. However, when properly treated at the first sign of symptoms, most people will recover without problems. Once infected, the body usually establishes lifetime immunity against future infections. The disease is not contagious; it cannot spread from one person to another. Imperial County experienced one case of Valley Fever in 2021 and 5 cases in 2020 (CDPH 2023b).

HCPS is a rare, but often fatal, disease of the lungs. HCPS was first recognized in 1993 in the southwestern United States. HCPS infections are associated with domestic, occupational, or recreational activities that bring humans into contact with rodents (in California, specifically deer mice) and their excreta, usually in rural settings in poorly ventilated buildings. High risk areas and activities are vacant structures and rodent handling. According to the California Department of Public Health there have been no reported cases of HCPS in Imperial County from 2012 to 2020 (CDPH 2023b).

3.7.2 Environmental Consequences

3.7.2.1 No Action Alternative

Implementation of the No Action Alternative would involve no additional reductions in water diversions by IID from the Colorado River at the Imperial Dam under the LC Conservation Program and would therefore not achieve conservation objectives. As a result, the water conservation would not occur. There would be no changes to existing conditions. The health conditions of children and adults would be unaffected. Therefore, there would be no new adverse effects to human health other than what would already occur under existing conditions

3.7.2.2 Proposed Action Alternative

As shown on Table 3-6, CalEnviroScreen Recorded Pollution Levels in the IID Contract Service Area, the indicators with the highest-ranking percentiles within the IID Contract Service Area include impaired waters, unemployment, asthma, cardiovascular disease, and linguistic isolation. As shown on Figure 3-6, the CalEnviroScreen results show that the majority of the IID Contract Service Area that is developed has an overall percentile score of greater than 60-70 percent.

The Proposed Action involves the conservation of water within the IID Contract Service Area, reducing water diversions from the Colorado River. Implementation of the Proposed Action would result in the acceleration of the lowering of elevation of the Salton Sea when compared to the No Action Alternative. As shown in Figure 3-1, Exposed Salton Sea Acreage, the Proposed Action would accelerate the anticipated exposure of the playa, but the acceleration would taper off to baseline projection levels by 2045 based on the trajectory predicted by hydrologic models developed by DWR. (See Appendix HYDRO-3.) As provided in Section 3.3 Air Quality, no net increase in the exposure of the playa results in no increase of overall potential dust emissions through 2045. The exposed Salton Sea acreage is anticipated to occur as a result of the QSA and would be addressed by the IID's SS AQMP. During the three-year period of the Proposed Action, the acceleration of the exposed playa may increase the potential for dust emissions. However, the implementation of the SS AQMP would address the potential dust emissions because implementation of the SS AQMP would

be required for those same acres absent the Proposed Action. Further, given the many factors affecting respiratory conditions in children and adults, there is no data to indicate that the acceleration of the exposed playa could exacerbate those conditions. Data shows that dust emissions are occurring from other sources within and adjacent to Imperial County, including primarily the desert region to the west of the IID Contract Service Area and Mexico to the south (see Section 3.3 Air Quality). Unmitigated playa emissions account for less than 1% of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. Approximately 20% of the playa is responsible for nearly 73% of playa emissions. (See Appendix AQ-2.) The Proposed Action would accelerate only a portion of the acres that are otherwise projected to be exposed as a result of the QSA. Additionally, as of November 11, 2023, 33,311 acres of playa were exposed since 2003. The bathymetry of the Salton Sea produces an uneven distribution of exposed playa. Current and anticipated playa exposure is higher in the relatively larger, shallower southern end of the Sea. (IID 2024h.)

Each of the components of the SS AQMP would continue to be implemented, regardless of timing, rate, and extent of playa exposure, in the same manner as under existing conditions, including the annual emissions estimates and PDCPs (see Section 3.3 Air Quality and Appendix AQ-2).

3.7.2.3 Cumulative Impacts

The Proposed Action would not contribute to the cumulative reduction of the Salton Sea elevation. The Proposed Action would accelerate the anticipated effects of cumulative flow reductions, but over time, by the year 2045, the conditions at the Salton Sea would be the same as baseline projected conditions. (See Figure 3-1, Exposed Salton Sea Acreage; Appendix HYDRO-3.) Because the Proposed Action accelerates the exposure of playa that will already occur under existing conditions and does not result in greater exposed playa over the long term, and therefore will be addressed by IID's SS AQMP and the implementation of dust control measures as determined to be necessary (See Section 3.3 Air Quality), it would not substantially contribute to cumulative human health impacts within the IID Contract Service Area.

A list of relevant past, present, and reasonably foreseeable projects that involve the potential for water conservation and/or reduced water flow to the Salton Sea is provided in Table 1-1, Cumulative Project List above. As indicated, these projects are either completed or already in planning. Among these projects is the California Natural Resources Agency developed the Salton Sea Management Program (SSMP). Under the SSMP, CNRA, DWR and CDFW prepared the Phase I: 10-Year Plan published in August 2018 and CNRA developed the Draft Salton Sea Long-Range Plan published in December 2022. The 10-year plan aims to construct 30,000 acres of habitat and dust suppression projects around the Sea. Implementation of the SSMP will address potential dust emissions that could adversely affect human health. The dust suppression projects include increased vegetation and scarification projects that minimize saltation (the process of dust becoming airborne) from exposed playa. Reclamation has also committed \$250 million to help fund the projects under the SSMP to help accelerate the restoration work being done. Thus, the Proposed Action, when considered with relevant past, present, and reasonably foreseeable projects would not substantially contribute to cumulative impacts related to human health issues in the IID Contract Service Area.

3.8 Hydrology/Water Quality

3.8.1 Affected Environment

The Proposed Action involves the conservation of surface water, specifically Colorado River water, within the IID Contract Service Area. Groundwater is not relied upon as a water supply within IID's Contract Service Area and requires treatment to be used for domestic and irrigation purposes. Although IID's canal and drain systems contribute some seepage to the perched groundwater, groundwater levels and quality would not be significantly affected by the temporary conservation programs, and as a result, are not evaluated further in this document.

The Imperial Valley has the driest climate in California. The winters are mild, and summers are hot. Temperatures range from below freezing to over 120 degrees Fahrenheit. Typical mean seasonal precipitation is 3.2 inches at the City of El Centro. Precipitation over the entire Imperial Valley occurs mostly from November through April, and August through September, but its distribution and intensity are often sporadic. Local thunderstorms may contribute to all the average seasonal precipitation at one time or only a trace of precipitation may be recorded at any locale for the entire season.

3.8.1.1 IID Contract Service Area

The water supply within the IID Contract Service Area comes solely from the Colorado River. Agriculture within IID's Contract Service Area is entirely dependent on Colorado River water diverted at Imperial Dam and conveyed through the AAC and into IID's canal system. The AAC is mostly lined, conserving what would otherwise be seepage losses, though some segments remain unlined. The AAC conveys Colorado River water to IID's Contract Service Area where it branches off to three main canals: East Highline, Central Main, and Westside Main. These three main canals serve as the main arteries of the canal system consisting of approximately 1,668 miles of main canals and lateral canals that distribute irrigation water to individual farm fields within the IID Contract Service Area. In 2022, IID delivered approximately 2.4 MAF of water from the Colorado River. (IID 2023.) IID's water system delivers water to 5,150 farm accounts and approximately 471,570 irrigable acres. (IID 2023.) IID maintains approximately 1,456 miles of drains that convey approximately 830,000 AF/year of water to the Salton Sea (CNRA 2022).

Drain water is conveyed to the Alamo River, the New River, or the Salton Sea. Collectively, tilewater and tailwater drainage accounts for roughly 67 percent of all of the drainage discharged either directly to the Salton Sea or via the New and Alamo Rivers. The Alamo and New River drainage water and the surface drains that discharge directly to the Salton Sea or its southern shoreline represent significantly different water regimes and affected by different segments of the IID Contract Service Area. The Alamo River receives approximately 61 percent of the discharge from the drainage system, and the New River receives roughly 29 percent of the drainage. The remaining 10 percent is discharged to surface drains that flow directly to the Salton Sea or its shoreline. (IID 2003.) **Table 3-8, Summary of IID Agricultural Operations for the Years 2021 and 2022**, summarizes the IID agricultural operations for calendar years 2021 and 2022.

Table 3-8 Summary of IID Agricultural Operations for the Years 2021 and 2022

2021 & 2022 Water Overview	2021	2022
Total Customers (Farm Accounts)	5,015	5,020
Owner Operated	2,091 (40%)	2,180 (42%)
Tenant Operated	2,924 (58%)	2,970 (58%)
District Gross Area	1,062,216 AC	1,062,216 AC
Farmable Area	471,364 AC	471,570 AC
Net Irrigated Area	446,670 AC	446,147 AC
Water Received for IID Use (Station 60 + Brock Reservoir)	2,557,242 AF	2,557,164 AF
Miles of Canals (AAC, Mains, Laterals)	1,668	1,668
Miles of Drains (AAC, Divisions, Drainage)	1,456	1,456

SOURCE: IID 2022 WATER & QSA IMPLEMENTATION REPORT

3.8.1.2 Salton Sea

The Salton Sea is a terminal lake located approximately 35 miles north of the United States and Mexico border and 90 miles east of San Diego. The Salton Sea watershed encompasses an area of approximately 8,000 square miles from San Bernardino County in the north to the Mexicali Valley in the Republic of Mexico to the south. At one time, the Salton Sea represented the northernmost tip of the Gulf of California. Historically, the Colorado River occasionally flowed into the Salton Sea Basin, forming a prehistoric water body known as Lake Cahuilla. During the 1800s, shallow ephemeral lakes periodically formed in the Salton Sea Basin as the Colorado River rose and fell prior to its damming. Reported episodes of inundation occurred in 1828, 1840, 1849, 1852, 1859, 1862, 1867, and 1897 (Littlefield 1966). On October 11, 1905, a dike failed, and nearly the entire flow of the Colorado River ran uncontrolled into the Salton Sea Basin for the next 18 months. When the breach was finally repaired in 1907, the elevation of the Salton Sea had reached -195 feet msl and had a surface area of 520 square miles. The Sea has existed continuously from that 1905 event to the present.

The water level in the Salton Sea fell to almost 250 feet below msl during the decade following the 1905 flood, and then rose slowly through the mid-1980s. The water surface elevation was fairly constant prior to 2000, ranging from -228.7 feet msl to -226.6 feet msl. However, the Salton Sea elevation has been declining since 2000, and the rate of decline has accelerated since 2018 following the cessation of the delivery of mitigation water to the Salton Sea at the end of 2017. (IID 2024a, 2024c.) The Salton Sea receives approximately 921,000 AFY from IID's drainage system, which accounts for approximately 30 percent of the total volume of water diverted at Imperial Dam. Approximately 830,000 AFY of this drainage reaches the Salton Sea via the New and Alamo Rivers (Appendix HYDRO-3).

The Colorado River Basin Plan identifies the Salton Sea’s beneficial uses as the following:

- Contact and non-contact water recreation;
- Aquaculture;
- Warm freshwater habitat;
- Wildlife habitat; and
- Protection of threatened and endangered species.

More detailed information on the Salton Sea can be found in the QSA EIR/EIS (IID 2003).

Water quality in the IID Contract Service Area is affected by Colorado River water quality, inflows from Mexico via the New River, and from irrigation practices. As noted in the QSA EIR/EIS, the following constituents of concern apply to the rivers and drainage water flowing to the Salton Sea:

- Salinity (also referred to as TDS);
- Selenium;
- Total suspended solids (also referred to as TSS);
- Nitrogen and phosphorus;
- Organochlorine insecticides (DDT and its metabolites DDE and DDD, and toxaphene);
- Organophosphorus insecticides (diazinon and chlorpyrifos (Lorsban, Dursban)
- Organochlorine herbicides (Dacthal); and
- Boron.

3.8.2 Environmental Consequences

3.8.2.1 Methodology

Literature and Database Review. Existing documentation was reviewed for the IID Contract Service Area including CNRA’s December 2022 Salton Sea Management Program (SSMP) Draft Salton Sea Long-Range Plan, and the Reclamation March 2024 SEIS. In addition, the QSA EIR/EIS was incorporated into the regional characterization and impact analysis.

Salton Sea Accounting Model (SSAM). DWR’s most current SSAM hydrologic model was used to assess impacts of reduced inflow into the Salton Sea, providing an assessment of impacts to sea elevation, salinity concentrations within the Sea, and acreage of exposed playa.

Assessment of Metered Drainage Flows. An analysis of available flow data collected by IID for drainages that flow to the Salton Sea was conducted. The flow data were used to evaluate existing conditions and flow variability.

Assessment of Evapotranspiration Demand of the Vegetation Along the Shoreline. An assessment of water demands of the vegetation on the exposed playa under existing conditions and with the Proposed Action was conducted to evaluate whether the Proposed Action would result in a significant deficit of flow needed to support vegetation located on the southern shoreline of the Sea.

3.8.2.2 No Action Alternative

Implementation of the No Action Alternative would involve no additional reductions in water diversions by IID from the Colorado River at the Imperial Dam under the LC Conservation Program. No additional Colorado River water would be conserved compared to current conditions under the QSA. Colorado River water deliveries to IID would not change and would be approximately the most recent average volume. As a result, water levels and storage in Lake Mead would not benefit from additional conservation. Flows within the AAC and IID canals would be subject to deliveries ordered by farmers primarily based on agricultural practices and economic conditions, among other factors. The anticipated variability of average monthly flows in the rivers and drains reaching the Salton Sea would be unchanged. There would be no changes to existing conditions. Conditions at the Salton Sea would be expected to evolve as described in the QSA EIR/EIS, resulting in lowering Sea elevations.

3.8.2.3 Proposed Action Alternative

Under the Proposed Action, IID will reduce its diversions by a target volume of 250,000 AF/year, up to a maximum of 300,000 AF/year, from the Colorado River for a period of three years resulting in a target cumulative volume of 800,000 AF, with a maximum cumulative volume of 900,000 AF, of conserved water between 2024 and 2026. The effect of the Proposed Action within the IID Contract Service Area was evaluated as an average flow reduction, evenly applied both spatially and temporally. Existing conservation programs implemented pursuant to the QSA comprise approximately 70 percent of agricultural fields within IID's Contract Service Area. The Proposed Action will likely increase the acreage of fields participating in a conservation program. All existing conservation programs and new conservation programs implemented pursuant to the Proposed Action are voluntary and participation cannot be reasonably predicted. Monthly variability in discharge to the Salton Sea from the IID drainage system under existing conditions was analyzed and compared to the Proposed Action.

IID Contract Service Area

IID's diversions from the Lower Colorado River have been declining since the implementation of the QSA in 2003. The updated Reclamation Salton Sea Spreadsheet Model (SSAM) utilized for the analysis of this EA modeled IID annual diversions derived from a run of the Reclamation Colorado River Simulation System (CRSS) model during the period 2022–2060. Based on the CRSS modeling, an annual diversion by IID for 2022 was estimated to be 2.535 MAF. For this analysis, the same baseflow of 2.535 MAF was assumed to apply for 2023 to 2025. To characterize the relative magnitude of monthly diversions by IID, mean monthly diversion volumes in AF were calculated for the last twenty-two years (2000 through 2022) based on values reported in Reclamation's Colorado River Accounting and Water Use Reports for Arizona, California, and Nevada. The assumed diversion volume of 2.535 MAF is 92 percent of the twenty-two-year average, so the monthly averages were reduced by 92 percent to estimate mean monthly diversion volumes for the existing conditions. The mean monthly volumes were then converted to the mean daily diversion rate in cubic feet per second (cfs) for existing conditions. Estimated mean daily diversion rates under the Proposed Action for each month were calculated by subtracting 414 cfs from the existing conditions mean daily diversion rate. The results are summarized in **Table 3-9, Summary of**

Estimated Mean Daily Diversion (CFS) Monthly Volume (AF) by Month for IID Diversions from the Colorado River for Existing and Proposed Action Conditions. Diversion volumes in AF for existing conditions and Proposed Action are also reported in Table 3-9, Summary of Estimated Mean Daily Diversion (CFS) Monthly Volume (AF) by Month for IID Diversions from the Colorado River for Existing and Proposed Action Conditions.

Table 3-9 Summary of Estimated Mean Daily Diversion (CFS) Monthly Volume (AF) by Month for IID Diversions from the Colorado River for Existing and Proposed Action Conditions

Month	Mean Daily Diversion (cfs) – Existing Conditions	Mean Daily Diversion (cfs) – Proposed Action	Mean Monthly Volume (AF) – Existing Conditions	Mean Monthly Volume (AF) – Proposed Action	Percent Reduction
January	1,857.9	1,443.5	114,236	88,757	22.3%
February	2,485.3	2,070.9	138,028	115,014	16.7%
March	3,792.7	3,378.3	233,201	207,722	10.9%
April	4,667.3	4,252.9	277,724	253,066	8.9%
May	4,755.6	4,341.2	292,409	266,929	8.7%
June	4,613.2	4,198.8	274,505	249,847	9.0%
July	4,562.7	4,148.3	280,549	255,070	9.1%
August	4,015.7	3,601.3	246,914	221,434	10.3%
September	3,539.8	3,125.4	210,633	185,975	11.7%
October	3,304.0	2,889.6	203,157	177,677	12.5%
November	2,523.0	2,108.6	150,130	125,473	16.4%
December	1,782.1	1,367.7	109,578	84,099	23.3%
<i>Weighted Mean</i>					11.9%

SOURCE: analysis of Reclamation's Colorado River Accounting and Water Use Reports for Arizona, California, and Nevada 2000 to 2022

The annual diversion rate reduction from the Proposed Action is 11.9 percent. This percent reduction may be applied across the IID canals and drains to assess average monthly flow impacts of the Proposed Action. However, flow reductions are not anticipated to be applied evenly, either spatially or temporally, across the geographic extent of the IID Contract Service Area. Actual flow reductions will occur with variability depending on participation of individual agricultural water users. Moreover, each of the conservation programs described as the Proposed Action would result in varying volumes of water reaching the drains, rivers, and ultimately the Salton Sea. Under existing conditions, fields are generally irrigated to support cropping patterns in accordance with agricultural economic trends. As a result, under existing conditions flow variability within the canals and drains varies both spatially and temporally.

To characterize typical flow variability within the IID drains that directly discharge to the Salton Sea, the standard deviation of monthly drain flow in AF was calculated for the last five years (2019 through 2023). In this way, the relative magnitude of drain flow variability under existing conditions was compared to the magnitude of the effect of drain flow reductions under the Proposed Action. The average monthly flow variability is presented for each drain in **Table 3-10, Summary of Mean Monthly IID Drain Flow for Existing Conditions, The Standard Deviation of the Mean Monthly IID Drain Flow and the Proposed Action Mean Monthly Flow Reduction**.

Table 3-10 Summary of Mean Monthly IID Drain Flow for Existing Conditions, The Standard Deviation of the Mean Monthly IID Drain Flow and the Proposed Action Mean Monthly Flow Reduction

Drain	Existing Mean Monthly Volume (AF)	Existing Mean Monthly SD (AF)	Proposed Mean Reduction (AF)
Niland Drain 1	36.5	25.7	4.3
Niland Drain 2	96.6	43.1	11.5
Niland Drain 3	30.9	25.3	3.7
Niland Drain 4	28.5	28.5	3.4
O Drain	556.9	205.1	66.1
P Drain	345.6	105.2	41.0
Pumice Drain	609.4	816.1	72.3
Q Drain	204.9	93.5	24.3
R Drain	259.6	109.3	30.8
S Drain	145.7	64.5	17.3
San Felipe Wash Drain	113.6	75.6	13.5
T Drain	203.5	90.5	24.1
Trifolium 22 Drain	285.2	96.5	33.8
Trifolium 23 Drain	282.8	120.9	33.6
U Drain	122.4	77.6	14.5
W+Y Drain	177.8	146.7	21.1
Z Drain	344.5	190.3	40.9

SOURCE: ESA 2024, Analysis of IID Monthly Drain Flow Records

The Proposed Action would reduce drain flows by approximately 11.9 percent, assuming flow reductions are applied evenly spatially and temporally across the geographic extent of the IID Contract Service Area. This percent average monthly flow reduction would be well within the existing standard deviation of historic (last five years) monthly drainage flows for every drain. That is

to say, impacts of the flow reduction would not substantively alter the pattern of flow variability for every drain, assuming flow reductions are applied evenly spatially and temporally across the geographic extent of the IID Contract Service Area. During any month of the year under existing conditions, drain flows vary significantly more than the 11.9 percent increment estimated to be the effect of the Proposed Action assuming flow reductions are applied evenly spatially and temporally. Moreover, the Proposed Action is for the temporary short-term period of three years, at which time any flow reduction would cease and the existing flow variability would resume.

A uniform reduction in flows was applied to each monthly drain volume and the relative effect of the Proposed Action is highest in those months with the least flow. For instance, the effect of flow reduction in the IID drainage system is lower in months with high drainage volumes (April through September) and highest in months with lower drainage volumes (October through March). Tabular monthly summaries for each drain are available in **Appendix HYDRO-1, Flow Statistics Tables**.

Month-to-month variability under existing conditions is always higher than the monthly effect of the Proposed Action (Table 3-10, Summary of Mean Monthly IID Drain Flow for Existing Conditions, The Standard Deviation of the Mean Monthly IID Drain Flow and the Proposed Action Mean Monthly Flow Reduction). As a result, although total flows to the Salton Sea would be reduced by 11.9 percent, the effect of the Proposed Action on monthly drain flow rates at individual drains would be within the existing standard deviation of flows at every drain.

To further analyze the potential effects of the Proposed Action to drain flows to the Salton Sea, drain flow data for the most recent 5 years (2019-2023) was compiled for 20 of the drains that flow directly to the Sea. Hydrographs were prepared to illustrate the monthly median flow from January to December as well as the recorded highs and lows for each drain. The hydrographs shown on Figure 3-5, Drain Flow Hydrographs, demonstrate the annual flow variability in each of the drains and the reduction of the annual average drain flows by 11.9 percent are generally within the recorded variability. The hydrographs also show the brief periods that drain flows may occur lower than the 5-year historical lows if the DIP were to be implemented at maximum participation during the summer months of June through September. Only in this scenario is there an indication from the data that drain flows may be reduced to lower than the 5-year historical lows. However, in those instances, the drain flows are generally at higher levels during these months and the reduction in flows only represents a reduction to that volume, but does not result in no flows in those drains.

Nevertheless, the Proposed Action includes the Monitoring Plan, which provides for the ongoing monitoring of the drain flows during the short-term period of the Proposed Action. Implementation of the Monitoring Plan would ensure that any drain flow reductions under the Proposed Action, that do not already occur under existing conditions, would be addressed immediately.

Salton Sea and Shoreline Vegetation

An analysis was conducted to estimate evapotranspiration (ET) rates of the natural communities mapped along the southern shoreline of the Salton Sea, within the Salton Sea Vegetation Study Area (see Figure 3-2, Salton Sea Vegetation Study Area). The ET analysis suggests that the annual ET

demand of the existing vegetation within the Salton Sea Vegetation Study Area would be met in all locations under the Proposed Action during a normal (mean flow) year.

Species dominance within each natural community was used to create representative ET values (see **Appendix HYDRO-2, Playa Evaporation Assessment** for detailed methods and results). ET demands in AF were calculated for several representative areas of the exposed playa where drain data was available. Drain data consisted of mean monthly flows in AF (Table 3-10, Summary of Mean Monthly IID Drain Flow for Existing Conditions, The Standard Deviation of the Mean Monthly IID Drain Flow and the Proposed Action Mean Monthly Flow Reduction; see also Appendix HYDRO-1). Five aggregated natural community polygons were created (groups): three locations on the west shore where spatially adjacent natural communities were clearly supplied drain water from a single source were each aggregated, and two locations on the east shore where spatially adjacent natural communities were fed by multiple drains. In the latter case, monthly drain data were also aggregated for the analysis. **Figure 3-7, Annual Evapotranspiration-Drain Flow Water Balance** shows the existing annual drain flow surplus in blue for each drain group when ET demand is subtracted and the equivalent demand surplus under the Proposed Action condition in green.

The analysis compares estimated ET demands of the existing mapped vegetation with the volume of flows from the drains, attempting to compare water demand with water availability. The analysis assumes that ET values are evenly distributed within each vegetation polygon. Actual conditions show this to be a conservative assumption because most polygons show a heterogenous mix of healthy and stressed vegetation. Similarly, the analysis assumes that the flow application is evenly distributed within the vegetation polygon. This is a conservative assumption because aerial images show that flows in channels meander and change over time, conveying some flow directly to the Sea.

Monthly and annual ET demand and drain flow volumes were compared under existing conditions and the Proposed Action conditions (**Table 3-11, Existing Conditions Monthly Evapotranspiration, Mean Monthly Drain Flows, Water Balance for Natural Communities**, and **Table 3-12, Proposed Action Monthly Evapotranspiration, Mean Monthly Drain Flows, and Water Balance for Natural Communities**). The ET analysis shows that for normal years under existing conditions, annual inflows to the vegetated areas of the exposed playa are greater than estimated demands. Similarly, under the Proposed Action, annual inflows to the exposed playa would be sufficient to meet estimated annual ET demands in all locations during a normal (mean flow) year. The ET analysis shows that for normal years under existing conditions, some areas experience a water deficit compared with ET demand during summer months (values shown in orange in Table 3-11). The Proposed Action would potentially add to the existing monthly deficits during these months (values shown in orange in Table 3-12). However, the incremental increase in monthly deficits in certain areas is limited when compared to existing conditions, and the flow interruptions would be temporary, would occur within existing daily flow variability, and would recover as quickly as a few days, but no more than a few months. Due to the short duration of the minor flow deficits, vegetation is not expected to recede due to water stress. Moreover, the Proposed Action is for the temporary short-term period of three years, at which time any flow reductions would cease and the existing conditions would resume. Nevertheless, the Proposed Action includes the Monitoring Plan, which provides for the ongoing monitoring of the vegetation and drain flows during the short-term period of the Proposed Action. IID's implementation of the Monitoring Plan would bring the monthly drain flow deficits to existing conditions.

Figure 3-7 Annual Evapotranspiration-Drain Flow Water Balance



SOURCE: FMMP, IID, ESA, 2023



Imperial Irrigation District 2024-2026 Temporary Colorado River System Water Conservation Project

Figure 3-7
Annual Evapotranspiration-Drain
Flow Water Balance

**Table 3-11 Existing Conditions Monthly Evapotranspiration, Mean Monthly Drain Flows, Water Balance for Natural
Communities**

Vegetation Drain Group	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Monthly ET (AF)													
East Drains	767	961	1,492	2,265	3,124	3,796	4,017	3,687	2,848	2,178	1,146	737	27,018
San Felipe Wash	18	22	30	42	63	77	84	77	64	48	24	18	567
Pumice Drain	42	54	88	137	184	223	233	214	161	123	66	41	1,566
Trifolium 22 Drain	25	33	56	90	117	142	146	134	97	75	41	24	981
Trifolium 23 Drain	22	27	37	52	78	95	104	95	79	60	30	22	700
Mean Monthly Drain Flows (AF)													
East Drains	1,999	2,070	2,676	2,825	3,261	3,405	3,495	3,256	2,852	2,415	2,251	2,011	32,515
San Felipe Wash	168	108	107	58	38	54	90	114	120	144	176	209	1,384
Pumice Drain	1,005	910	1,300	1,588	1,418	1,596	1,644	1,269	1,387	1,994	1,760	1,409	17,279
Trifolium 22 Drain	240	264	652	507	206	162	227	248	179	256	258	261	3,459
Trifolium 23 Drain	228	246	340	314	248	240	347	257	309	364	302	250	3,446
Existing Monthly Flows minus ET Demand Balance (AF)													
East Drains	1,231	1,109	1,184	561	138	(391)	(522)	(431)	4	237	1,105	1,274	5,498
San Felipe Wash	150	86	77	16	(25)	(22)	6	37	55	95	151	191	817
Pumice Drain	963	856	1,212	1,451	1,235	1,372	1,411	1,055	1,226	1,870	1,694	1,368	15,712
Trifolium 22 Drain	215	232	595	417	89	20	80	114	82	181	217	237	2,478
Trifolium 23 Drain	206	219	303	262	170	145	244	162	230	304	272	229	2,746

SOURCE: ESA 2024

**Table 3-12 Proposed Action Monthly Evapotranspiration, Mean Monthly Drain Flows, and Water Balance for Natural
Communities**

Vegetation Drain Group	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Monthly ET (AF)													
East Drains	767	961	1,492	2,265	3,124	3,796	4,017	3,687	2,848	2,178	1,146	737	27,018
San Felipe Wash	18	22	30	42	63	77	84	77	64	48	24	18	567
Pumice Drain	42	54	88	137	184	223	233	214	161	123	66	41	1,566
Trifolium 22 Drain	25	33	56	90	117	142	146	134	97	75	41	24	981
Trifolium 23 Drain	22	27	37	52	78	95	104	95	79	60	30	22	700
Mean Monthly Drain Flows (AF)													
East Drains	1,671	1,774	2,349	2,508	2,933	3,087	3,168	2,928	2,535	2,087	1,933	1,683	28,657
San Felipe Wash	154	95	93	44	24	41	76	100	106	130	162	195	1,220
Pumice Drain	831	753	1,126	1,419	1,244	1,427	1,470	1,095	1,218	1,820	1,592	1,235	15,228
Trifolium 22 Drain	205	233	617	473	171	128	192	214	145	221	224	226	3,048
Trifolium 23 Drain	194	215	305	281	213	206	313	222	275	329	269	216	3,037
Proposed Monthly Flows minus ET Demand Balance (AF)													
East Drains	903.5	813.2	856.1	243.4	(190.1)	(708.2)	(849.7)	(759.1)	(312.8)	(91.0)	787.9	946.0	1,639.2
San Felipe Wash	135.7	73.4	63.2	2.3	(39.2)	(36.0)	(7.7)	22.6	41.8	81.3	137.8	177.1	652.4
Pumice Drain	788.4	698.5	1,037.4	1,282.2	1,060.5	1,203.8	1,236.9	880.7	1,057.5	1,696.3	1,525.8	1,194.1	13,662.0
Trifolium 22 Drain	180.2	200.2	560.3	382.8	53.8	(14.1)	45.4	79.2	48.3	145.9	183.1	202.1	2,067.3
Trifolium 23 Drain	171.2	187.7	268.4	228.4	135.0	111.7	208.8	127.2	196.1	269.7	238.8	194.0	2,336.9

SOURCE: ESA 2024

The ET analysis and drain flow hydrology analysis both indicate that on an annual average, flow reductions under the Proposed Action could temporarily lower flows in drains flowing directly to the playa. The spatial and temporal extent of flow reductions remains unknown and will depend on farming practices and the locations and timing of participating fields in the conservation programs implemented under the Proposed Action. The expected deficit in drain flow during certain months of the Proposed Action may add to those observed under existing conditions; however, any deficit in drain flows is not expected to be substantial and vegetative habitat is not expected to decline. This impact is described in more detail in Section 3.4 Biological Resources. To ensure that flows are sustained spatially and temporally in each of the drains sufficient to avoid adverse effects to listed species, the Monitoring Plan (Section 2.2.4) would be implemented to monitor drain flow and vegetation, take responsive actions, and coordinate with and report to USFWS, Reclamation, and CDFW. Once the Proposed Action has completed, flows would return to pre-Proposed Action conditions.

Salton Sea Accounting Model

To account for the projected reduction in surface water reaching the Salton Sea in the future, DWR has prepared a model that estimates the impacts of cumulative inflow reductions to the Salton Sea. The Salton Sea Accounting Model (SSAM) estimates the anticipated surface water elevation decline at the Sea, salinity concentration trends, and acreages of exposed playa that will result from the declining Sea elevation. SSAM provides a tool to estimate future conditions in support of the Salton Sea Management Program Long-Range Plan (CNRA 2022).

SSAM was used to evaluate the potential impacts of the Proposed Action on the Salton Sea elevation, salinity concentrations, and exposed lakebed acreage. The model provides a baseline future projection compared with and without the Proposed Action. Two modeling scenarios were calculated: one assuming conservation programs would be conducted with 100 percent fallowing-based conservation programs that include the FUEP and the DIP, and one with a combination of fallowing-based conservation programs and the OFECP (or the simplified OFECP) (see Section 2.1, Proposed Action Alternative). The two different SSAM scenarios account for potential variability of Proposed Action inflow impacts that will depend on which combination of the three conservation programs are implemented by IID and the participation of agricultural water users and their fields in the conservation programs. The model assumes that the OFECP would result in less flow to the Sea than if all conservation was achieved with the fallowing-based conservation programs (FUEP and DIP) alone because the OFECP utilizes more efficient farming practices that result in less drainage water.

Figure 3-8 Comparison of Baseline Trends with Proposed Action Increment of Effect, presents the results of the SSAM model for net inflow and salinity of the Salton Sea. Appendix HYDRO-3 includes a Technical Memorandum explaining the model outputs. As shown in the model outputs, the Proposed Action under either scenario would accelerate the effects of the decline in Sea elevation, increased salinity, and increased acreage of exposed playa. However, given the temporary short-term period of three years, the Proposed Action would not increase these anticipated effects over the long-term. Each of the parameters evaluated would be similar to future

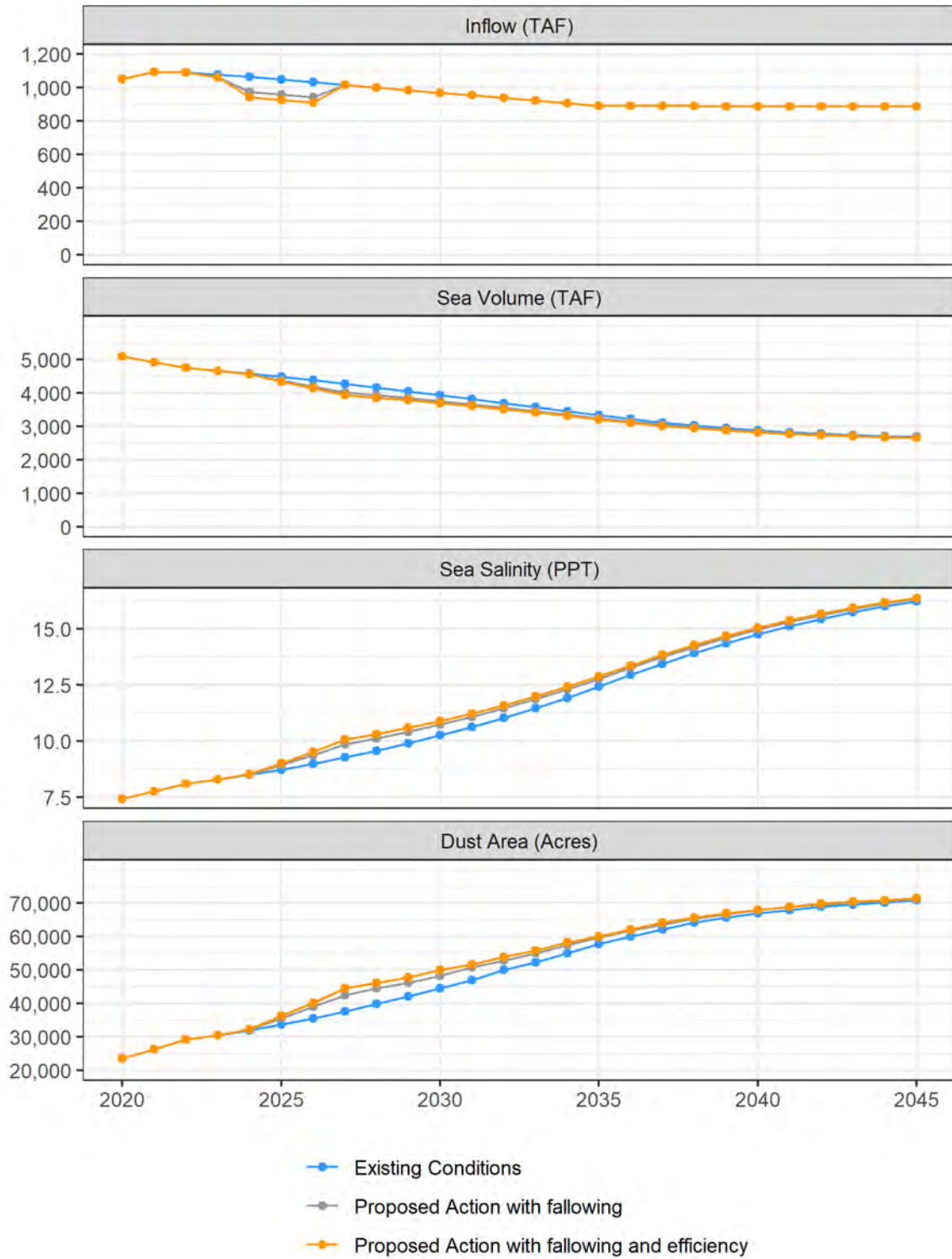
baseline conditions in the year 2045. The Proposed Action would accelerate the anticipated effects by an increment of 3 or 4 years compared with the No Action Alternative.

Water Quality

The QSA EIR/EIS provides a detailed assessment of potential water quality impacts that could result from reduced inflows into the Salton Sea. Salinity and increased concentrations of metals such as selenium are evaluated as potential concerns. The Proposed Action would reduce the inflow of freshwater with relatively low TDS concentrations into the Salton Sea. As noted in the QSA EIR/EIS, the Salton Sea is a terminal inland lake that is continually increasing in salinity over time due to evaporation. The Salton Sea will continue to increase in salinity with or without the cumulative reduction in freshwater inflows. The QSA EIR/EIS identified measures to minimize effects to ecological resources from increased salinity and from potentially hazardous concentrations of certain metals such as selenium. Because the effects of the Proposed Action are acceleration of effects identified in the QSA EIR/EIS, the Proposed Action is within the scope of analysis of the QSA EIR/EIS and confirms that the Proposed Action does not cause any new or unstudied potentially adverse effects. The existing mitigation measures under the QSA EIR/EIS will address the accelerated effects and, therefore, new mitigation measures are not necessary. (See discussion Section 3.1 Hydrology and Water Quality in the QSA EIR/EIS for the applicable mitigation measures.)

The SSAM model was used to estimate the impacts to salinity that may occur due to the Proposed Action. As shown in **Figure 3-8, Comparison of Baseline Trends with Proposed Action Increment of Effect** the Proposed Action may accelerate the salinity increase in the Sea for a period of 3 to 4 years. An accelerated increase in salinity over a period of 3 to 4 years would be within the bounds of what was anticipated and what is to be mitigated pursuant to the QSA EIR/EIS. Because of the temporary short-term period of three years for the Proposed Action, there is no effect over the long-term. Existing conditions resume upon the conclusion of the Proposed Action. Therefore, the Proposed Action would not increase overall salinity of the Sea. In addition, the Proposed Action would reduce loading of salts and metals into the Sea compared with existing conditions. Due to the temporary short-term nature of the proposed reductions, selenium concentrations would not increase substantially from the projected future baseline condition that could result in accumulated increases of selenium concentrations or increase the potential for hazardous conditions to ecosystems and the public.

Figure 3-8 Comparison of Baseline Trends with Proposed Action Increment of Effect



Source: DWR 2023

3.8.2.4 Cumulative Impacts

Table 1-1, Cumulative Projects List, provides a list of past, on-going, and future planned projects that could reduce flows to the Salton Sea. These projects include CNRA's SSMP Long-Range Plan which provides a road map for future management actions that will help to minimize impacts of cumulative inflow reductions. The Long-Range Plan utilizes SSAM to estimate cumulative future conditions. As shown in Figures 3-8, Comparison of Baseline Trends with Proposed Action Increment of Effect, the Proposed Action would accelerate the anticipated effects of cumulative flow reductions, but over time, by the year 2045, the conditions at the Salton Sea would be the same as baseline projected conditions. (See Appendix HYDRO-3.) Due to the temporary short-term nature of the Proposed Action, and lack of long-term effects demonstrated by SSAM, the Proposed Action, when considered with relevant past, present, and reasonably foreseeable projects, would not substantially contribute to cumulative hydrology impacts to the IID Contract Service Area.

3.9 Visual Resources

3.9.1 Affected Environment

3.9.1.1 IID Contract Service Area

The IID Contract Service Area is characterized visually by substantial agricultural production. Approximately 20 percent (534,328 acres) of the nearly 3 million acres of Imperial County land is irrigated for agricultural purposes (County of Imperial 2015). Along the 80-mile stretch of the AAC are desert lands and sand dunes before reaching and traveling the southern edge of the IID Contract Service Area just north of the U.S.-Mexico border. Beyond the IID Contract Service Area to the east and west, deserts, sand dunes, and mountains characterize the visual resources. Various mountains and foothills within the region add to the visual scenery in the Imperial Valley. The eastern foothills of the Peninsular Range, including the Jacumba, Coyote, Fish Creek, and Santa Rosa Mountains, are located to the west of the IID Contract Service Area. To the northeast, the Chocolate Mountains rise to an elevation of approximately 2,700 feet in a northwest to southeast direction and can be viewed from locations throughout the Imperial Valley. And to the north of the IID Contract Service Area is the Salton Sea.

3.9.1.2 Salton Sea

Visual resources in and around the Salton Sea include various landforms, vegetation, man-made structures, and the Sea itself, which covers approximately 211,840 acres (330 square miles) and is immediately surrounded by a sparsely vegetated desert landscape, which gives way to rocky, sandy hills (County of Imperial 2015).

Surrounding the Salton Sea, the visual baseline conditions are as follows:

- North Shore: The area bordering the Salton Sea's north shore is a gently sloping alluvial plain dominated by agricultural plots containing crops such as date palms and vineyards. The three highways approaching from the north—State Route (SR)-86, SR-195, and SR-111—provide the primary public views of the Sea in this area. No recreation facilities are located at the North Shore.
- West Shore: The west shore area includes the shoreline from south of Salton City to north of Desert Shores. The area includes most of the residential development around the Sea. Topography of this portion of the shore is a gradually sloping alluvial fan between the Sea and the boundary to Anza-Borrego State Park. Views of the Chocolate Mountains across the Sea and the Santa Rosa Mountains to the west provide a dramatic landscape backdrop. Primary views of the Salton Sea are provided from SR-86 and SR-78.
- South Shore: The area south of the Salton Sea is a northward-sloping, wide-open valley supporting large fields of intensive commercial agriculture. Large tracts of farmland are bordered by irrigation and drainage ditches. Two rivers terminate in the Sea: the Alamo River and the New River. Along the southwest corner of the Sea, SR-86 provides distant views to the Sea, views of Imperial Valley agricultural fields to the southwest, and the Vallecito and Santa Rosa Mountains to the northwest. Public access and recreation are provided via the Sonny Bono Salton Sea National Wildlife Refuge located in the southeast portion of the lake. The refuge provides wetland and grassland habitat for migratory birds

along the Pacific flyway. Access is provided seasonally to the refuge and trails, an observation tower, kiosks, and a visitor center are available (USFWS 2023b).

- East Shore: The east shore area includes small communities, mostly notably Bombay Beach. The terrain consists of the lower alluvial plains of the Mecca Hills and the Orocopia and Chocolate Mountains. California low desert scrub vegetation is the predominant cover for this area, with introduced palms and exotics at some of the public use areas. The Salton Sea State Recreation Area is located along SR-111 between the Salton Sea and the Chocolate Mountains. Spread out over almost 20 miles of shoreline are five campgrounds and a facility headquarters, which includes a visitor center and day-use area.

Two public highways in the vicinity of the Action Area have been selected as eligible for state scenic highway designation: SR-78 which terminates near the southwestern corner of the Sea and SR-111 on the eastern shore of the Sea (Caltrans 2023). Views afforded by sections of these potentially eligible roadways include rock and boulder scenery and plant life variations, the Chocolate Mountains, and the Salton Sea.

The elevation of the Salton Sea has varied historically since its creation in 1905 from a high of -195 ft msl in 1907 to its current elevation of -240.65, NGVD 1929 (USGS 2023). This elevation is projected to continue to decrease without the Proposed Action. In addition to the historic variation, the water level of the Salton Sea also varies by up to 1.5 feet on an annual cycle, according to seasonal runoff and evaporation rates. As a result of these water level changes, the surface area of the Sea and shoreline locations have historically varied both in long- and short-term periods.

3.9.2 Environmental Consequences

3.9.2.1 No Action Alternative

Implementation of the No Action Alternative would involve no additional reductions in water diversions by IID from the Colorado River at the Imperial Dam resulting from the LC Conservation Program and would therefore not achieve conservation objectives. As a result, the water conservation would not occur, eliminating effects from the LC Conservation programs, including efficiency conservation and fallowing. As a result, there would be no impact to visual resources other than what would already occur under existing conditions.

3.9.2.2 Proposed Action Alternative

The Proposed Action would occur within the IID Contract Service Area and would not alter the aesthetic character of surrounding desert areas, sand dunes, and mountains located outside the IID Contract Service Area.

Any equipment used to implement the Proposed Action would be typical agricultural equipment often used for agricultural production on fields and, therefore, would not contribute to any changes in the visual character of the area.

The Proposed Action includes the implementation of conservation programs by IID within its Contract Service Area for a temporary, short-term three-year period of time. Participation in the conservation programs would be voluntary and incentivized by payment for the conserved water created by the programs. IID would implement a combination of conservation programs under the Proposed Action. By the structure and nature of each conservation program, fields cannot

participate in more than one conservation program at a time. IID intends to prioritize the OFECP and DIP water conservation programs. The implementation of the OFECP (or simplified OFECP) would result in no changes to the visual character of the area because the agricultural land would remain in agricultural production to the same extent it would otherwise be in production. Moreover, the temporary increase in the use and implementation of conservation measures would be throughout the IID Contract Service Area and would not introduce unusual visual features to the landscape or result in significant impacts to visual resources, scenic views, or views from designated scenic highways.

Under the Proposed Action, the combination of conservation programs may include the implementation of the fallowing-based conservation programs. If both the FUFPP and the DIP were to be implemented, the maximum potential acreage for either program would not be reached. Agricultural land cannot participate in both programs at the same time. Therefore, if one field is in one program, it cannot simultaneously be in the other program, thereby bringing down the maximum level of participation possible for that other program. The maximum level of participation for either fallowing-based conservation program will be even lower if there are fields participating in the OFECP and will then also not be eligible for participation in a fallowing-based conservation program.

If maximum participation were to occur in the DIP, up to 180,000 acres of agricultural land could stop being irrigated for a 45- to 60-day period between the months of June through September for each of the three years of 2024, 2025, and 2026. Fields participating in the DIP will be in active agricultural production. The crop will cease receiving water for 45 to 60 days, but then the agricultural activities will resume on the field following that period of time. Therefore, despite the DIP being a fallowing-based conservation program, the crop remains on the field and the agricultural activities on a field are only interrupted for a short period of time and only during the temporary, short-term span of three years. Consequently, along with the OFECP (or simplified OFECP), the implementation of the DIP would result in no change in the visual character of the participating fields or the surrounding area.

If maximum participation were to occur in the FUFPP as a result of the Proposed Action, a maximum of up to 34,450 acres throughout the IID Contract Service Area could participate in the FUFPP that would result in an increase in frequency of fields that will not be irrigated for 6 months to one year during the two years of 2025 and 2026. The visual impact of the FUFPP participating fields would result in more fields lying fallow without the application of water than under existing conditions during the next three years. However, the agricultural activities will resume on the field following that period of time. If a field is allowed to participate in the FUFPP for consecutive years, it would be no longer than the temporary, short-term period of two years. Similar to the QSA, a three-year maximum allowed participation can be implemented and still maintain the integrity of the soils for resumed agricultural production. Nevertheless, crop cycling is common throughout the IID Contract Service Area and unpredictable. Under current conditions, fields may be fallowed, idled or unplanted for long periods of time (ranging from a few months to over a year) due to economic or other reasons. The Proposed Action could increase the frequency of dry fields or fields with vegetative cover, but only up to the maximum acreage for participation in the FUFPP, which is 34,450 acres within over 400,000 acres of agricultural land being actively farmed within IID's Contract Service Area and only over the temporary short-term period of three years.

Implementation of the Proposed Action would result in the acceleration of the Salton Sea elevation lowering from its current elevation due to the QSA and other factors (See Hydrology/Water Quality Section 3.8, subsection 3.8.2.3 Proposed Action Alternative). While the Proposed Action would accelerate the exposure of the Salton Sea playa currently inundated, the acceleration would taper off to baseline projection levels by the year 2045. (Figure 3-1, Exposed Salton Sea Acreage; Appendix HYDRO-3.) Until that time, the Proposed Action would have a limited impact to views of the Salton Sea landscape as seen from shoreline areas. The exposed playa will occur 5 to 10 years earlier than would otherwise occur, but that temporary impact would be no more than a nominal volume of what will already occur by 2045 under the No Action Alternative. Given the size and distance of the Salton Sea, the acceleration of playa exposure at the Sea will be less visible, if at all visible, from distant public roadways, including SR-86 and SR-78. The specific visual effects and their severity would vary according to the affected viewer's location and activity. In general, it is anticipated that views most affected by the Proposed Action would be at public recreation locations situated near the existing shoreline. Nevertheless, the receding shoreline of the Salton Sea has been part of the visual landscape for several decades. As the Sea continues to recede, the character of the shoreline has changed, including increased vegetation in some areas visible to the public. The Proposed Action would not change this condition substantially.

3.9.2.3 Cumulative Impacts

Table 1-1, Cumulative Projects List, provides a list of past, on-going, and future planned projects within and adjacent to the IID Contract Service Area. The Proposed Action would result in minor changes to the visual landscape within the primarily irrigated areas of IID's Contract Service Area and along the southern shoreline of the Salton Sea. The Proposed Action would accelerate impacts of the QSA, but not contribute to the cumulative effect of the lowering elevation of the Salton Sea. Hydrologic modeling conducted by DWR estimate that with implementation of the cumulative projects, the Salton Sea elevation will plateau in 2045. (See Figure 3-1 Exposed Salton Sea Acreage; Appendix HYDRO-3.) Although the Proposed Action would accelerate the near-term shoreline recession, over the long term, by 2045, the Sea elevation would be similar to the No Action Alternative. Therefore, the Proposed Action, when considered with relevant past, present, and reasonably foreseeable projects, would not substantially contribute to cumulative visual resource impacts within the IID Contract Service Area.

4.0 Coordination, Consultation and List of Preparers

4.1 Persons/Agencies Consulted

Reclamation and IID have consulted with various agencies and interested parties to identify potential issues or concerns prior to the initiation of formal consultation. Specifically, Reclamation and IID have met with the US Fish and Wildlife Service (USFWS), the California Natural Resources Agency (CNRA), and the California Department of Fish and Wildlife (CDFW) on several occasions to discuss the Proposed Action. Reclamation consulted with USFWS pursuant to Section 7 of the Endangered Species Act and on July 24, 2024 received their concurrence that the Proposed Action is not likely to adversely affect threatened and endangered species within the Action Area.

In November 2023 Reclamation delivered an announcement of the Proposed Action and consultation invitation letter to 27 identified Tribes. Reclamation has since received responses from and discussed the Proposed Action with several Tribes. Reclamation has been informed of the presence of specific traditional cultural resources; these are, however, located outside of the area of the Proposed Action and will not be affected. Reclamation's Tribal partners have also requested additional information regarding the nature and scope of prior ground disturbance in the area of the Proposed Action and voiced concerns regarding the effects of ground-disturbing programs funded by the Proposed Action. Information regarding prior ground disturbance in the Proposed Action and clarification of the nature and scope of the ground-disturbing activities funded by the Proposed Action was gathered by Reclamation from IID and disseminated to the requesting Tribes via email and telephone. Reclamation representatives appeared before the Torres-Martinez Desert Cahuilla Indians Tribal Council to get their feedback on the Proposed Action on July 24, 2024. Reclamation continues to maintain dialogue with those Tribal partners who have expressed interest in the Proposed Action.

4.2 Distribution List

An electronic copy of this EA has been posted for public viewing on Reclamation's Lower Colorado Basin Regional Office website at <https://www.usbr.gov/lc/region/g2000/envdocs.html>. Copies of this EA were also distributed to the following entities:

- USFWS, Palm Springs Office
- CDFW, Inland Deserts Region
- IID
- CNRA
- Agua Caliente Band of Cahuilla Indians
- Campo Kumeyaay Nation
- Cocopah Indian Tribe
- Fort Yuma-Quechan Indian Tribe
- Kwaaymii Laguna Band of Mission Indians
- Torres-Martinez Desert Cahuilla Indians

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Appendix AQ-1

Air Quality

Regulatory Framework

AIR QUALITY

Regulatory Framework

Regulatory programs have been established at the national, state, and local levels to address air quality. These programs are intended to protect air quality in areas of attainment and to improve air quality in areas where pollutant concentrations exceed health-based criteria. Air quality regulatory programs characterize the concentration of pollutants within their area of jurisdiction, and implement emissions limitations for stationary sources and other mitigation measures necessary to achieve or maintain healthy air quality.

Federal

Clean Air Act

National Ambient Air Quality Standards

The federal Clean Air Act (CAA) was enacted in 1955 and has been amended numerous times in subsequent years, with the most recent amendments occurring in 1990.¹ The CAA is the comprehensive federal law that regulates air emissions in order to protect public health and welfare.² The United States Environmental Protection Agency (USEPA) is responsible for the implementation and enforcement of the CAA, which establishes federal National Ambient Air Quality Standards (NAAQS), specifies future dates for achieving compliance, and requires USEPA to designate areas as attainment, nonattainment, or maintenance. The CAA also mandates that each state submit and implement a State Implementation Plan (SIP) for each criteria pollutant for which the state has not achieved the applicable NAAQS. The SIP includes pollution control measures that demonstrate how the standards for those pollutants will be met. The sections of the CAA most applicable to the proposed project include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions).^{3,4}

Title I requirements are implemented for the purpose of attaining NAAQS for criteria air pollutants. The NAAQS were amended in July 1997 to include an 8-hour standard for ozone and

¹ 42 United States Code §7401 et seq. (1970).

² USEPA, Summary of the Clean Air Act, last updated September 6, 2023. <https://www.epa.gov/laws-regulations/summary-clean-air-act>. Accessed October 2023.

³ USEPA, Clean Air Act Overview, Clean Air Act Table of Contents by Title, last updated May 2, 2023. <https://www.epa.gov/clean-air-act-overview/clean-air-act-text>. Accessed October 2023. As shown therein, Title I addresses nonattainment areas and Title II addresses mobile sources.

⁴ Mobile sources include on-road vehicles (e.g. cars, buses, motorcycles) and non-road vehicles e.g. aircraft, trains, construction equipment). Stationary sources are comprised of both point and area sources. Point sources are stationary facilities that emit large amount of pollutants (e.g. municipal waste incinerators, power plants). Area sources are smaller stationary sources that alone are not large emitters, but combined can account for large amounts of pollutants (e.g. consumer products, residential heating, dry cleaners).

to adopt a NAAQS for PM_{2.5}. The NAAQS were also amended in September 2006 to include an established methodology for calculating PM_{2.5}, as well as to revoke the annual PM₁₀ threshold. **Table 1, *Ambient Air Quality Standards***, shows the NAAQS currently in effect for each criteria pollutant. The NAAQS and the California Ambient Air Quality Standards (CAAQS) for the California criteria air pollutants (discussed below) have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including against decreased visibility and damage to animals, crops, vegetation, and buildings.⁵

The six criteria pollutants are ground-level ozone (O₃); particulate matter, including coarse particulate matter (PM₁₀) and fine particulate matter (PM_{2.5}); nitrogen dioxide (NO₂); carbon monoxide (CO); sulfur dioxide (SO₂); and lead (Pb). O₃ is not directly emitted into the air but rather forms in the atmosphere through chemical and photochemical reactions of reactive organic gases (ROG) and nitrogen oxides (NO_x). Therefore, O₃ is indirectly controlled through limits on emissions of ROG and NO_x.

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants, due to their presence in elevated concentrations in the atmosphere. The six criteria pollutants are ground-level ozone (O₃); particulate matter, including coarse particulate matter (PM₁₀) and fine particulate matter (PM_{2.5}); nitrogen dioxide (NO₂); carbon monoxide (CO); sulfur dioxide (SO₂); and lead (Pb). O₃ is not directly emitted into the air but rather forms in the atmosphere through chemical and photochemical reactions of reactive organic gases (ROG), also known as volatile organic compounds (VOCs), and nitrogen oxides (NO_x). Therefore, O₃ is indirectly controlled through limits on emissions of ROG/VOCs and NO_x. A brief description of the health effects of these criteria air pollutants are provided below.

Ozone (O₃): Ozone is a secondary pollutant formed by the chemical reaction of VOCs and nitrogen oxides (NO_x) in the presence of sunlight under favorable meteorological conditions, such as high temperature and stagnation episodes. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. According to the USEPA, ozone can cause the muscles in the airways to constrict potentially leading to wheezing and shortness of breath.⁶ Ozone can make it more difficult to breathe deeply and vigorously; cause shortness of breath and pain when taking a deep breath; cause coughing and sore or scratchy throat; inflame and damage the airways; aggravate lung diseases such as asthma, emphysema and chronic bronchitis; increase the frequency of asthma attacks; make the lungs more susceptible to infection; continue to damage the lungs even when

⁵ USEPA, NAAQS Table, <https://www.epa.gov/criteria-air-pollutants/naaqs-table>, last updated March 15, 2023. Accessed September 2023.

⁶ United States Environmental Protection Agency (USEPA), Health Effects of Ozone Pollution, <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution>, last updated May 24, 2023. Accessed September 2023.

TABLE 1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Federal Primary Standard	California Standard
Ozone (O ₃)	8-hour	0.070 ppm ⁽¹⁾	0.070 ppm
	1-hour	--	0.09 ppm
Nitrogen Dioxide (NO ₂)	1-hour	100 ppb (0.100 ppm)	0.18 ppm
	Annual Mean	53 ppb ⁽²⁾ (0.053 ppm)	0.030 ppm
Carbon Monoxide (CO)	8-hour	9 ppm	9 ppm
	1-hour	35 ppm	20 ppm
Sulfur Dioxide (SO ₂)	3-hour (secondary)	0.5 ppm	
	1-hour (primary)	75 ppb ⁽³⁾ (0.75 ppm)	0.25 ppm
	Annual Mean	30 ppb (0.030 ppm)	--
PM ₁₀	24-hour	150 µg/m ³	50 µg/m ³
	Annual Mean	--	20 µg/m ³
PM _{2.5}	24-hour	35 µg/m ³	--
	Annual Mean	12 µg/m ³	12 µg/m ³
Lead	30-day average	==	1.5 µg/m ³
	3-month average	0.15 µg/m ³ ⁽⁴⁾	--
Visibility Reducing Particles	8-hour	No Federal Standards	Extinction coefficient of 0.23 per kilometer — visibility of 10 miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent.
Sulfates (SO ₄)	24-hour		25 µg/m ³
Hydrogen Sulfide (H ₂ S)	1-hour		0.03 ppm
Vinyl Chloride	24-hour		0.01 ppm

NOTES:

-- No Standard

⁽¹⁾ Final rule was signed October 1, 2015, and effective December 28, 2015. The previous (2008) O₃ standards are not revoked and remain in effect for designated areas. Additionally, some areas may have certain continuing implementation obligations under the prior revoked 1-hour (1979) and 8-hour (1997) O₃ standards.

⁽²⁾ The level of the annual NO₂ standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

⁽³⁾ The previous SO₂ standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO₂ standards or is not meeting the requirements of a SIP call under the previous SO₂ standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

⁽⁴⁾ In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m³ as a calendar quarter average) also remain in effect.

SOURCE: USEPA, NAAQS Table, last updated March 15, 2023. <https://www.epa.gov/criteria-air-pollutants/naaqs-table#1>. Accessed October 2023. CARB, California Ambient Air Quality Standards.

<https://www2.arb.ca.gov/resources/california-ambient-air-quality-standards>. Accessed October 2023.

the symptoms have disappeared; and cause chronic obstructive pulmonary disease.⁷ Long-term exposure to ozone is linked to aggravation of asthma, and is likely to be one of many causes of asthma development and long-term exposures to higher concentrations of ozone may also be linked to permanent lung damage, such as abnormal lung development in children.⁸ According to the California Air Resource Board (CARB), inhalation of ozone causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms and exposure to ozone can reduce the volume of air that the lungs breathe in and cause shortness of breath.⁹ The USEPA states that people most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers.¹⁰ Children are at greatest risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure.¹¹ According to CARB, studies show that children are no more or less likely to suffer harmful effects than adults; however, children and teens may be more susceptible to ozone and other pollutants because they spend nearly twice as much time outdoors and engaged in vigorous activities compared to adults.¹² Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults and are less likely than adults to notice their own symptoms and avoid harmful exposures.¹³ Further research may be able to better distinguish between health effects in children and adults.¹⁴

Volatile Organic Compounds (VOCs): VOCs are organic chemical compounds of carbon and are not “criteria” pollutants themselves; however, they contribute with NO_x to form ozone, and are regulated to prevent the formation of ozone.¹⁵ According to CARB, some VOCs are highly reactive and play a critical role in the formation of ozone, other VOCs have adverse health effects, and in some cases, VOCs can be both highly reactive and have adverse health effects.¹⁶ VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids, internal combustion associated with motor vehicle usage, and consumer products (e.g., architectural coatings, etc.).¹⁷

Nitrogen Dioxide (NO₂) and Nitrogen Oxides (NO_x): NO_x is a term that refers to a group of compounds containing nitrogen and oxygen. The primary compounds of air quality concern include NO₂ and nitric oxide (NO). Ambient air quality standards have been promulgated for

⁷ USEPA, Health Effects of Ozone Pollution.

⁸ USEPA, Health Effects of Ozone Pollution.

⁹ California Air Resources Board (CARB), Ozone & Health, Health Effects of Ozone, <https://ww2.arb.ca.gov/resources/ozone-and-health>. Accessed September 2023.

¹⁰ USEPA, Health Effects of Ozone Pollution.

¹¹ USEPA, Health Effects of Ozone Pollution.

¹² CARB, Ozone & Health, Health Effects of Ozone.

¹³ CARB, Ozone & Health, Health Effects of Ozone.

¹⁴ CARB, Ozone & Health, Health Effects of Ozone.

¹⁵ USEPA, Technical Overview of Volatile Organic Compounds, <https://www.epa.gov/indoor-air-quality-iaq/technical-overview-volatile-organic-compounds>, last updated March 14, 2023. Accessed September 2023.

¹⁶ CARB, Review of the California Ambient Air Quality Standard for Ozone Volume II of IV Chapters 3-8, Staff Report Initial Statement of Reasons for Proposed Rulemaking, March 11, 2005. [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://ww2.arb.ca.gov/sites/default/files/barcu/regact/ozone05/isorv2.pdf](https://ww2.arb.ca.gov/sites/default/files/barcu/regact/ozone05/isorv2.pdf). Accessed September 2023.

¹⁷ USEPA, What are volatile organic compounds (VOCs)?, last updated March 15, 2023. <https://www.epa.gov/indoor-air-quality-iaq/what-are-volatile-organic-compounds-vocs>. Accessed September 2023.

NO₂, which is a reddish-brown, reactive gas.¹⁸ The principle form of NO_x produced by combustion is NO, but NO reacts quickly in the atmosphere to form NO₂, creating the mixture of NO and NO₂ referred to as NO_x.¹⁹ Major sources of NO_x include emissions from cars, trucks and buses, power plants, and off-road equipment.²⁰ The terms NO_x and NO₂ are sometimes used interchangeably. However, the term NO_x is typically used when discussing emissions, usually from combustion-related activities, and the term NO₂ is typically used when discussing ambient air quality standards. Where NO_x emissions are discussed in the context of the thresholds of significance or impact analyses, the discussions are based on the conservative assumption that all NO_x emissions would oxidize in the atmosphere to form NO₂. According to the USEPA, short-term exposures to NO₂ can potentially aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms while longer exposures to elevated concentrations of NO₂ may contribute to the development of asthma and potentially increase susceptibility to respiratory infections.²¹ According to CARB, controlled human exposure studies that show that NO₂ exposure can intensify responses to allergens in allergic asthmatics.²² In addition, a number of epidemiological studies have demonstrated associations between NO₂ exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses.²³ Infants and children are particularly at risk from exposure to NO₂ because they have disproportionately higher exposure to NO₂ than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration while in adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease.²⁴ CARB states that much of the information on distribution in air, human exposure and dose, and health effects is specifically for NO₂ and there is only limited information for NO and NO_x, as well as large uncertainty in relating health effects to NO or NO_x exposure.²⁵

Carbon Monoxide (CO): CO is primarily emitted from combustion processes and motor vehicles due to the incomplete combustion of fuel, such as natural gas, gasoline, or wood, with the majority of outdoor CO emissions from mobile sources.²⁶ According to the USEPA, breathing air with a high concentration of CO reduces the amount of oxygen that can be transported in the blood stream to critical organs like the heart and brain and at very high levels, which are possible indoors or in other enclosed environments, CO can cause dizziness, confusion, unconsciousness and death.²⁷ Very high levels of CO are not likely to occur outdoors; however,

¹⁸ CARB, Nitrogen Dioxide & Health, <https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health>. Accessed September 2023.

¹⁹ CARB, Nitrogen Dioxide & Health.

²⁰ USEPA, Nitrogen Dioxide (NO₂) Pollution, <https://www.epa.gov/no2-pollution/basic-information-about-no2>, last updated July 25, 2023. Accessed September 2023.

²¹ USEPA, Nitrogen Dioxide (NO₂) Pollution.

²² CARB, Nitrogen Dioxide & Health.

²³ CARB, Nitrogen Dioxide & Health.

²⁴ CARB, Nitrogen Dioxide & Health.

²⁵ CARB, Nitrogen Dioxide & Health.

²⁶ CARB, Carbon Monoxide & Health, <https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health>. Accessed September 2023.

²⁷ USEPA, Carbon Monoxide (CO) Pollution in Outdoor Air, <https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution>, last updated July 13, 2023. Accessed September 2023.

when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease since these people already have a reduced ability for getting oxygenated blood to their hearts and are especially vulnerable to the effects of CO when exercising or under increased stress.²⁸ In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina.²⁹ According to CARB, the most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain.³⁰ For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress; inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance.³¹ Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO.³²

Sulfur Dioxide (SO₂): According to the USEPA, the largest source of SO₂ emissions in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities while smaller sources of SO₂ emissions include industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content.³³ In 2006, California phased-in the ultra-low-sulfur diesel regulation limiting vehicle diesel fuel to a sulfur content not exceeding 15 parts per million, down from the previous requirement of 500 parts per million, substantially reducing emissions of sulfur from diesel combustion.³⁴ According to the USEPA, short-term exposures to SO₂ can harm the human respiratory system and make breathing difficult.³⁵ According to CARB, health effects at levels near the State one-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath and chest tightness, especially during exercise or physical activity and exposure at elevated levels of SO₂ (above 1 part per million (ppm)) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.³⁶ Children, the elderly, and those with asthma, cardiovascular disease, or chronic lung disease (such as bronchitis or emphysema) are most likely to experience the adverse effects of SO₂.^{37,38}

²⁸ USEPA, Carbon Monoxide (CO) Pollution in Outdoor Air.

²⁹ USEPA, Carbon Monoxide (CO) Pollution in Outdoor Air.

³⁰ CARB, Carbon Monoxide & Health.

³¹ CARB, Carbon Monoxide & Health.

³² CARB, Carbon Monoxide & Health.

³³ USEPA, Sulfur Dioxide (SO₂) Pollution, <https://www.epa.gov/so2-pollution/sulfur-dioxide-basics>, last updated February 16, 2023. Accessed September 2023.

³⁴ CARB, Final Regulation Order, Amendments to the California Diesel Fuel Regulations, Amend Section 2281, Title 13, California Code of Regulations, <https://www.arb.ca.gov/regact/ulsd2003/fro2.pdf>, approved July 15, 2004. Accessed September 2023.

³⁵ USEPA, Sulfur Dioxide (SO₂) Pollution.

³⁶ CARB, Sulfur Dioxide & Health, <https://ww2.arb.ca.gov/resources/sulfur-dioxide-and-health>. Accessed September 2023

³⁷ CARB, Sulfur Dioxide & Health.

³⁸ USEPA, Sulfur Dioxide (SO₂) Pollution.

Particulate Matter (PM₁₀ and PM_{2.5}): Particulate matter air pollution is a mixture of solid particles and liquid droplets found in the air.³⁹ Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye while other particles are so small they can only be detected using an electron microscope.⁴⁰ Particles are defined by their diameter for air quality regulatory purposes: inhalable particles with diameters that are generally 10 micrometers and smaller (PM₁₀); and fine inhalable particles with diameters that are generally 2.5 micrometers and smaller (PM_{2.5}).⁴¹ Thus, PM_{2.5} comprises a portion or a subset of PM₁₀. Sources of PM₁₀ emissions include dust from construction sites, landfills and agriculture, wildfires and brush/waste burning, industrial sources, and wind-blown dust from open lands.⁴² Sources of PM_{2.5} emissions include combustion of gasoline, oil, diesel fuel, or wood.⁴³ PM₁₀ and PM_{2.5} may be either directly emitted from sources (primary particles) or formed in the atmosphere through chemical reactions of gases (secondary particles) such as SO₂, NO_x, and certain organic compounds.⁴⁴ According to CARB, both PM₁₀ and PM_{2.5} can be inhaled, with some depositing throughout the airways; PM₁₀ is more likely to deposit on the surfaces of the larger airways of the upper region of the lung while PM_{2.5} is more likely to travel into and deposit on the surface of the deeper parts of the lung, which can induce tissue damage, and lung inflammation.⁴⁵ Short-term (up to 24 hours duration) exposure to PM₁₀ has been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits.⁴⁶ The effects of long-term (months or years) exposure to PM₁₀ are less clear, although studies suggest a link between long-term PM₁₀ exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer.⁴⁷ Short-term exposure to PM_{2.5} has been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days and long-term exposure to PM_{2.5} has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children.⁴⁸ According to CARB, populations most likely to experience adverse health effects with exposure to PM₁₀ and PM_{2.5} include older adults with chronic heart or lung disease, children, and asthmatics and children and infants are more susceptible to harm from inhaling pollutants such as PM₁₀ and PM_{2.5} compared to healthy adults because they inhale more air per pound of body weight than do adults, spend more time outdoors, and have developing immune systems.⁴⁹

³⁹ USEPA, Particulate Matter (PM) Pollution, <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics>, last updated July 11, 2023. Accessed September 2023.

⁴⁰ USEPA, Particulate Matter (PM) Pollution.

⁴¹ USEPA, Particulate Matter (PM) Pollution.

⁴² CARB, Inhalable Particulate Matter and Health (PM_{2.5} and PM₁₀), <https://www.arb.ca.gov/research/aaqs/common-pollutants/pm/pm.htm>. Accessed September 2023.

⁴³ CARB, Inhalable Particulate Matter and Health (PM_{2.5} and PM₁₀).

⁴⁴ CARB, Inhalable Particulate Matter and Health (PM_{2.5} and PM₁₀).

⁴⁵ CARB, Inhalable Particulate Matter and Health (PM_{2.5} and PM₁₀).

⁴⁶ CARB, Inhalable Particulate Matter and Health (PM_{2.5} and PM₁₀).

⁴⁷ CARB, Inhalable Particulate Matter and Health (PM_{2.5} and PM₁₀).

⁴⁸ CARB, Inhalable Particulate Matter and Health (PM_{2.5} and PM₁₀).

⁴⁹ CARB, Inhalable Particulate Matter and Health (PM_{2.5} and PM₁₀).

Lead (Pb): Major sources of lead emissions include ore and metals processing, piston-engine aircraft operating on leaded aviation fuel, waste incinerators, utilities, and lead-acid battery manufacturers.⁵⁰ In the past, leaded gasoline was a major source of lead emissions; however, the removal of lead from gasoline has resulted in a decrease of lead in the air by 98 percent between 1980 and 2014.⁵¹ Lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system, and affects the oxygen carrying capacity of blood.⁵² The lead effects most commonly encountered in current populations are neurological effects in children, such as behavioral problems and reduced intelligence, anemia, and liver or kidney damage.⁵³ Excessive lead exposure in adults can cause reproductive problems in men and women, high blood pressure, kidney disease, digestive problems, nerve disorders, memory and concentration problems, and muscle and joint pain.⁵⁴

Air Quality Designations

The Salton Sea Air Basin (SSAB) includes all of Imperial County and a portion of central Riverside County. Air quality conditions in the Imperial County portion of the SSAB are under the jurisdiction of the Imperial County Air Pollution Control District (ICAPCD). The remainder of the SSAB is managed by the South Coast Air Quality Management District (SCAQMD). The ICAPCD and SCAQMD are required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in “attainment” or “non-attainment.” **Table 2, Attainment Status – Imperial Valley Portion of the Salton Sea Air Basin**, shows the attainment status of the Imperial Valley portion of the SSAB for each criteria pollutant. The Imperial Valley portion of the SSAB is currently a marginal nonattainment area for ozone, and a moderate nonattainment area for PM_{2.5}. **Table 3, Attainment Status – Riverside County/Coachella Valley Portion of the Salton Sea Air Basin**, shows the attainment status of the Riverside County/Coachella Valley portion of the SSAB for each criteria pollutant. The Riverside County/Coachella Valley portion is currently a severe-15 nonattainment area for ozone and serious nonattainment area for PM₁₀.

USEPA Exceptional Event Rule

Because of its extremely dry climate and vast areas of undeveloped desert land, PM₁₀ concentrations in Imperial County and the Coachella Valley are dominated by fugitive dust emissions. The primary sources of high PM₁₀ concentrations in Imperial County are: (1) soil disturbance caused by wind and human activity, (2) transport of high PM₁₀ concentrations from Mexicali, Mexico, and (3) occasionally, wildfires. High PM₁₀ concentrations caused by uncontrollable natural events such as high winds and wildfires may qualify as “Exceptional Events”

⁵⁰ USEPA, Lead Air Pollution, <https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution>, last updated July 5, 2023. Accessed September 2023.

⁵¹ USEPA, Lead Air Pollution.

⁵² USEPA, Lead Air Pollution.

⁵³ CARB, Lead & Health, <https://ww2.arb.ca.gov/resources/lead-and-health>. Accessed September 2023.

⁵⁴ CARB, Lead & Health.

TABLE 2
ATTAINMENT STATUS – IMPERIAL VALLEY PORTION OF THE SALTON SEA AIR BASIN

Pollutant	National Standards (NAAQS)	California Standards (CAAQS)
O ₃ (1-hour standard)	N/A ^a	Nonattainment
O ₃ (8-hour standard)	Nonattainment – Marginal	Nonattainment
CO	Unclassified/Attainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	Attainment
PM ₁₀	Attainment	Nonattainment
PM _{2.5}	Non-attainment – Moderate	Attainment
Lead (Pb)	Unclassified/Attainment	Attainment
Visibility Reducing Particles	N/A	Unclassified
Sulfates	N/A	Attainment
Hydrogen Sulfide	N/A	Unclassified
Vinyl Chloride ^b	N/A	N/A

NOTES:

N/A = not applicable

^a The NAAQS for 1-hour ozone was revoked on June 15, 2005, for all areas except Early Action Compact areas.^b In 1990, the California Air Resources Board identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the California Air Resources Board does not monitor or make status designations for this pollutant.SOURCE: USEPA, The Green Book Non-Attainment Areas for Criteria Pollutants, <https://www.epa.gov/green-book>; CARB, Area Designations Maps/State and National, <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>. Accessed October 2023.

TABLE 3
ATTAINMENT STATUS – RIVERSIDE COUNTY/COACHELLA VALLEY PORTION OF THE SALTON SEA AIR BASIN

Pollutant	National Standards (NAAQS)	California Standards (CAAQS)
O ₃ (1-hour standard)	N/A ^a	Nonattainment
O ₃ (8-hour standard)	Nonattainment – Severe-15	Nonattainment
CO	Unclassified/Attainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Unclassified/Attainment	Attainment
PM ₁₀	Nonattainment – Serious	Nonattainment
PM _{2.5}	Unclassified/Attainment	Nonattainment
Lead (Pb)	Unclassified/Attainment	Attainment
Visibility Reducing Particles	N/A	Unclassified
Sulfates	N/A	Attainment
Hydrogen Sulfide	N/A	Unclassified
Vinyl Chloride ^b	N/A	N/A

NOTES:

N/A = not applicable

^a The NAAQS for 1-hour ozone was revoked on June 15, 2005, for all areas except Early Action Compact areas. Coachella Valley achieved attainment on 12/31/2013.^b In 1990, the California Air Resources Board identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the California Air Resources Board does not monitor or make status designations for this pollutant.SOURCE: USEPA, The Green Book Non-Attainment Areas for Criteria Pollutants, <https://www.epa.gov/green-book>; CARB, Area Designations Maps/State and National, <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>. Accessed October 2023.

under current EPA rules and therefore may be excluded from compliance calculations. These events must be properly documented according to the USEPA's Exceptional Event Rule guidelines. The ICAPCD and local agencies commit resources and work together to 1) identify and document potential exceptional events that may have been influenced by Salton Sea exposed playa and/or open areas in the surrounding area and 2) apply to USEPA for concurrence on the documentation in order to exclude these data in future attainment determinations.

Hazardous Air Pollutants/Toxic Air Contaminants

In addition to criteria pollutants, Title I also includes air toxics provisions which require USEPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112, USEPA establishes National Emission Standards for Hazardous Air Pollutants. Hazardous Air Pollutants (HAPs), also referred to as Toxic Air Contaminants (TACs) or air toxics, are air pollutants which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. Due to the large number of different HAP/TAC pollutants and their generally low concentrations, it has not been possible to set air quality standards for these pollutants or to monitor their presence as a group.

Class I Federal Lands

Class 1 federal lands include areas such as national parks, national wilderness areas, and national monuments. These areas are granted special air quality protection under Section 162(a) of the CAA. The project area is not within a Class 1 area. Joshua National Park is the closest Class I Area to the Salton Sea. Agua Tibia Wilderness Area, is another Class 1 Area, located in the Cleveland National Forest about 50 miles west of the north end of the Salton Sea. Both sites are located outside of the Salton Sea Air Basin, although the Joshua Tree site is close to the Basin's northern boundary.

Title II

Title II requirements pertain to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have been strengthened in recent years to improve air quality. For example, the standards for NO_x emissions have been lowered substantially, and the specification requirements for cleaner burning gasoline are more stringent.

Federal General Conformity Requirements

Section 176(c)(1) of the CAA (42 USC section 7506(c)) is known as the General Conformity Rule. It prohibits the federal government from engaging in, supporting, providing financial assistance, licensing, permitting, or SIP which has been approved by the USEPA. The Conformity Rule is designed to ensure that federal actions do not impede local efforts to control air pollution and requires federal agencies to demonstrate that their actions do not undermine the approved SIP for the subject geographic area. The first step in determining whether conformity

review is required is to assess whether the activity would take place in a federal nonattainment or maintenance area, i.e., an area that does not meet the NAAQS. If the action was to occur in such an area, then it is necessary to determine whether the action would result in the emission of an air pollutant that is regulated due to the nonattainment or maintenance status of the region. In certain circumstances, the activity may be exempt.⁵⁵ If the action is not exempt, a determination must be made as to whether the emissions from the activity would exceed the *de minimis* threshold levels. If the *de minimis* threshold levels were to be met or exceeded, then a conformity review is required (40 CFR section 93.153(b)).

Prevention of Significant Deterioration/New Source Performance Standards

The CAA and amendments also include regulations intended to “prevent significant deterioration” (PSD) of air quality and to establish emissions performance standards for new stationary sources or New Source Performance Standards (NSPSs). Federal PSD and NSPS regulations generally apply to major (very large) stationary sources of emissions and would not apply to the Proposed Project or alternatives.

State

California Clean Air Act

California Ambient Air Quality Standards

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of California to achieve and maintain the CAAQS by the earliest possible date. CARB is responsible for the coordination and administration of both federal and state air pollution control programs within California including setting the CAAQS. CARB has primary responsibility for the development of California’s SIP, for which it works closely with the federal government and the local air districts. The SIP is required for the state to take over implementation of the CAA from USEPA.

The CAAQS are established to protect the health of the most sensitive groups and apply to the same criteria pollutants as the CAA and also includes State-identified criteria pollutants, which are sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride.⁵⁶ CARB has primary responsibility for ensuring the implementation of the CCAA,⁵⁷ responding to the CAA planning requirements applicable to the state, and regulating emissions from motor vehicles and consumer products within the state.

Other Criteria Pollutants (California Only)

The CAAQS regulate the same criteria pollutants as the NAAQS but in addition, regulate State-identified criteria pollutants, including sulfates, hydrogen sulfide, visibility-reducing particles,

⁵⁵ The exemptions are set out in 40 CFR Section 93.153, subdivisions (c) and (d) and include activities that would result in no emissions increase or an increase in emissions that is clearly *de minimis*.

⁵⁶ CARB, California Ambient Air Quality Standards (CAAQS). <https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards>. Accessed October 2023.

⁵⁷ Chapter 1568 of the Statutes of 1988 (California Clean Air Act).

and vinyl chloride.⁵⁸ According to CARB, California law continues to mandate CAAQS, although attainment of the NAAQS has precedence over attainment of the CAAQS due to federal penalties for failure to meet federal attainment deadlines.⁵⁹ California law does not require that CAAQS be met by specified dates as is the case with NAAQS. Rather, it requires incremental progress toward attainment.⁶⁰

With respect to the State-identified criteria pollutants (i.e., sulfates, hydrogen sulfide, visibility reducing particles, and vinyl chloride), the proposed project would either not emit them (i.e., hydrogen sulfide and vinyl chloride), or they would be accounted for as part of the pollutants estimated in this analysis (i.e., sulfates and visibility reducing particles). For example, visibility reducing particles are associated with particulate matter emissions and sulfates are associated with SO_x emissions. Both particulate matter and SO_x are included in the emissions estimates for the proposed project. A description of the health effects of the State-identified criteria air pollutants is provided below.

Sulfates (SO₄²⁻): Sulfates in the environment occur as a result of SO₂ (sulfur dioxide) being converted to SO₄²⁻ compounds in the atmosphere where sulfur is first oxidized to SO₂ during the combustion process of sulfur containing, petroleum-derived fuels (e.g., gasoline and diesel fuel).⁶¹ Exposure to SO₄²⁻, which are part of PM_{2.5}, results in health effects similar to those from exposure to PM_{2.5} including reduced lung function, aggravated asthmatic symptoms, and increased risk of emergency department visits, hospitalizations, and death in people who have chronic heart or lung diseases.⁶² Population groups with higher risks of experiencing adverse health effects with exposure to SO₄²⁻ include children, asthmatics, and older adults who have chronic heart or lung diseases.⁶³

Hydrogen Sulfide (H₂S): H₂S is a colorless gas with a strong odor of rotten eggs. The most common sources of H₂S emissions are oil and natural gas extraction and processing, and natural emissions from geothermal fields. Industrial sources of H₂S include petrochemical plants and kraft paper mills. H₂S is also formed during bacterial decomposition of human and animal wastes, and is present in emissions from sewage treatment facilities and landfills.⁶⁴ Exposure to H₂S can induce tearing of the eyes and symptoms related to overstimulation of the sense of smell, including headache, nausea, or vomiting; additional health effects of eye irritation have only been reported with exposures greater than 50 ppm, which is considerably higher than the odor threshold.⁶⁵ H₂S is regulated as a nuisance based on its odor detection level; if the standard were based on adverse health effects, it would be set at a much higher level.⁶⁶ According to CARB,

⁵⁸ CARB, California Ambient Air Quality Standards, <https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards>. Accessed September 2023.

⁵⁹ CARB, California Ambient Air Quality Standards.

⁶⁰ CARB, California Ambient Air Quality Standards.

⁶¹ CARB, Sulfate & Health, <https://ww2.arb.ca.gov/resources/sulfate-and-health>. Accessed September 2023.

⁶² CARB, Sulfate & Health.

⁶³ CARB, Sulfate & Health.

⁶⁴ CARB, Hydrogen Sulfide & Health, <https://ww2.arb.ca.gov/resources/hydrogen-sulfide-and-health>. Accessed September 2023.

⁶⁵ CARB, Hydrogen Sulfide & Health.

⁶⁶ CARB, Hydrogen Sulfide & Health.

there are insufficient data available to determine whether or not some groups are at greater risk than others.⁶⁷

Visibility-Reducing Particles: Visibility-reducing particles come from a variety of natural and manmade sources and can vary greatly in shape, size and chemical composition. Visibility reduction is caused by the absorption and scattering of light by the particles in the atmosphere before it reaches the observer. Certain visibility-reducing particles are directly emitted to the air such as windblown dust and soot, while others are formed in the atmosphere through chemical transformations of gaseous pollutants (e.g., sulfates, nitrates, organic carbon particles) which are the major constituents of particulate matter. As the number of visibility reducing particles increases, more light is absorbed and scattered, resulting in less clarity, color, and visual range.⁶⁸ Exposure to some haze-causing pollutants have been linked to adverse health impacts similar to PM10 and PM2.5 as discussed above.⁶⁹

Vinyl Chloride: Vinyl chloride is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products and are generally emitted from industrial processes and other major sources of vinyl chloride have been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.⁷⁰ Short-term health effects of exposure to high levels of vinyl chloride in the air include central nervous system effects, such as dizziness, drowsiness, and headaches while long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage and has been shown to increase the risk of angiosarcoma, a rare form of liver cancer in humans.⁷¹ Most health data on vinyl chloride relate to carcinogenicity; thus, the people most at risk are those who have long-term exposure to elevated levels, which is more likely to occur in occupational or industrial settings; however, control methodologies applied to industrial facilities generally prevent emissions to the ambient air.⁷²

Attainment Status

Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. **Tables 2 and 3**, above, provide a summary of the attainment status of the Salton Sea Air Basin Imperial Valley and Riverside County/Coachella Valley portions with respect to the state standards, respectively. The SSAB is designated as attainment for the California standards for sulfates and unclassified for hydrogen sulfide and visibility-reducing particles. The SSAB is currently in nonattainment for ozone, PM10, and PM2.5 under the CAAQS. Since vinyl chloride is a carcinogenic toxic air contaminant, CARB does not classify attainment status for this pollutant.

⁶⁷ CARB, Hydrogen Sulfide & Health.

⁶⁸ CARB, Visibility-Reducing Particles and Health. <https://www.arb.ca.gov/research/aaqs/common-pollutants/vrp/vrp.htm>. Accessed September 2023.

⁶⁹ CARB, Visibility-Reducing Particles and Health.

⁷⁰ CARB, Vinyl Chloride & Health, <https://ww2.arb.ca.gov/resources/vinyl-chloride-and-health>. Accessed September 2023.

⁷¹ CARB, Vinyl Chloride & Health.

⁷² CARB, Vinyl Chloride & Health.

California Air Toxics Program

The California Air Toxics Program was established in 1983, when the California Legislature adopted Assembly Bill (AB) 1807 to establish a two-step process of risk identification and risk management to address potential health effects from exposure to toxic substances in the air. Under this program, facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks if present. In 1992, the AB 2588 program was amended by Senate Bill (SB) 1731 to require facilities that pose a significant health risk to the community to reduce their risk through implementation of a risk management plan. In 1993, the California Legislature amended the program to identify the 189 federal HAPs as TACs.

Local

South Coast Air Quality Management District

Air Quality Management Plans

To meet the NAAQS and CAAQS, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs), which serve as a regional blueprint to develop and implement an emission reduction strategy that will bring the Air Basin into attainment with the standards in a timely manner. The Coachella Valley is a nonattainment area for both the ozone and the PM₁₀ NAAQS. The most current AQMP is the *2022 Air Quality Management Plan*⁷³, which was adopted on December 2, 2022. The goal of the 2022 AQMP is to provide a regional roadmap to help the South Coast Air Basin and Coachella Valley achieve the USEPA's NAAQS 2015 8-hour ozone standard (70 parts per billion). The SIP also requests that the Coachella Valley be classified as extreme nonattainment for the 70 ppb 8-hour ozone standard as modelling shows that it will not meet the standard by its 2032 deadline. The extreme designation will give it a deadline of 2038 and modeling demonstrates attainment in 2037.⁷⁴

On January 26, 2023, CARB adopted Resolution 23-4, which directs the CARB Executive Officer to submit the 2022 AQMP to the USEPA for inclusion in the California SIP to be effective, for purposes of federal law, after notice and public hearing as required by Section 110(l) of the Clean Air Act and 40 Code of Federal Regulations Section 51.102 and approval by the USEPA. USEPA approval has not yet occurred.

The 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emissions technologies, when cost-effective and feasible, and low NO_x technologies in other applications), best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other CAA measures to achieve the 2015 8-hour ozone standard. The 2022 AQMP incorporates the transportation strategy and transportation control measures from the Southern California Association of Governments

⁷³ SCAQMD, 2022 Air Quality Management Plan, December 2, 2022. <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/final-2022-aqmp.pdf?sfvrsn=16>. Accessed October 2023.

⁷⁴ SCAQMD, 2022 Air Quality Management Plan, December 2, 2022.

(SCAG) Connect SoCal 2020 (2020-2045 *Regional Transportation Plan/Sustainable Communities Strategy* [2020-2045 RTP/SCS]).⁷⁵ SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG coordinates with various air quality and transportation stakeholders in Southern California to ensure compliance with the federal and state air quality requirements. Pursuant to California Health and Safety Code Section 40460, SCAG has the responsibility of preparing and approving the portions of the AQMP relating to the regional demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies. SCAG is required by law to ensure that transportation activities “conform” to, and are supportive of, the goals of regional and state air quality plans to attain the NAAQS. The RTP/SCS includes transportation programs, measures, and strategies generally designed to reduce vehicle miles traveled (VMT), which are contained in the AQMP. The 2022 AQMP forecasts future emissions inventories with growth based on SCAG’s 2020-2045 RTP/SCS. Despite regional growth in the past, air quality has improved substantially over the years, primarily due to the effects of air quality control programs at the local, state and federal levels.⁷⁶

The SCAQMD submitted the Final PM10 Redesignation Request and Maintenance Plan for the Coachella Valley in December 2009⁷⁷. The Coachella Valley had not violated the federal 24-hour PM10 standard (150 µg/m³) during the period including 1998 through 2007 and was eligible for redesignation as attainment due to the annual average PM10 concentrations meeting the revoked federal standard. On February 25, 2010, CARB approved the Coachella Valley PM10 Redesignation Request and Maintenance Plan from serious non-attainment to attainment for the PM10 NAAQS under CAA Section 107. However, the Coachella Valley began exceeding threshold for PM10 shortly after the redesignation request and continues to exceed threshold today. As of October 3, 2023, the USEPA has not redesignated the PM10 classification for Coachella Valley. However, PM10 concentrations in the Coachella Valley are continually evaluated and the influence of high-wind exceptional events are routinely assessed; a redesignation to attainment of the PM10 NAAQS could be possible in the near future.⁷⁸

Rules and Regulations

The SCAQMD has adopted many rules and regulations to regulate sources of air pollution in the SSAB and to help achieve air quality standards. The proposed project may be subject to the following SCAQMD rules and regulations:

Regulation IV – Prohibitions: This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-

⁷⁵ SCAG, Final 2020-2045 RTP/SCS, Connect SoCal, adopted on September 3, 2020. [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial-plan_0.pdf?1606001176](https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial-plan_0.pdf?1606001176). Accessed September 2023.

⁷⁶ SCAQMD, 2022 Air Quality Management Plan, Table 3-3, 2022.

⁷⁷ SCAQMD, Final PM10 Redesignation Request and Maintenance Plan for the Coachella Valley, December 2009. [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://ww2.arb.ca.gov/sites/default/files/classic/planning/sip/planarea/scabsip/cvmaintplan2009.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/planning/sip/planarea/scabsip/cvmaintplan2009.pdf). Accessed October 2023.

⁷⁸ SCAQMD, 2022 Air Quality Management Plan, December 2, 2022.

up/shutdown exemptions and breakdown events. The following is a list of rules which apply to the proposed project:

Rule 401 – Visible Emissions: This rule states that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringlemann Chart or of such opacity as to obscure an observer's view.

Rule 402 – Nuisance: This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 403 – Fugitive Dust: This rule requires projects to prevent, reduce or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to the project property line, restricts the net PM₁₀ emissions to less than 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified in the tables within the rule). Control measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering or using non-toxic chemical stabilizers to prevent the generation of visible dust plumes, limiting vehicle speeds to 15 miles per hour on unpaved surfaces, and/or ceasing all activities. Finally, a contingency plan may be required if so determined by USEPA.

Rule 403.1 – Coachella Valley Fugitive Dust Control Plans: This rule is a supplemental rule to Rule 403 and is applicable to man-made sources of fugitive dust in Coachella Valley. The purpose of this rule is to reduce fugitive dust and resulting PM₁₀ emissions from man-made sources in the Coachella Valley. Rule 403.1 requires a Fugitive Dust Control Plan approved by SC AQMD or an authorized local government agency prior to initiating any construction/earth-moving activity. These requirements are only applicable to construction projects with 5,000 or more square feet of surface area disturbance.

Imperial County Air Pollution Control District

Air Quality Plans

To meet NAAQS and CAAQS, the ICAPCD has adopted a series of air quality Plans which serve as a regional blueprint to develop and implement an emission reduction strategy that will bring the Air Basin into attainment with the standards in a timely manner. The Imperial Valley is a nonattainment area for ozone and PM_{2.5}.

The USEPA approved⁷⁹, effective October 19, 2020, the 2018 Imperial County PM10 Maintenance Plan and Redesignation Request State Implementation Plan⁸⁰ which demonstrates implementation of best available control measures and a maintenance plan that includes an emissions inventory consistent with attainment, a maintenance demonstration, contingency provisions, and motor vehicle emissions budgets for use in transportation conformity determinations. The Imperial Valley Planning Area was redesignated attainment from serious nonattainment.

The 2018 State Implementation Plan for the 12 µg/m³ PM_{2.5} Annual Standard⁸¹ address the annual 12.0 micrograms per cubic meter (µg/m³) annual PM_{2.5} standard for the Imperial County PM_{2.5} nonattainment area. The nonattainment area represents a portion of Imperial County that includes the most populated area of the county, including the cities of Brawley, El Centro, and Calexico. In establishing the PM_{2.5} nonattainment area for Imperial County, the USEPA recognized the unique features and characteristics of the area and determined the boundaries based on multiple factors including air quality, emissions data, population, local meteorology, and geography/topography. The Calexico monitor, located next to the border with Mexico is impacted with PM_{2.5} emissions daily, primarily from Mexico. The 2018 PM_{2.5} Plan relies on a special provision in the CAA that enables states to prepare a SIP when transport of international pollution inhibits the ability to demonstrate attainment of the PM_{2.5} standard. The 2018 PM_{2.5} Plan includes a comprehensive technical analysis of these cross-border impacts, and a demonstration that the Calexico monitor would have attained the 12.0 µg/m³ annual PM_{2.5} standard in 2021, absent these international emissions from Mexicali. The 2018 PM_{2.5} Plan also addresses Act requirements to demonstrate that appropriate local actions have been taken to reduce emissions and provide ongoing public health protection.

The 2017 State Implementation Plan for the 75 ppb 8-hour Ozone Standard⁸² was adopted by CARB on October 26, 2017. In response to court decisions, some elements included in the Imperial County 2017 State Implementation Plan for the 2008 8-hour Ozone Standard required updates by CARB staff. The Updated 2018 SIP⁸³ was adopted on October 25, 2018. The Updated 2018 SIP demonstrates how ICAPCD will attain the 75 ppb 8-hour ozone standard absent the impact of emissions from Mexico. The 2018 SIP Update includes an updated

⁷⁹ Federal Register, 85 FR 58294, PM10 Maintenance Plan and Redesignation Request; Imperial Valley Planning Area; California, September 18, 2020. <https://www.federalregister.gov/documents/2020/09/18/2020-18427/pm10-maintenance-plan-and-redesignation-request-imperial-valley-planning-area-california>. Accessed October 2023.

⁸⁰ Imperial County Air Pollution Control District (ICAPCD), 2018 PM10 Redesignation Request and Maintenance Plan, October 23, 2018. <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://apcd.imperialcounty.org/wp-content/uploads/2020/01/2018PM10PlanBoardPacket.pdf>. Accessed October 2023.

⁸¹ CARB, Staff Report 2018 State Implementation Plan for the Imperial County 12 µg/m³ PM_{2.5} Annual Standard, May 25, 2018. <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://ww2.arb.ca.gov/sites/default/files/classic/planning/sip/planarea/imperial/staffreport.pdf>. Accessed October 2023.

⁸² ICAPCD, Imperial County 2017 State Implementation Plan for the 2008 8-hour Ozone Standard, September 2017. <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://apcd.imperialcounty.org/wp-content/uploads/2020/01/OzoneSIP.pdf>. Accessed October 2023.

⁸³ CARB, 2018 Updates to the California State Implementation Plan, adopted October 25, 2018. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://ww2.arb.ca.gov/sites/default/files/classic/planning/sip/2018sipupdate/2018update.pdf?_ga=2.240075459.1366959660.1696286403-1819775784.1695756119. Accessed October 2023.

reasonable further progress demonstration for Imperial County that uses a 2011 baseline year and demonstrates that Imperial County will make regional further progress attainment in 2017.

Rules and Regulations

The ICAPCD has adopted many rules and regulations to regulate sources of air pollution in the SSAB and to help achieve air quality standards. The proposed project may be subject to the following ICAPCD rules and regulations:

Regulation IV – Prohibitions: This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-up/shutdown exemptions and breakdown events. The following is a list of rules which apply to the proposed project:

Rule 401 – Opacity of Emissions: This rule states that no person shall release or discharge into the atmosphere from any single source of emissions whatsoever, any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three (3) minutes in any hour which is: (B.1) as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, (B.2) of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke, and (B.3) the shade or equivalent opacity shall not exceed Ringelmann No. 2.

Rule 407 – Nuisance: This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Regulation VIII – Fugitive Dust Rules: This regulation sets forth the restrictions for fugitive dust emissions. The Rules contained within this Regulation have been developed pursuant to USEPA guidance for Serious PM_{2.5} nonattainment areas. The following is a list of rules which apply to the proposed project:

Rule 800 – General Requirements for Control of Fine Particulate Matter: Rule 800 contains the definitions, exemptions, general requirements, administrative requirements and test methods that are applicable to all Regulation VIII rules. Section C of Rule 800 contains the definitions that are essential to understanding each specific rule. Section F contains the general requirements that establish basic guidelines for dust control material(s), specifies requirements that the dust control material(s) must meet ICAPCD, SWRCB, CARB and EPA regulations, and contains guidelines for development of Bureau of Land Management (BLM) and Border Patrol dust control plans. Section G contains administrative requirements for test methods. Appendices A and B contain the test methods for visual determination of opacity and determination of surface stabilization, respectively. The latter contains methods for determining; visible crust strength (ball drop test), threshold friction velocity (sieve measurements to assign soil texture), surface protection from flat and standing vegetation and surface stabilization from rock armoring using the rock test method. Rule 800 requires recreational off-highway vehicle (OHV) areas to apply BACM to mitigate fugitive dust emissions. On each day of an off-road event and/or competition during which 50 average vehicle daily trips per day will occur on an unpaved road segment, the owner or operator shall limit Visible Dust Emissions (VDE) to 20 percent opacity and comply with the requirements of a stabilized unpaved road by application, reapplication, or maintenance of at least one

of the following control measures: watering; applying uniform layer of washed gravel; paving; restricting access; restricting speed below 15 mph; applying chemical or organic dust suppressants; applying “road mix;” or using any other method that can be demonstrated to effectively limit VDE to 20 percent opacity and meets the conditions of a stabilized unpaved road surface.

Rule 804 – Open Areas: Rule 804 applies within rural areas to any open area of 3 acres or more that contains at least 1000 square feet of disturbed surface area. This rule pertains to the Salton Sea because exposed playa around the Sea qualifies as open areas under this rule. Section D of the rule contains exemptions for agricultural operation sites subject to Rule 806 and recreational OHV Use Areas on public lands subject to Rule 800. Section E contains requirements to apply BACM to limit VDE to 20 percent opacity and meet conditions for stabilized surface, and to install barriers to prevent unauthorized vehicle access to stabilized areas. Section F sets forth the permissible BACM for open areas. BACM for open areas includes: (1) applying water or chemical dust suppressants to all unvegetated areas, (2) establishing vegetation on previously disturbed areas, (3) paving, applying and maintaining gravel, or applying and maintaining chemical dust suppressants and (4) implementing alternative BACM that has gone through the approval process set forth in section G.

Rule 806 – Conservation Management Practices: Rule 806 applies to all agricultural operation sites of 40 or more acres in size. This rule pertains to the Salton Sea because some exposed playa could be reclaimed for agricultural use (this occurred during previous dry periods). Section C of the rule contains definitions that are essential to understand the main terms and Conservation Management Practices (CMPs) in this rule. Section D contains requirements for agricultural operation sites to implement at least one CMP for land preparation and cultivation, harvest activities, unpaved roads and unpaved traffic areas. This section also contains guidelines for operators to develop alternative CMPs. In addition, this section requires the owner/operator to prepare a CMP plan and make it available upon request. Section E contains CMPs for land preparation and cultivation, harvesting, unpaved roads and unpaved traffic areas. Section F contains guidelines to develop a CMP plan.

Appendix AQ-2

SS AQMP Overview

SALTON SEA AIR QUALITY MITIGATION PROGRAM OVERVIEW

PREPARED BY FORMATION ENVIRONMENTAL, AUGUST 2024

The Salton Sea Air Quality Mitigation Program (SS AQMP) was developed by IID to provide a comprehensive, science-based, adaptive approach to address air quality mitigation requirements associated with the Quantification Settlement Agreement (QSA) and the water conservation and transfers under the QSA. It is important to understand that current and future exposed Salton Sea playa is anticipated to be a new source of PM₁₀ dust emissions, however, until the playa is exposed, the location, frequency and magnitude of future emissions are unknown. It is also important to note that the timing and location of playa exposure is a function of the Sea floor bathymetry and the Sea's response to inflows, salt loads, and evaporation rates. While models have been developed to predict future playa exposure (rate and extent), these models (like all models) have uncertainty regarding future conditions and the Sea's response. Therefore, the objective and structure of the SS AQMP is specifically designed to be adaptive and proactively detect, locate, assess and identify options to mitigate dust emissions from exposed Salton Sea playa as it occurs, regardless of timing, rate, and extent of playa exposure. Each component of the program is used to proactively identify, prioritize, and guide implementation of dust control measures on exposed Salton Sea playa now and into the future (IID 2016).

The main components of the SS AQMP include 1) an annual Emissions Monitoring Program to estimate emissions and to identify areas of exposed playa for proactive dust control, 2) an annual Proactive Dust Control Plan with recommendations and design for site-specific dust control measures, and 3) implementation of dust control measures to prevent PM₁₀ dust source areas from becoming significant sources of dust emissions, and also scaling and adapting dust control measures to efficiently achieve control at a larger scale as playa exposure accelerates. The annual Emissions Monitoring Program is designed to work in tandem with the development of the annual Proactive Dust Control Plan and subsequent implementation of dust control measures. Sites for dust control measures are identified by IID on an annual basis in the Proactive Dust Control Plan. This approach allows for effective, targeted use of resources on areas that require proactive dust control to protect the public health of communities near and around the Salton Sea. **Figure 1** is an infographic summarizing the main components of the SS AQMP and highlighting the extensive work completed to implement dust control measures strategically and effectively at the Salton Sea. Each component of the SS AQMP is further described in the following sections.

1. EMISSION ESTIMATE

Under the SS AQMP, the Salton Sea Emissions Monitoring Program is conducted, which estimates and monitors emissions and identifies areas of exposed playa for proactive dust control. Each annual PM₁₀ emissions estimate is compiled in a report that is located at <https://saltonseaprogram.com/aqm/team-documents.php>. The Emissions Monitoring Program also identifies the location and magnitude of emissions in the desert area adjacent to the Salton Sea (to the west). Emissions from the desert open area to the west of the Salton Sea is the single largest source of PM₁₀ in the Salton Sea Air Basin (ICAPCD

2018) and are important because they are upwind of the playa, making it difficult to determine (isolate) dust generated from the playa versus dust generated from the desert. In addition, these desert areas contain an unlimited supply of sand that is transported (aeolian and fluvial processes) toward the Salton Sea and impacts the fragile playa surfaces, thus increasing the emissions potential of exposed playa (in specific locations where it comes onto the playa). The emission estimate program includes four key steps (**Figure 1**):

- a. **Map Playa Exposure.** Playa exposure is monitored continuously and mapped at the end of each year, when the Salton Sea is at the lowest point of the hydrologic cycle. Analysis includes use of satellite imagery, USGS water surface elevation data, and high-resolution bathymetric data. It is important to note the timing and location of playa exposure is a function of the Sea floor bathymetry and the Sea's response to inflows, salt loads, and evaporation rates. While models have been developed to predict future playa exposure, these models have uncertainty regarding future conditions. Therefore, the SS AQMP monitors actual playa exposure routinely regardless of what was projected to be exposed. This ensures that playa is characterized appropriately and monitored for potential emissions.
- b. **Characterize Surfaces.** Playa and desert surfaces are characterized throughout each wind season (November through June) to provide a better understanding of the type, location, and extent of surfaces vulnerable to erosion and emissions. Each surface is tested for emissions throughout the wind season using a Portable in-situ Wind EROsion Laboratory (PI-SWERL). Emissions potential is highly variable, but is driven by surface type, surface moisture, and the presence of loose surface sand. Overall, playa surfaces dominated by coarser textured (Sandy) soils have more predictable emissions. In contrast, emissions from playa surface with finer textured, clay soils have less predictable emissions because of sensitivity to environmental influences on salt crust formation. For example, precipitation events, groundwater depth, diurnal temperature changes, and relative humidity can cause playa surface characteristics to change, increasing or decreasing the potential for erosion/emissions. Vegetative cover (an important surface characteristic) is also quantified using high-resolution imagery. Vegetative cover reduces emissions potential of exposed playa by sheltering and sand capture. Natural vegetation expansion continues to be prevalent in many locations around the Salton Sea. Since the 2017/2018 emissions estimate, vegetated playa has increased from approximately 3,610 acres (~20% of exposed playa) to approximately 7,738 acres (~25% of exposed playa) documented in the 2022/2023 emissions estimate (IID 2024a). This represents a gradual increase in relative and absolute vegetation cover as playa exposure has increased through time.
- c. **Model Wind Conditions.** Weather variables, like wind speed and wind direction, play a pivotal role in emission from the playa. IID and other agencies maintain numerous point weather observation stations in and around the air basin. IID uses these data to parameterize the Weather Research and Forecasting Model (WRF) to estimate wind speed and direction across the entire basin. These data demonstrate the winds are spatially variable across the Salton Sea, with the northern portions of the Salton Sea

experiencing significantly lower wind speeds as compared to the Western and Southern portions of the playa that experience much higher and more frequent high wind events.

- d. **Estimate Emissions.** Using the data described above, hourly, daily, and annual emissions are estimated for the playa and desert regions. The estimated annual emissions (unmitigated, or uncontrolled) from the playa was documented in the 2022/2023 emissions estimate as roughly 320 tons/year (0.88 tons/day) as compared to over 30,267 tons/year (83 tons/day) from the adjacent desert area (west of the Salton Sea). These values are consistent with previous emission estimates and demonstrate the playa emissions are significantly lower than the adjacent desert emissions. To put this into perspective, unmitigated playa emissions account for less than 1% of all emissions in the air basin (IID 2024a). When considering dust control implementation described in the following section, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin on an annual basis.

When the 2022/2023 playa emissions are aggregated with the previous four emissions estimates to develop five-year average annual emissions estimates, results demonstrate that a relatively small percentage of the playa is responsible for the majority of playa emissions. Approximately 20% of the playa is responsible for nearly 73% of playa emissions as shown in **Figure 2**. These playa areas are identified as “high priority playa” and have existing or planned Dust Control Measures (DCMs), which will mitigate the majority of the estimated emissions. Existing field studies and planned DCMs cover an area of about 16,780 acres, including 7,580 acres implemented, 1,219 acres in active construction, and 7,987 acres planned (IID 2024b). These existing field studies and planned DCMs are in playa areas that contribute 71.6% (of the five-year average annual emissions estimate (IID 2024b)). This approach allows effective use of resources to help protect the public health of communities near and around the Salton Sea.

Spatially, nearly 90% of all emissions occur along the western and southern portions of the Salton Sea. This is due to many factors, including soil conditions, wind speeds, and fetch distance of exposed playa in these areas. Importantly, emissions in the north end of the Sea are very small, accounting for less than 1.5% of all emissions from the playa (IID 2024a). This is due mainly to the air flow and wind speeds in this region of the playa, which are typically lower than the threshold for erosion as compared to other areas around the Sea (e.g. western and southern).

- e. **Evaluate Dust Composition.** Dust composition is a specific concern regarding the current and future exposed playa. Specifically, the degree to which contaminants (e.g., salt, pesticides, selenium, and other metals) present in the soil / sediment matrix will also be present in the playa dust (Vogl and Henry, 2002; Frie et al., 2017) is the main concern. Elevated levels of cadmium, copper, molybdenum, nickel, zinc, and selenium have been observed in Salton Sea soil sediments; and the accumulation of metals and pesticides in playa environments (e.g., arsenic in Owens Lake and Ash Meadows) can increase PM toxicity and exacerbate health risks (Frie et al., 2017; Reheis et al., 2009; Breit et al., 2009). To evaluate this health risk, the elemental composition of

playa dust and sediment and whether it is unique from native desert material has been the focus of multiple investigations (Vogl and Henry, 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al 2023 as well as the IID AQMP. Specifically, IID has collected numerous gravimetric filter samples of PM₁₀ induced by a small wind tunnel (the PI-SWRL) across seven playa and six desert sites and analyzed them for a suite of 51 elemental compounds using XRF. The advantage of these “direct” aerosol samples (compared to bulk PM sampled from a monitoring station) is that the PM₁₀ accumulated on each filter is a direct representation of the dust each specific playa surface type may generate. This compares to other methods where numerous dust sources (open areas, agriculture, playa, desert, etc.) contribute to the dust collected on the filter and analyzed for toxic constituents. Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert domains (i.e. similar to background soil conditions for the surround natural desert landscape). This finding is consistent with other studies (Frie et al., 2017, 2019) where playa samples were enriched with elements associated with sodium, chlorine, magnesium, sulfur, and phosphorus; while desert samples were enriched with mineral elements (e.g., aluminum, iron, silicon), but were not enriched with toxic metals relative to the background conditions associated with the desert soils.

Current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is the amount of PM being emitted rather than the composition (Frie et al., 2017). The disconnect between the sediment-driven aquatic toxicity and PM human toxicity is likely driven by different pathways (Frie et al., 2017). The main concern regarding sub-aqueous sediment toxicity is its ability to bioaccumulate. PM toxicity does not compound through bioaccumulation but is rather a function of the size and composition of the PM as well as the mechanism of salt crust formation through evaporative processes. The playa surfaces vulnerable to aeolian erosion and dispersion were originally dried Salton Sea sediment but have since formed salt crust structures through the evapoconcentration of shallow groundwater and the formation of evaporite minerals as well as the aeolian and fluvial superposition of desert-derived sediment. These factors are likely responsible for the discrepancy between the toxic elements observed in Salton Sea soil sediment and the lack thereof observed in playa and desert PM and soil samples.

The concept that playa dust (PM₁₀) is exceptionally high in toxic metals is not supported by the current body of research. However, the playa has been identified as an anthropogenic source of atmospheric dust that is expected to increase in areal extent, exposing different portions of previously submerged Salton Sea sediment that has been shown to have elevated levels of toxic contaminants in some areas. Sediments with elevated levels of organic carbon, metal, and metalloid contaminants appear to be concentrated in the relatively deeper, northern sub-basin within net depositional zones (Anderson et al., 2008; Vogl and Henry, 2002). It is not anticipated that these deeper portions of the Salton Sea will be exposed (they will remain submerged). However, the SS AQMP will continue to consider scientific findings and

actively characterize the elemental composition of PM samples collected from playa surfaces as environmental settings evolve.

As described above, the Emission Monitoring Program provides the scientific data to inform prioritization and implementation of dust mitigation activities under the SS AQMP. To that end, an open and transparent peer review process was completed to ensure that the methods and data used for the Annual Emissions Estimates are based on sound and defensible science. The independent peer review of the Emissions Estimates methodology and results was conducted in Spring 2021, consistent with EPA's peer review guidelines (Peer Review Handbook 4th Edition, 2015). Reviewers were charged with providing feedback on each component of the emission estimate workflow, including any important improvements to the methods and an overall assessment regarding the scientific appropriateness of the current methods to meet the goal of identifying high priority playa areas for dust mitigation implementation under the SS AQMP. The peer reviewers agreed that the emissions estimate approach is scientifically rigorous and achieves the objectives of the program.

2. PLAN AND DESIGN

The overall goal of the SS AQMP is to keep playa emissions at low levels, even as playa exposure accelerates, through implementation of targeted, proactive dust control measures on priority playa areas. The success of the proactive dust control strategy requires the development and testing of a range of dust control measures that can be quickly implemented, adequately maintain a stabilized surface, and prevent the spread of emission source areas as playa is exposed. This approach provides flexibility for implementing effective dust control measures when and where they are needed. The annual Proactive Dust Control Plan describes recommendations for site specific dust control measures based on rigorous evaluation of the surface characteristics and emission potential. Each annual Proactive Dust Control Plan is located at <https://saltonseaprogram.com/aqm/team-documents.php>. This evaluation considers soil suitability, the availability of water resources, other planned stakeholder projects, and more (**Figure 1**):

- a. **Assess Soil Suitability.** Planning for implementation of dust control measures requires information on the soil subsurface conditions, particularly soil texture, salinity, and depth to water. More specifically, certain dust control measures are suitable for fine-texture clay soils and not suitable for sandy soils. Sandy soils require more water intensive methods and therefore need to be understood (spatial location) so water resources can be developed for irrigation. Due to the expansive nature of the exposed playa, high-throughput soil survey methods are employed to characterize soil conditions as playa exposure occurs. To-date over 1,600 soil cores (5 feet depth) have been collected, analyzed, and documented to guide dust control implementation at the Salton Sea as shown in **Figure 3**. In addition, significant aquatic coring in the future exposed playa has also been completed to help guide planning of dust control with stakeholder agencies. (**Figure 3**).

- b. **Assess Water Availability.** Water availability is another main driver of dust control measure suitability and selection. Where surface water resources exist, there is a water source for establishment of water efficient shrub vegetation. Where water resources do not exist, IID has developed sustainable groundwater resources for the initial establishment of vegetation for sites along the western and eastern portions of the playa (e.g. Salton City and Bombay Beach).
- c. **Test / Develop Dust Control Measures.** The SS AQMP has and continues to test numerous types of dust control measures around the Salton Sea. In particular, methods that can be quickly implemented are preferred and provide emission reductions while longer term strategies (if needed) can be developed (e.g. water resources). Currently, IID is constructing and testing different vegetation-based dust control measures, surface roughening, stabilization with non-erodible elements, sand fencing, and surface stabilizers (e.g. biogrout).
- d. **Consider Stakeholder Projects.** In addition to IID's SS AQMP, the Salton Sea Management Program (SSMP) Dust Suppression Action Plan (DSAP) was developed by the California Natural Resources Agency (CNRA) to fulfill its obligations under the California State Water Resources Control Board Order WR 2017-0134, Condition #24. Dust suppression project sites are identified in the SSMP DSAP, including those close to residential populations (North Shore and Bombay Beach) to benefit communities (CNRA 2020) and cover playa that is identified by IID as priority for dust control implementation. Under the SSMP DSAP, other factors related to the feasibility of implementation of dust suppression projects were also considered: permitting, access authorization, and water supply for certain suppression methods. IID routinely coordinates with the State to ensure resources are efficiently used and targeted at priority playa areas. This includes sharing the annual emission estimates as well as coordination on dust control implementation.

3. DUST CONTROL IMPLEMENTATION AND MONITORING

As described previously, approximately 20% of the playa is responsible for nearly 73% of playa emissions. These playa areas are identified and tracked yearly as "high priority playa" and are targeted for dust control implementation. It is important to note that these priority playa areas already have existing or planned Dust Control Measures (DCMs), which will mitigate the majority of the estimated emissions. Existing field studies and planned DCMs from both the State of California and IID cover an area of about 16,780 acres, including 7,580 acres implemented, 1,219 acres in active construction, and 7,987 acres planned (**Figure 2**) (IID 2024b). These existing field studies and planned DCMs are in playa areas that contribute 71.6% of the five-year average annual emissions estimate (IID 2024b). This approach allows effective use of resources to help protect the public health of communities near and around the Salton Sea.

Dust control performance monitoring is essential for measuring dust control effectiveness over time after implementation. Surface roughening and vegetation establishment are the primary dust mitigation measures implemented as a part of the SS AQMP. Effective performance monitoring includes multiple lines of evidence to balance the strengths and

weaknesses of individual methodologies. By pursuing multiple lines of evidence, a clear and readily interpretable assessment of dust control performance can be achieved. Results are used to guide operations and maintenance activities including management, augmentation, or replacement of DCMs in order to maintain a stabilized surface.

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FIGURE 1. SS AQMP INFOGRAPHIC DESCRIBING THE 3 MAIN COMPONENTS OF THE PROGRAM AND THE STEPS IID TAKES TO EFFECTIVELY IMPLEMENT DUST CONTROL AT THE SALTON SEA.



FIGURE 2. PM₁₀ EMISSIONS POTENTIAL (LEFT) AND EXISTING AND PLANNED DUST CONTROL LOCATED IN AREAS THAT CONTRIBUTE 73% OF THE FIVE-YEAR AVERAGE ANNUAL EMISSIONS ESTIMATE (RIGHT)

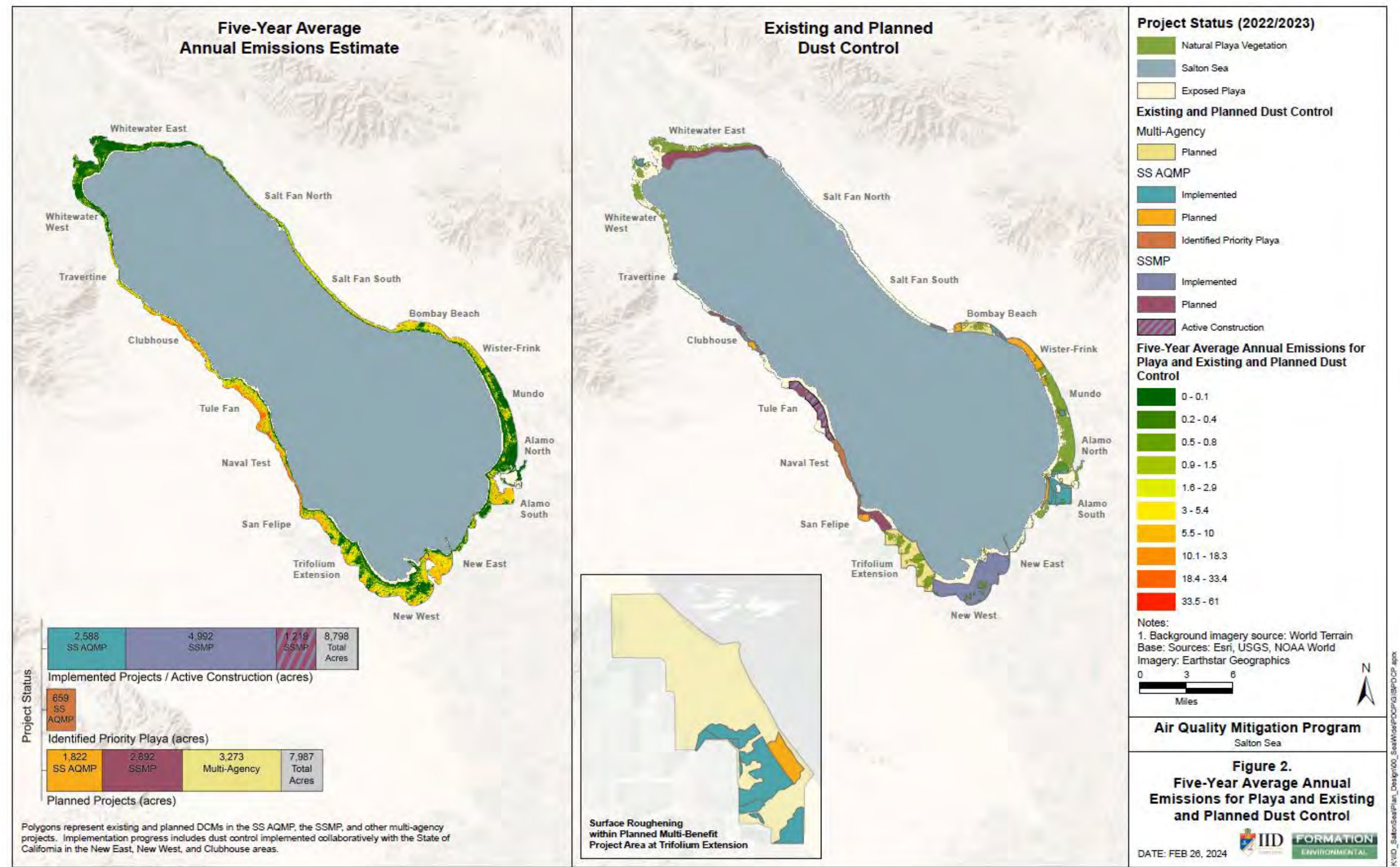
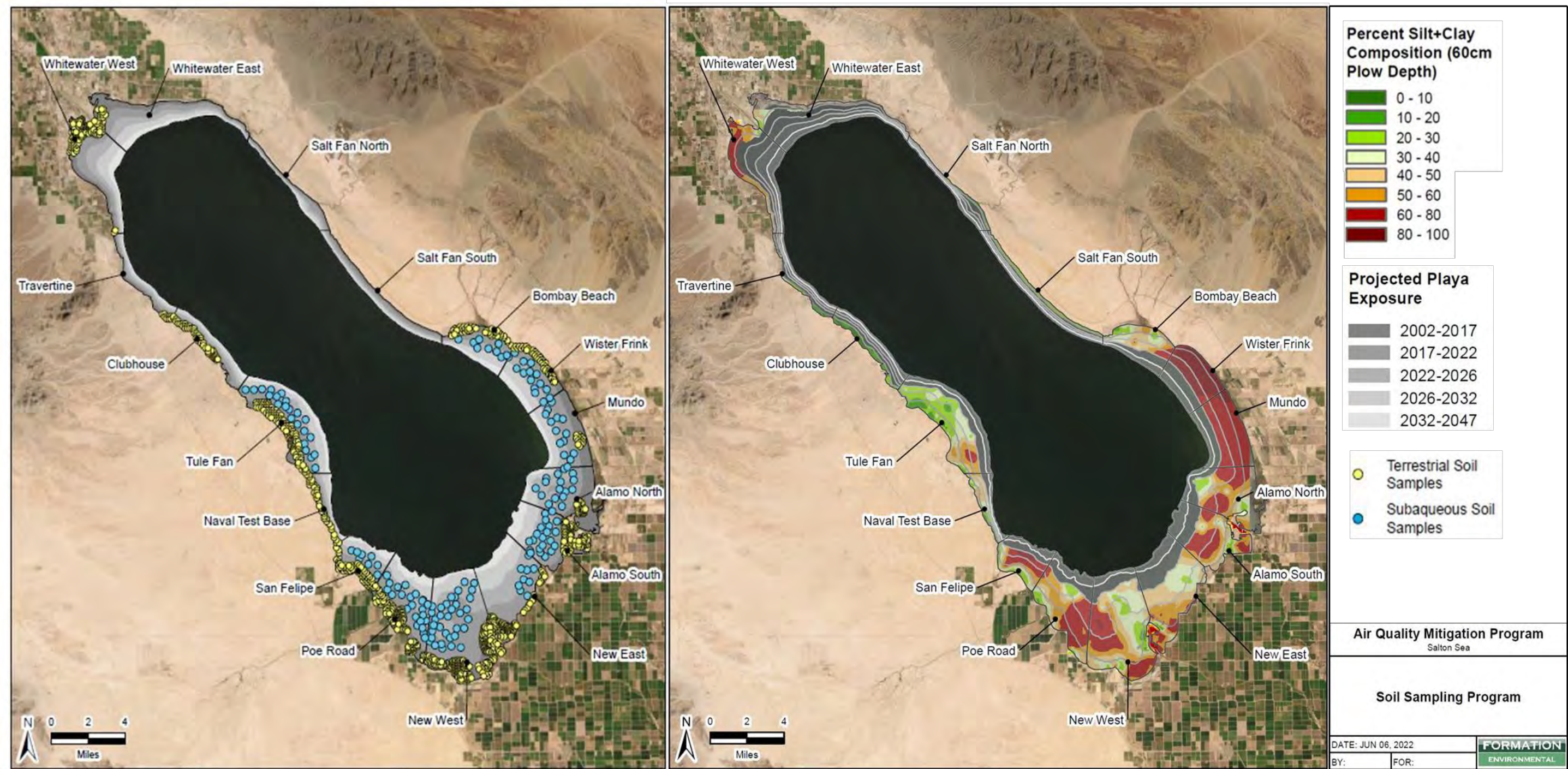


FIGURE 3. SUB-AQUEOUS AND TERRESTRIAL SOIL CORING LOCATIONS (LEFT PANEL) AND SOIL TYPE (RIGHT PANEL)



Appendix BIO-1

Biological Resources Regulatory Framework

REGULATORY FRAMEWORK

Biological Resources

Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act to help protect the ecosystems upon which endangered and threatened species depend. FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 Code of Federal Regulations [CFR] Section 17.3). “Harass” is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR Section 17.3). Actions that result in take can result in civil or criminal penalties.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) generally prohibits the killing, possessing, or trading of migratory birds, bird parts, eggs, and nests, except as provided by the statute. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds. It further provides that it is unlawful, except as permitted by regulations, “to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird...” (16 United States Code [USC] 703).

The MBTA, first enacted in 1916, prohibits any person, unless permitted by regulations, to “pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention...for the protection of migratory birds...or any part, nest, or egg of any such bird” (16 U.S. Code 703).

Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA), the U.S. Army Corps of Engineers (USACE) is authorized to regulate any activity that would result in the discharge of dredged or fill material into jurisdictional waters of the United States, which include those waters listed in 33 CFR Part 328

(Definitions). USACE, with oversight by the U.S. Environmental Protection Agency (USEPA), has the principal authority to issue CWA Section 404 Permits.

Pursuant to Section 401 of the CWA, the Colorado River Basin Regional Water Quality Control Board (RWQCB), Region 7, certifies that any discharge into jurisdictional waters of the United States will comply with state water quality standards. The RWQCB, as delegated by USEPA, has the principal authority to issue a CWA Section 401 water quality certification or waiver. Based on the literature and database review and biological resources assessment, the project site does not support waters that would be subject to the CWA.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act was originally enacted in 1940 as the Bald Eagle Protection Act to protect bald eagles and was later amended to include golden eagles. The Act prohibits the taking, possession, or commerce of bald and golden eagles, parts, feathers, nests, or eggs with limited exceptions. Take is defined as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb”, and includes both direct taking of individuals and take due to disturbance. “Disturb” is defined as (50 CFR 22.3):

“to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to any eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

The definition of “disturb” is further defined by USFWS (2007) as follows:

“In addition to immediate impacts, this definition also covers impacts that result from human-caused alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagles return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering.”

Bald eagles may not be taken for any purpose unless a permit is issued prior to the taking. Activities which can be authorized by permit include scientific collection/research, exhibition, tribal religious, depredation, falconry, and the taking of inactive golden eagle nests, which interfere with resource development or recovery operations. Currently, USFWS has a permitting process proposed for other activities that would allow disturbance to bald eagles or take of an eagle nest where their location poses a risk to human or eagle safety.

California Fish and Game Code §§ 1600-1616

Pursuant to Section 1600 et seq. of the CFGC, the CDFW regulates activities of an applicant’s project that would substantially alter the flow, bed, channel, or banks of streams or lakes, unless certain conditions outlined by CDFW are met by the applicant. The limits of CDFW jurisdiction are defined in CFGC Section 1600 et seq. as the “bed, channel, or bank of any river, stream, or lake designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive

benefit¹ However, in practice, CDFW usually extends its jurisdictional limit and assertion to the top of a bank of a stream, the bank of a lake, or outer edge of the riparian vegetation, whichever is wider. No stream banks or other CFGC Section 1600 resources occur within the construction limits; therefore, this regulation is not applicable to the project.

California State Fish and Game Code §§ 3503, 3503.5 and 3513

Under these sections of the CFGC, the project operator is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds of prey; the taking or possessing of any migratory nongame bird; the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or nongame birds; or the taking of any nongame bird pursuant to CFGC Section 3800. CFGC §3513 adopts the federal migratory bird take provisions under the MBTA that prohibit the intentional take or possession of birds designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations pursuant to the MBTA. CFGC Section 3513 does not prohibit the incidental take of birds if the underlying purpose of the activity is not to take birds.

Native Plant Protection Act (California Fish and Game Code §§ 1900 et seq.)

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

California Endangered Species Act (California Fish and Game Code §§ 2050 et seq.)

CESA establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under CESA. For projects that would affect a listed species under both CESA and FESA, compliance with FESA would satisfy CESA if CDFW determines that the federal incidental take authorization is “consistent” with CESA under CFGC Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project operator would have to apply for a take permit under Section 2081(b).

¹ This also includes the habitat upon which they depend for continued viability (CFGC Division 5, Chapter 1, Section 45, and Division 2, Chapter 1, Section 711.2[a]).

California Fish and Game Code 2080 and 2081

Section 2080 of the CFGC states that “No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act.” Pursuant to Section 2081, CDFW may authorize individuals or public agencies to import, export, take, or possess state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through Incidental Take permits or Memoranda of Understanding if the take is incidental to an otherwise lawful activity, impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project operator ensures adequate funding to implement the measures required by CDFW, which makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

California Fish and Game Code 3503, 3503.5, and 3513

Under Sections 3503, 3503.5, and 3513 of the CFGC, the project operator is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds of prey; the taking or possessing of any migratory nongame bird; the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or nongame birds; or the taking of any nongame bird pursuant to CFGC Section 3800. CFGC Section 3513 adopts the federal migratory bird take provisions under the MBTA that prohibit the intentional take or possession of birds designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations pursuant to the MBTA. CFGC Section 3513 does not prohibit the incidental take of birds if the underlying purpose of the activity is not to take birds.

California Environmental Quality Act Guidelines, Section 15380

Although threatened and endangered species are protected by specific federal and state statutes, California Environmental Quality Act (CEQA) Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the CFGC dealing with rare or endangered plants or animals. This section was included in CEQA primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a candidate species that has not been listed by either USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agencies have an opportunity to designate the species as protected, if warranted. CEQA also calls for the protection of other locally or regionally significant resources, including natural communities. Although natural communities do not at present have legal protection of any kind, CEQA calls for an assessment of whether any such resources would be affected and requires findings of significance if there would be substantial losses. Natural communities listed by CNDDB as sensitive are considered by CDFW to be significant resources and fall under the State CEQA Guidelines for addressing impacts. Local planning documents such as General Plans often identify these resources as well.

Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq)

The State Water Resources Control Board (SWRCB) and the RWQCB (together “Boards”) are the principal State agencies with primary responsibility for the coordination and control of water quality. The Boards regulate activities pursuant to Section 401(a)(1) of the federal CWA as well as the Porter-Cologne Water Quality Control Act (Porter-Cologne) (Water Code Section 13260). Section 401 of the CWA specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable water at the point where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the CWA.

In Porter-Cologne, the Legislature declared that the “State must be prepared to exercise its full power and jurisdiction to protect the quality of the waters in the State from degradation...” (California Water Code Section 13000). Porter-Cologne grants the Boards the authority to implement and enforce the water quality laws, regulations, policies and plans to protect the groundwater and surface waters of the State. It is important to note that enforcement of the State's water quality requirements is not solely in the purview of the Boards and their staff. Other agencies (e.g., CDFW) have the ability to enforce certain water quality provisions in state law.

Appendix BIO-2

Special Status Species with Potential to Occur

TABLE BIO-1
SPECIAL STATUS SPECIES WITH POTENTIAL TO OCCUR

Potential to Occur						
Common Name	Scientific Name	Sensitivity Status	Preferred Habitat	Lower Colorado River	IID Water Service Area and All-American Canal	Salton Sea
Plants						
Algodones Dunes sunflower	<i>Helianthus niveus</i> spp. <i>Tephrodes</i>	Federal: - State: SE CDFW: - BLM: BLMS	Desert dunes, creosote bush scrub	Moderate Potential: The Action Area supports marginal habitat for a particular species.	Low Potential: The Action Area supports limited habitat for this species.	Moderate Potential: The Action Area supports marginal habitat for a particular species.
Coachella Valley milk-vetch	<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Federal: FE State: - CDFW: - BLM: -	Desert dunes, creosote bush scrub	Not Expected: The Action Area is out of the known range for this species.	Not Expected: The Action Area is out of the known range for this species.	Not Expected: The Action Area is out of the known range for this species.
Parish's daisy	<i>Erigeron parishii</i>	Federal: FT State: - CDFW: - BLM: -	Desert scrub	Not Expected: The Action Area is out of the known range for this species.	Not Expected: The Action Area is out of the known range for this species.	Not Expected: The Action Area is out of the known range for this species.
Peirson's milk-vetch	<i>Astragalus magdalenae</i> var. <i>peirsonii</i>	Federal: FE State: SE CDFW: - BLM: -	Desert dunes, creosote bush scrub	Moderate Potential: The Action Area supports marginal habitat for a particular species.	Low Potential: The Action Area supports limited habitat for this species.	Moderate Potential: The Action Area supports marginal habitat for a particular species.
Triple-ribbed milk-vetch	<i>Astragalus tricarinnatus</i>	Federal: FE State: - CDFW: - BLM: -	Desert scrub	Not Expected: The Action Area is out of the known range for this species	Not Expected: The Action Area is out of the known range for this species	Not Expected: The Action Area is out of the known range for this species
Wiggin's croton	<i>Croton wigginsii</i>	Federal: - State: SR CDFW: - BLM: BLMS	Desert dunes, creosote bush scrub	Moderate Potential: The Action Area supports marginal habitat for a particular species.	Low Potential: The Action Area supports limited habitat for this species.	Moderate Potential: The Action Area supports marginal habitat for a particular species.
Invertebrates						
Cheeseweed moth lacewing	<i>Oliarces clara</i>	Federal: - State: - CDFW: - BLM: -	Desert, creosote bush scrub	Present: The species has been observed along the Colorado River	Low Potential: The Action Area supports limited habitat for this species.	Present: The species has been observed along the Salton Sea.
Andrew's dune scarab beetle	<i>Pseudocotalpa andrewsi</i>	Federal: - State: - CDFW: - BLM: -	Desert, Algodones Dunes	Present: The species has been observed along the Colorado River	Low Potential: The Action Area supports limited habitat for this species.	Low Potential: Limited habitat exists, species is not expected to occur within the Action Area.
Fish						
Bonytail chub	<i>Gila elegans</i>	Federal: FE State: SE CDFW: - BLM: -	Aquatic, Colorado River basin flowing waters, Colorado River basin standing waters	Present: Species is known to occur in the Lower Colorado River, documented near the Cibola National Wildlife Refuge, and Lake Mohave.	Not Expected: The Action Area does not support habitat for a particular species.	Not Expected: The Action Area does not support habitat for a particular species.
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	Federal: FE State: SE CDFW: FP BLM: -	Aquatic, Colorado River basin flowing waters	Not Expected: The Action Area does not support habitat for a particular species.	Not Expected: The Action Area does not support habitat for a particular species.	Not Expected: The Action Area does not support habitat for a particular species.

Potential to Occur						
Common Name	Scientific Name	Sensitivity Status	Preferred Habitat	Lower Colorado River	IID Water Service Area and All-American Canal	Salton Sea
Desert pupfish	<i>Cyprinodon macularius</i>	Federal: FE State: SE CDFW: - BLM: -	Aquatic, artificial flowing waters, artificial standing waters, Colorado River basin flowing waters, Colorado River basin standing waters	Present: This species has been observed along the Lower Colorado River, in a feeder stream located within the Buzzards Peak Wilderness area. This watershed feeds into the Proposed Action Area.	Present: Desert pupfish are found in drains spanning from the southwestern corner of the Salton Sea near the Sonny Bono National Wildlife Refuge up through the Imperial Irrigation District Managed Marsh Complex and Imperial Wildlife Areas.	Present: Desert pupfish are found in drains spanning from the southwestern corner of the Salton Sea near the Sonny Bono National Wildlife Refuge up through the Imperial Irrigation District Managed Marsh Complex and Imperial Wildlife Areas.
Razorback sucker	<i>Xyrauchen texanus</i>	Federal: FE State: SE CDFW: FP BLM: -	Aquatic, Colorado River basin flowing waters	Present: The species is known to inhabit the mainstem Lower Colorado River below Parker Dam, Lake Mohave, Lake Mead and Lake Havasu. Razorback suckers have been documented along the Lower Colorado River, near Martinez Lake up to Deer Island.	Present: The species is known to inhabit areas adjacent to the Salton Sea north of the Imperial Wildlife Area bordering the Chocolate Mountains.	Not Expected: The Action Area does not support habitat for a particular species.
Amphibians And Reptiles						
Banded gila monster	<i>Heloderma suspectum cinctum</i>	Federal: - State: - CDFW: SSC BLM: BLMS	Desert; Mojavean desert scrub, Riparian scrub, Sonoran desert scrub	Present: The species has been observed along the Colorado River.	Not Expected: Suitable habitat for the species is not present.	Not Expected: Suitable habitat for the species is not present.
Couch's spadefoot toad	<i>Scaphiopus couchii</i>	Federal: - State: - CDFW: SSC BLM: BLMS	Desert; Arid and semiarid habitats of the southwest	Present: The species has been observed along the Colorado River.	Low Potential: The Action Area supports limited habitat for this species.	Present: The species has been observed along the Salton Sea.
Desert Tortoise	<i>Gopherus agassizi</i>	Federal: FT State: ST CDFW: - BLM: -	Desert; Sandy washes, Canyons, and gravel beds dominated by creosote bush scrub with ocotillo, cactus, and yucca	Present: The species has been observed along the Colorado River.	Low Potential: The Action Area supports limited habitat for this species.	Present: The species has been observed along the Salton Sea.
Flat-tailed horned lizard	<i>Phrynosoma mcallii</i>	Federal: FPT State: - CDFW: SSC BLM: BLMS	Desert; sparsely vegetated, sandy areas	Present: The species has been observed along the Colorado River.	Present: The species has been observed within the IID Service Area.	Present: The species has been observed along the Salton Sea.
Lowland leopard frog	<i>Lithobates yavapaiensis</i>	Federal: - State: - CDFW: SSC BLM: BLMS	Wetland, Aquatic; small streams and marshes that support emergent vegetation	Present: The species has been observed along the Colorado River.	Present: The species has been observed within the IID Service Area.	Present: The species has been observed along the Salton Sea.
Sonoran mud turtle	<i>Kinosternon sonoriense</i>	Federal: - State: - CDFW: SSC BLM: -	Aquatic; backwaters	Present: The species has been observed along the Colorado River.	Present: The species has been observed within the IID Service Area.	Present: The species has been observed along the Salton Sea.

Potential to Occur						
Common Name	Scientific Name	Sensitivity Status	Preferred Habitat	Lower Colorado River	IID Water Service Area and All-American Canal	Salton Sea
Birds						
Aleutian Canada Goose	<i>Branta canadensis leucopareia</i>	Federal: - State: - CDFW: WL BLM: -	Agricultural fields, Wetlands	Not Expected: Suitable habitat for the species is not present.	Present: The species has been observed within the IID Water Service Area.	Not Expected: Suitable habitat for the species is not present.
American peregrine falcon	<i>Falco peregrinus anatum</i>	Federal: - State: - CDFW: S BLM: -	General; wide range of open country habitats from desert mountains to seacoasts	Not Expected: Suitable nesting habitat for the species is not present, foraging activities not likely to be impacted by the Proposed Project.	Not Expected: Suitable nesting habitat for the species is not present, foraging activities not likely to be impacted by the Proposed Project.	Not Expected: Suitable nesting habitat for the species is not present, foraging activities not likely to be impacted by the Proposed Project.
American white pelican	<i>Pelecanus erythrorhynchos</i>	Federal: - State: - CDFW: SSC BLM: -	Aquatic habitat, predominantly Salton Sea	Not Expected: Suitable habitat for the species is not present.	Not Expected: Suitable habitat for the species is not present.	Present: The species has been observed within a particular portion of Action Area.
Arizona Bell's vireo	<i>Vireo bellii arizonae</i>	Federal: - State: SE CDFW: - BLM: BLMS	Riparian forest	Present: Species has been documented along the Lower Colorado River from the Fort Yuma Indian Reservation up to the Cibola National Wildlife Refuge.	Present: Species has been documented within the IID Water Service Area within the Imperial Irrigation District Managed Marsh Complex.	Not Expected: Suitable habitat for the species is not present.
Bald eagle	<i>Haliaeetus leucocephalus</i>	Federal: - State: SE CDFW: FP BLM: BLMS	Agricultural field, Wetlands	Low Potential: The Action Area supports limited habitat for this species.	Low Potential: The Action Area supports limited habitat for this species.	Present: The species has been observed within a particular portion of Action Area.
Bank swallow	<i>Riparia riparia</i>	Federal: - State: ST CDFW: - BLM: BLMS	Riparian scrub, Riparian woodland	Low Potential: The Action Area supports limited habitat for this species.	Present: The species has been observed within the IID Water Service Area.	Low Potential: The Action Area supports limited habitat for this species.
Black skimmer	<i>Rynchops niger</i>	Federal: - State: - CDFW: SSC BLM: -	Aquatic habitat, predominantly Salton Sea	Not Expected: Suitable habitat for the species is not present.	Not Expected: Suitable habitat for the species is not present.	Present: The species has been observed along the Salton Sea.
Black tern	<i>Chlidonias niger</i>	Federal: - State: - CDFW: SSC BLM: -	Agricultural; Aquatic habitat, predominantly Salton Sea	Not Expected: Suitable habitat for the species is not present.	Present: The species has been observed within the IID Water Service Area.	Present: The species has been observed along the Salton Sea.
Brown-crested flycatcher	<i>Myiarchus tyrannulus</i>	Federal: - State: - CDFW: WL BLM: -	Aquatic; riparian groves of cottonwood, mesquite, and willow	Low Potential: The Action Area supports limited habitat for this species.	Moderate Potential: The Action Area supports marginal habitat for this species.	Low Potential: The Action Area supports limited habitat for this species.
Burrowing owl	<i>Athene cunicularia</i>	Federal: - State: - CDFW: SSC BLM: BLMS	Agricultural fields	Present: The species has been observed along the Colorado River.	Present: The species has been observed within the IID Water Service Area.	Present: The species has been observed along the Salton Sea.
California black rail	<i>Laterallus jamaicensis coturniculus</i>	Federal: - State: ST CDFW: FP BLM: BLMS	Wetlands	Present: Resident in Project area, documented at southern end of LCR, within the Imperial National Wildlife Refuge and further north towards the junction of Cibola Lake and the Colorado River.	Present: Resident in Project area, documented in the Imperial Wildlife Area and Imperial Irrigation District Managed Marsh Complex. Further inland they have been observed along the New River and adjacent to the southwestern border of the Chocolate Mountains.	Present: Resident in Project area, bordering the Salton Sea and within the IID Water Service Area California black rail have been documented in the Imperial Wildlife Area and Imperial Irrigation District Managed Marsh Complex.

Potential to Occur						
Common Name	Scientific Name	Sensitivity Status	Preferred Habitat	Lower Colorado River	IID Water Service Area and All-American Canal	Salton Sea
California Brown pelican	<i>Pelecanus occidentalis californicus</i>	Federal: - State: - CDFW: - BLM: BLMS	Aquatic habitat, predominantly Salton Sea	Not Expected: Suitable habitat for the species is not present.	Not Expected: Suitable habitat for the species is not present.	Present: The species has been observed along the Salton Sea.
Cooper's hawk	<i>Accipiter cooperi</i>	Federal: - State: - CDFW: WL BLM: -	Riparian	Present: The species has been observed along the Colorado River.	Present: The species has been observed within the IID Water Service Area.	Low Potential: The Action Area supports limited habitat for this species.
Crissal thrasher	<i>Toxostoma crissale</i>	Federal: - State: - CDFW: SSC BLM: BLMS	Desert	Present: The species has been observed along the Colorado River.	Present: The species has been observed within the IID Water Service Area.	Present: The species has been observed along the Salton Sea.
Elf owl	<i>Micrathene whitneyi</i>	Federal: - State: SE CDFW: - BLM: BLMS	Desert, Riparian	Present: The species has been observed along the Colorado River.	Present: The species has been observed within the IID Water Service Area.	Not Expected: Suitable habitat for the species is not present.
Ferruginous hawk	<i>Buteo regalis</i>	Federal: - State: - CDFW: WL BLM: -	Agricultural fields	Not Expected: Suitable habitat for the species is not present.	Present: The species has been observed within the IID Water Service Area.	Not Expected: Suitable habitat for the species is not present.
Gila woodpecker	<i>Melanerpes uropygialis</i>	Federal: - State: SE CDFW: - BLM: BLMS	Riparian	Present: The species has been observed along the Colorado River.	Present: The species has been observed within the IID Water Service Area.	Present: The species has been observed along the Salton Sea.
Gilded flicker	<i>Colaptes chrysoides</i>	Federal: - State: SE CDFW: - BLM: BLMS	Riparian	Present: The species has been observed along the Colorado River.	Not Expected: Suitable habitat for the species is not present.	Not Expected: Suitable habitat for the species is not present.
Least Bell's vireo	<i>Vireo bellii pusillus</i>	Federal: FE State: SE CDFW: - BLM: -	Riparian forest, Riparian scrub, Riparian woodland	Not Expected: Suitable habitat for the species is not present.	Present: The species has been documented within the IID Water Service Area within the Imperial Irrigation District Managed Marsh Complex and adjacent to the Salton Sea.	Not Expected: Suitable habitat for the species is not present.
Least bittern	<i>Ixobrychus exilis</i>	Federal: - State: - CDFW: SSC BLM: -	Wetland; extensive cattail and bulrush marshes	Present: The species has been observed along the Colorado River.	Not Expected: Suitable habitat for the species is not present.	Present: The species has been observed along the Salton Sea.
Le Conte's thrasher	<i>Toxostoma lecontei</i>	Federal: - State: - CDFW: SSC BLM: BLMS	Desert; open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub	Present: The species has been observed along the Colorado River.	Present: The species has been observed within the IID Water Service Area.	Present: The species has been observed along the Salton Sea.
Long-eared owl	<i>Asio otus</i>	Federal: - State: - CDFW: SSC BLM: -	Riparian; tamarisk scrub habitat along the New and Alamo Rivers, Salton Sea, and agricultural drains	Not Expected: Suitable habitat for the species is not present.	Low Potential: The Action Area supports limited habitat for this species.	Low Potential: The Action Area supports limited habitat for this species.

Potential to Occur						
Common Name	Scientific Name	Sensitivity Status	Preferred Habitat	Lower Colorado River	IID Water Service Area and All-American Canal	Salton Sea
Merlin	<i>Falco columbarius</i>	Federal: - State: - CDFW: WL BLM: -	Extremely diverse habitats ranging from deserts to tropical forests and including prairies, open farmland, and urban areas	Low Potential: The Action Area supports limited habitat for this species.	Present: The species has been observed within the IID Water Service Area.	Present: The species has been observed along the Salton Sea.
Mountain plover	<i>Charadrius montanus</i>	Federal: - State: - CDFW: SSC BLM: BLMS	Agricultural fields; dry, open plains	Present: The species has been observed along the Colorado River.	Present: The species has been observed within the IID Water Service Area.	Present: The species has been observed along the Salton Sea.
Short-eared owl	<i>Asio flammeus</i>	Federal: - State: - CDFW: SSC BLM: -	Agricultural fields; prairies, marshes, grassy plains, and tundra	Low Potential: The Action Area supports limited habitat for this species.	Present: The species has been observed within the IID Water Service Area.	Present: The species has been observed along the Salton Sea.
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Federal: FE State: SE CDFW: - BLM: -	Riparian; cottonwood-willow riparian systems throughout southwestern riverine systems	Present: The species has been documented along the Lower Colorado River near the Palo Verde Diversion Dam, Imperial National Wildlife Refuge and south towards the Laguna Mountains.	Present: the species has been documented east of the Imperial Wildlife Area bordering the Chocolate Mountains, and adjacent to the Salton Sea within the Sonny Bono National Wildlife Refuge and Imperial Irrigation District Managed Marsh Complex.	Not Expected: Suitable habitat for the species is not present.
Summer tanager	<i>Piranga rubra</i>	Federal: - State: - CDFW: SSC BLM: -	Riparian; cottonwood-willow forests along rivers and streams but can also occur in tamarisk stands along the Colorado River	Present: The species has been observed along the Colorado River.	Moderate Potential: The Action Area supports marginal habitat for this species.	Low Potential: The Action Area supports limited habitat for this species.
Vermilion flycatcher	<i>Pyrocephalus rubinus</i>	Federal: - State: - CDFW: SSC BLM: -	Riparian	Present: The species has been observed along the Colorado River.	Present: The species has been observed within the IID Water Service Area	Low Potential: The Action Area supports limited habitat for this species.
Western snowy plover	<i>Charadrius nivosus nivosus</i>	Federal: FT State: - CDFW: SSC BLM: -	Aquatic habitat, predominantly Salton Sea	Not Expected: Suitable habitat for the species is not present.	Not Expected: Suitable habitat for the species is not present.	Present: The species has been observed along the Salton Sea.
Western yellow-billed cuckoo	<i>Coccyzus americanus</i>	Federal: FT State: SE CDFW: - BLM: BMS	Riparian; Mature stands of cottonwood-willow	Present: The species has been observed along the Colorado River.	Low Potential: The Action Area supports limited habitat for this species.	Low Potential: The Action Area supports limited habitat for this species.
White-faced ibis	<i>Plegadis chihi</i>	Federal: - State: - CDFW: WL BLM: -	Agricultural fields, Wetlands; typically nest in extensive marshes, constructing nests in tall marsh plants such as cattails and bulrushes over water	Low Potential: The Action Area supports limited habitat for this species.	Present: The species has been observed within the IID Water Service Area	Present: The species has been observed along the Salton Sea.

Potential to Occur						
Common Name	Scientific Name	Sensitivity Status	Preferred Habitat	Lower Colorado River	IID Water Service Area and All-American Canal	Salton Sea
Yellow warbler	<i>Setophaga petechia</i>	Federal: - State: - CDFW: SSC BLM: -	Riparian; riparian scrub and riparian forest habitats from lowland riparian areas up to the mixed north-slope forest zone	High Potential: The Action Area supports suitable habitat for this species.	Moderate Potential: The Action Area supports marginal habitat for this species.	Low Potential: The Action Area supports limited habitat for this species.
Yellow-breasted chat	<i>Icteria virens</i>	Federal: - State: - CDFW: SSC BLM: -	Riparian; cottonwood-willow riparian habitats, in which they primarily use the willow scrub component	Present: The species has been observed along the Colorado River.	Moderate Potential: The Action Area supports marginal habitat for this species.	Present: The species has been observed along the Salton Sea.
Yuma Ridgeway's Rail	<i>Rallus obsoletus yumanensis</i>	Federal: FE State: ST CDFW: FP BLM: -	Freshwater marsh, Marsh and swamp, Wetland	Present: The species has been documented along the Lower Colorado spanning from the Little Picacho Wilderness Area up through the watershed to the Riverside Mountains Wilderness Area.	Present: The species has been documented at the New and Alamo Rivers within the city of Holtville and along the All-American Canal. Further north towards the Salton Sea the species has been documented within the Sonny Bono National Wildlife Refuge, Imperial Irrigation District Managed Marsh Complex, and Imperial Wildlife Area.	Present: The species has been observed along the Salton Sea.
Mammals						
Big free-tailed bat	<i>Nyctinomops macrotis</i>	Federal: - State: - CDFW: SSC BLM: -	Rugged rocky terrain, although a wide range of habitats, including desert scrub, woodlands, and evergreen forests, are visited during foraging and migration	Low Potential: The Action Area supports limited habitat for this species.	Present: The species has been observed within the IID Water Service Area.	Low Potential: The Action Area supports limited habitat for this species.
California leaf-nosed bat	<i>Macrotus californicus</i>	Federal: - State: - CDFW: SSC BLM: BLMS	Desert scrub, alkali scrub, desert washes, riparian associations, and palm oases	Present: The species has been observed along the Colorado River.	Present: The species has been observed within the IID Water Service Area.	Low Potential: The Action Area supports limited habitat for this species.
Cave myotis	<i>Myotis velifer</i>	Federal: - State: - CDFW: SSC BLM: BLMS	Creosote bush scrub, paloverde, brittlebrush, cactus, and desert riparian	Present: The species has been observed along the Colorado River.	Low Potential: The Action Area supports limited habitat for this species.	Low Potential: The Action Area supports limited habitat for this species.

Potential to Occur

Common Name	Scientific Name	Sensitivity Status	Preferred Habitat	Lower Colorado River	IID Water Service Area and All-American Canal	Salton Sea
Yuma hispid cotton rat	<i>Sigmodon hispidus eremicus</i>	Federal: - State: - CDFW: SSC BLM: -	Agricultural fields, Riparian; occupy moist, grassy habitats where they cut runways through the grass	Present: The species has been observed along the Colorado River.	Present: The species has been observed within the IID Water Service Area.	Present: The species has been observed along the Salton Sea.
FE: Federally endangered FC: Federal Candidate FT: Federally threatened FPT: Federal Proposed threatened FPE: Federal Proposed endangered SE: State endangered ST: State threatened concern				SR: State rare SC: Species of concern SSC: CDFW Species of Special Concern S: CDFW sensitive FP: CDFW fully protected WL: CDFW watch list BLMS: Bureau of Land Management, Sensitive Species		

Appendix BIO-3

QSA EIR/EIS Comparison Impact Table

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TABLE BIO-3
DRAFT SUMMARY OF POTENTIAL BIOLOGICAL IMPACTS WITH IMPLEMENTATION OF THE PROPOSED ACTION COMPARED TO THE QSA ANALYSIS

QSA EIR Impacts	QSA EIR Mitigation	QSA EIR Significance after Mitigation	DRAFT Proposed Action - Impacts	Proposed Mitigation	TCRCP Significance After Mitigation
Lower Colorado River					
BR–1: Reduced flow levels in the LCR could reduce the acreage of cottonwood-willow communities	Under the Proposed Project, Reclamation would implement the following measures to address impacts to southwestern willow flycatchers: • Monitor 372 acres of occupied habitat that could be affected by the change in the point of diversion for 400 KAF of water • Restore and maintain 372 acres of new replacement willow flycatcher habitat along the LCR within 5 years of execution of the SIA that provides federal approval for the water transfer actions • Restore and maintain additional habitat (up to 744 acres) if monitored habitat is found to be affected	Less than significant impact with implementation of biological conservation measures	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic dry year conditions and would not permanently reduce acreage of cotton-wood communities. Any reduction of acreage of cotton-wood communities resulting from reduced flows would be reversed when flow volumes rebound in 2027.	N/A	Less than significant impact
BR–2: Reduced flow levels in the LCR could reduce the acreage of honey mesquite bosque communities	No Mitigation: Although groundwater is the primary source of water for the maintenance of mesquite bosques, additional water is derived from surface flow (e.g., flooding) and precipitation (Minckley and Brown 1982; Stromberg et al. 1992). Some honey mesquite could be lost because of reduced groundwater levels, but the relative magnitude of the impact would be less than for cottonwood-willow habitat because honey mesquite is less sensitive to groundwater changes. Honey mesquite bosque does not provide primary habitat for special-status species, potential changes in the acreage or structural characteristics of honey mesquite under the Proposed Project would be a less-than-significant impact.	Less than significant impact	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic dry year conditions and would not permanently reduce acreage of honey mesquite bosque communities. Any reduction of acreage of honey mesquite bosque communities resulting from reduced flows would be reversed when flow volumes rebound in 2027.	N/A	Less than significant impact
BR–3: Reduced flow levels in the LCR could reduce the acreage of screwbean mesquite bosque communities.	No Mitigation: Mesquite seedlings that germinate in areas with low soil moisture have low survivorship (Stromberg 1993), and mortality, stunting, or extremely slow growth occurs at soil moisture levels of less than 2 percent (Reclamation 1988). Thus, changes in surface water or groundwater elevations could reduce the suitability for mesquite in some areas. The amount or structural characteristics of screwbean mesquite could be altered by reduced surface water or groundwater levels. However, because screwbean mesquite bosque does not provide primary habitat for special-status species, these potential changes would be a less-than-significant impact.	Less than significant impact	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic dry year conditions and would not permanently reduce acreage of screwbean mesquite bosque communities. Any reduction of acreage of screwbean mesquite bosque communities resulting from reduced flows would be reversed when flow volumes rebound in 2027.	N/A	Less than significant impact
BR–4: Reduced flow levels in the LCR could reduce the acreage of backwater habitat	Under the Proposed Project, Reclamation would restore 44 acres of backwater habitat along the LCR between Parker and Imperial Dams. With this replacement of backwater habitat affected by reduced flows, impacts of the Proposed Project to backwater habitat along the LCR would be less than significant.	Less than significant with implementation of biological conservation measures	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic dry year conditions and would not permanently reduce backwater habitat or adversely affect razorback sucker or bonytail chub. Any reduction of acreage of backwater habitat or razorback sucker or bonytail chub resulting from reduced flows would be reversed when flow volumes rebound in 2027.	N/A	Less than significant impact
BR–5: Reduced acreage of cottonwood-willow vegetation could affect special-status species	As described in Impact BR-1 under the Proposed Project, Reclamation would replace cottonwood-willow habitat occupied by willow flycatchers that is affected by reduced flows, and depending on monitoring results, potentially increase the amount of cottonwood- willow habitat. As a result, impacts to other special-status species associated with cottonwood-willow habitat along the LCR would be less than significant.	Less than significant with implementation of biological conservation measures	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic natural dry year conditions and would not permanently reduce acreage of cotton-wood communities or the sensitive species that occupy the habitat. Any reduction of acreage of cotton-wood communities resulting from reduced flows would be reversed when flow volumes rebound in 2027.	N/A	Less than significant impact
BR – 6: Reduced acreage of open water in backwaters could affect special-status wildlife species	Between 14 and 21 acres of emergent vegetation habitat (Table 3.2-37) could be affected by the Proposed Project. As described in Impact BR-4 under the Proposed Project, Reclamation would restore 44 acres of backwaters. Thus, impacts to this habitat and associated special-status species would be less than significant.	Less than significant with implementation of biological conservation measures	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic natural dry year conditions and would not permanently reduce acreage of open water affecting sensitive species that occupy the habitat. Any reduction of acreage of open water resulting from reduced flows would be reversed when flow volumes rebound in 2027.	N/A	Less than significant impact
BR – 7: Reduced acreage of emergent vegetation in backwaters could affect special-status species	As described in Impact BR-4 under the Proposed Project, Reclamation would restore 44 acres of backwaters. Thus, impacts to this habitat and associated special-status species would be less than significant.	Less than significant with implementation of biological conservation measures	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic natural dry year conditions and would not permanently reduce acreage of emergent vegetation affecting sensitive species that occupy the habitat. Any reduction of acreage of emergent vegetation	N/A	Less than significant impact

QSA EIR Impacts	QSA EIR Mitigation	QSA EIR Significance after Mitigation	DRAFT Proposed Action - Impacts	Proposed Mitigation	TCRCP Significance After Mitigation
			resulting from reduced flows would be reversed when flow volumes rebound in 2027.		
BR – 8: Reduced acreage of aquatic habitat could affect special-status fish species	Under the Proposed Project, Reclamation will restore or create 44 acres of backwaters. Reclamation also will re-introduce and monitor 20,000 sub-adult razorback suckers below Parker Dam and continue the ongoing study of Lake Mead for an additional 4 years to determine reasons for persistence of adult razorback suckers in the reservoir. Reclamation will fund the capture of wild-born or F1 generation bonytail chubs from Lake Mohave to be incorporated into broodstock for this species (USFWS 2001). With implementation of these measures, impacts to razorback suckers and bonytail chub under the Proposed Project would be less than significant.	Less than significant with implementation of biological conservation measures	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic dry year conditions and would not permanently reduce aquatic habitat that could adversely affect special status fish species. Any reduction of acreage of aquatic habitat resulting from reduced flows would be reversed when flow volumes rebound in 2027.	N/A	Less than significant impact
BR – 9: Reduced diversions from the LCR could affect special-status fish species	No Mitigation. Razorback suckers could be entrained in canals by water diversion from the LCR. Assuming the potential for entrainment is proportional to the amount of water diverted, the Proposed Project would reduce this potential. Under the Proposed Project, IID would reduce its diversion at Imperial Dam by 200 to 300 KAFY. Water transferred to SDCWA service area or MWD service area would serve as replacement water for these agencies, and the overall amount of water diverted at Parker Dam would not change.	Beneficial impact	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would reduce potential impacts from diversions.	N/A	N/A
IID Water Service Area and All-American Canal					
BR – 10: Reduced Flows in the Drains Could Alter Drain Vegetation and Affect Wildlife	No Mitigation. Much of the vegetation in the drainage system is tamarisk and <i>Phragmites</i> . These exotic and highly invasive species are tolerant of a wide range of conditions. As such, they would adjust to flow changes in the drains, and their occurrence and distribution of species would not change substantially. Cattails and other wetland plants are limited. Cattails are concentrated in the bottom of the drain. Because of the steep sides of the drains, little difference in water depths would occur with lower flow volumes. If drains were drier for longer periods of time, minor, temporary changes in the extent of cattails would potentially occur. However, because drain maintenance activities probably have a greater influence on the extent of vegetation in the drains and the projected decrease in drain flows would be within the range of historic levels, changes in drain flows would not substantially change the amount or composition of drain habitat. Because drain vegetation would not change substantially, the species and numbers of wildlife using the drains would not be substantially affected. Therefore, changes in drain habitat and effects to associated wildlife resulting from changes in drain flows under the Proposed Project would be less than significant.	Less than significant.	Similar to the conclusions in the EIR/EIS, the temporary short-term (3 years) reduction of flows in drains would not reduce vegetation in drainages because water would remain available under current conditions. By-pass flows may be reduced, but vegetation in drains would not be adversely affected compared with existing flow variability. Any reduction in drainage flows would be reversed when flow volumes rebound in 2027.	N/A	Less than significant
BR – 11: Increased Salinity in the Drains Could Alter Drain Vegetation and Affect Wildlife	By increasing the ratio of tilewater to tailwater in the drains, the Proposed Project would increase the salinity in the drains. The total amount of cattail vegetation would decline as would the amount with good growing conditions (Table 3.2-39). With conservation of 300 KAFY under the Proposed Project through on-farm and system-based measures, the acreage of cattails supported in the drains would potentially be reduced by 4 acres. Most (46 acres) of the remaining cattail vegetation would be subjected to salinity levels that could stunt growth and reduce vigor of the plant. If all Fallowing is used to conserve water, there would be no change in salinity in the drains and therefore no impacts to cattail vegetation. Use of Fallowing to meet a portion of the conserved water would result in intermediate effects. However, implementation of the HCP component of the Proposed Project would reduce this potential impact to a less than significant level.	Less than significant with implementation of the HCP	The temporary short-term (3 years) reduction of flows in drains would not increase salinity in the drains that could alter habitat quality because the reduced flows would be temporary and reversed when flow volumes rebound in 2027. By-pass flows may be reduced, but aquatic species in drains would not be adversely affected compared with existing flow variability. Mitigation implemented by IID for QSA. No additional mitigation required.	N/A	Less than significant
BR – 12: Changes in Water Quality in Drains Could Affect Wildlife	Results of the analysis indicate that under the Baseline, the equivalent of approximately 48 miles of drain would be fully affected by waterborne selenium through hatchability effects (Table 3.2-40). Under the Proposed Project, up to an equivalent of about 94 miles would be affected depending on the total amount of conservation and methods of conservation (Table 3.2-40). The potential for reduced reproductive success of birds using the drains constitutes a potentially significant impact of the water conservation and transfer component of the Proposed Project. Implementation of the HCP component of the Proposed Project would reduce this impact to less than significant.	Less than significant with implementation of the HCP	The temporary short-term (3 years) reduction of flows in drainages would not alter water quality because the reduced flows would be temporary would be reversed when flow volumes rebound in 2027. By-pass flows may be reduced, but aquatic species in drainages would not be adversely affected compared with existing flow variability. Mitigation implemented by IID for QSA. No additional mitigation required.	N/A	Less than significant
BR – 13: Reduced flows in the rivers could alter vegetation and affect wildlife	Vegetation along the New and Alamo Rivers consists predominantly of tamarisk, often in dense stands. Tamarisk is a fairly drought-tolerant and invasive exotic species that has a high tolerance for environmental change (Kerpez and Smith 1987; Brotherson and Field 1987; Deloach et al. 1996). As the flow levels in the New and Alamo Rivers decrease under the Proposed Project, tamarisk would colonize newly exposed ground. Because tamarisk can survive on soil water alone, reductions in the groundwater level potentially resulting from reduced flows in the New and Alamo Rivers are unlikely to change the amount of tamarisk along these two rivers. Because the extent of tamarisk along the rivers would not change substantially, wildlife that use this habitat would not be substantially affected.	Less than significant	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic dry year conditions and would not permanently reduce acreages of habitat within the rivers. Any reduction in acreages of habitat would be reversed when flow volumes rebound in 2027.	N/A	Less than significant

QSA EIR Impacts	QSA EIR Mitigation	QSA EIR Significance after Mitigation	DRAFT Proposed Action - Impacts	Proposed Mitigation	TCRCP Significance After Mitigation
BR – 14: Installation of seepage recovery systems could remove tamarisk scrub and affect associated wildlife	No Mitigation. The plant species composition of the seepage communities adjacent to the East Highline Canal is diverse and varies substantially among the seepage areas. Arrowweed, common reed, and tamarisk are the most common species in the seepage communities, with mesquite, cattails, and cottonwoods in some areas. The reduction in acreage of seepage communities has the potential to affect migratory songbirds that use these habitats. However, most of the vegetation consists of tamarisk, which is of limited value to migratory songbirds, and is present in dense stands along rivers and in other locations throughout the region (Guers and Flannery 2000). Furthermore, the potential loss of seepage community vegetation constitutes only 10 percent of the available seepage community vegetation. As only a small amount of the seepage community vegetation would be lost, and the habitat is dominated by non-native plant species, the loss of seepage community vegetation is a less-than-significant impact to wildlife and wildlife habitat.	Less than significant. no impact if only on-farm or fallowing methods are used.	The Proposed Action does not include the installation of seepage recovery systems and therefore will not affect Tamarisk scrub habitat.	N/A	N/A
BR – 15: Reservoir construction could remove Tamarisk Scrub and affect associated wildlife	The small loss of tamarisk potentially resulting from this Project would not adversely affect wildlife or wildlife habitat.	Less than significant	The Proposed Action does not include any proposed ground disturbing construction activities; therefore, BR-15 will not apply.	N/A	N/A
BR – 16: Installation of on-farm irrigation system measures could affect wildlife using agricultural fields	No Mitigation. As described previously, installing on-farm irrigation system improvements could remove a small amount of agricultural field habitat, depending on the improvements implemented, and presents a minor potential for disturbance of wildlife. However, because agricultural field habitat is abundant in the Imperial Valley, the potential loss of some agricultural land is considered a less-than-significant impact to wildlife and wildlife habitat.	Less than significant	The Proposed Action does not include any proposed ground disturbing construction activities; therefore, BR-16 will not apply.	N/A	N/A
BR – 17: Operation of on-farm water conservation measures could affect wildlife using agricultural fields	No Mitigation. Farmers' water conservation practices would not change irrigation practices in a manner that would reduce habitat suitability for wildlife. A given crop consumes a certain amount of water. This consumptive use would not change with water conservation, and a given crop would need to be irrigated at the same frequency as under existing irrigation practices. The water conservation techniques would reduce the amount of tailwater (i.e., surface water that runs off the field), not the amount of water consumed by the crops. Also, except for drip irrigation systems, the water conservation techniques improve the efficiency of surface irrigation, rather than change how the crop is irrigated. For example, tailwater return systems collect and store water from a flood-irrigated field for use in subsequent flood irrigations. The improved efficiencies would reduce the amount of water leaving the field as tailwater. Thus, on-farm irrigation system improvements would not change the suitability of agricultural fields as foraging habitat.	No impact	The temporary short-term (3 years) reduction of active agriculture would temporarily reduce on-farm habitats used by wildlife. Wildlife would access actively farmed lands in close proximity.	N/A	No impact
BR – 18: Installation of system-based water conservation could reduce the acreage of agricultural fields and affect associated wildlife	No Mitigation. These activities could remove about 8,630 acres of agricultural field habitat. Relative to the entire irrigated area of Imperial Valley that covers about 500,000 acres, this potential loss constitutes about 1.7 percent of the agricultural land. Construction would not occur in agricultural fields under active production so the potential for disturbance of species using this habitat would be minor. Because agricultural field habitat is abundant in the Imperial Valley, the potential loss of some agricultural land is considered a less-than-significant impact to wildlife and wildlife habitat.	Less than significant	The Proposed Action does not include any proposed ground disturbing construction activities; therefore, BR-18 will not apply.	N/A	N/A
BR – 19: Fallowing could reduce the acreage of agricultural fields and affect associated wildlife	No Mitigation. Fallowing could reduce the acreage of irrigated agriculture available in the IID water service area at any one time. If only Fallowing is used to conserve water, about 50,000 acres of land would be needed. This acreage represents about 10 percent of the irrigated area in the IID water service area. Even with this reduction, agricultural field habitat would remain abundant in the IID water service area, consisting of about 450,000 acres. Because agricultural field habitat is abundant in the Imperial Valley, the potential loss of some agricultural land is considered a less-than- significant impact to wildlife and wildlife habitat. This potential effect would not occur if only on-farm irrigation system and water delivery system improvements are used to conserve water.	Less than significant.	The temporary short-term (3 years) reduction of active agriculture would temporarily reduce on-farm habitats used by wildlife. Wildlife would access actively farmed lands in close proximity.	N/A	Less than significant
BR – 20: Fallowing would not change the amount of desert habitat	No Mitigation. The likelihood of desert plants becoming reestablished would be influenced by the proximity of the retired land to desert habitat, soil conditions, and rainfall among others. Land retired for short periods of time probably would not be colonized by desert plants. Some fields in the Imperial Valley that have been out of agricultural production for many years do not support vegetation. The limited amount of vegetation that has developed consists of ruderal species rather than native desert plant species. Thus, Fallowing would not change the amount of desert habitat or otherwise affect wildlife associated with desert habitats.	No impact.	The temporary short-term (3 years) reduction of active agriculture would temporarily reduce on-farm habitats used by wildlife. Wildlife would access actively farmed lands in close proximity.	N/A	No Impact
BR – 21: Reduced flows in the drain could affect fish and aquatic habitat	Reductions in flows (and resulting decreases in water depths) could make fish residing in the drains more vulnerable to predation by fish-eating birds. The overall impact of this potential increase in predation, however, is moderated by the generally high turbidity of drainwater and thus the low visibility of fish in the drains. Reductions in the amount or	Less than significant	Similar to the conclusions in the EIR/EIS, the temporary short-term (3 years) reduction of flows in drains would not affect aquatic habitat or species in drains because water would remain available under	N/A	Less than significant

QSA EIR Impacts	QSA EIR Mitigation	QSA EIR Significance after Mitigation	DRAFT Proposed Action - Impacts	Proposed Mitigation	TCRCP Significance After Mitigation
	quality of aquatic habitat as a result of flow reductions in the drains not emptying to the Salton Sea would affect only aquatic invertebrates and non- native fish (e.g., tilapia, mosquitofish, and carp) that periodically inhabit these drains. No special-status species inhabit the drains emptying to the New and Alamo Rivers. Desert pupfish (a state- and federal-listed species) inhabit drains emptying directly to the Salton Sea and are not found in the New or Alamo Rivers or their drains. Impacts to desert pupfish, resulting from the Proposed Project, are discussed under Impact BR-24.		current conditions. By-pass flows may be reduced, but aquatic species in drains would not be adversely affected compared with existing flow variability. Any reduction in aquatic habitat would be reversed when flow volumes rebound in 2027.		
BR – 22: Water quality changes in the drains and rivers could affect fish and aquatic habitat	No Mitigation. The increase in selenium concentrations could reduce reproductive success of fish in the drains and rivers. The Proposed Project also would increase the miles of drains, with average salinity levels exceeding 4,000 mg/L. Except for desert pupfish, which inhabit drains that discharge directly to the Sea, all the fish in the drains and rivers are introduced species. A potential for reduced reproductive success of fish in the rivers and drains is not considered a significant impact to fish resources, because all the species are introduced species. Impacts to desert pupfish are addressed separately under Impact BR-24.	Less than significant	Similar to the conclusions in the EIR/EIS, the temporary short-term (3 years) reduction of flows in drains would not affect water quality in drains because water would remain available under current conditions.	N/A	Less than significant
BR – 23: Reduced flows in the rivers could affect fish and aquatic habitat	Fish populations in the New and Alamo Rivers are probably limited by food availability and water quality rather than by flow. The anticipated reductions in flows at the upper level of conservation would not significantly reduce the amount of fish habitat or limit fish productivity in the rivers. Reductions in the amount or quality of aquatic habitat as a result of flow reductions in the New and Alamo Rivers would affect only aquatic invertebrates and non-native fish. Therefore, impacts from flow reductions would be less than significant.	Less than significant	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic dry year conditions and would not permanently reduce acreages of habitat within rivers. Any reduction in aquatic habitat would be reversed when flow volumes rebound in 2027.	N/A	Less than significant
BR – 24: Reduced flows in the drains could affect desert pupfish	The changes in flow and water quality in the drains discharging directly to the Sea and supporting pupfish constitute a potentially significant impact of the water conservation and transfer component of the Proposed Project. However, implementation of the HCP component of the Proposed Project would reduce this potential impact to less than significant (see Impact BR – 38).	Less than significant with implementation of the HCP	The temporary short-term (3 years) reduction of flows in drains would not alter water quality or habitat availability due to the temporary reductions. The reductions would mimic natural dry year conditions due to climate variability. By-pass flows may be reduced, but aquatic species in drains would not be adversely affected compared with existing flow variability. Any reduction in drain habitat would be reversed when flow volumes rebound in 2027. Mitigation implemented by IID for QSA. No additional mitigation required.	N/A	Less than significant
BR – 25: Construction of system-based measures could affect Razorback suckers	Under the Proposed Project, the amount of water in the conveyance system would be reduced by 300 KAFY. Although the volume of water would be reduced, this reduction would not affect the amount of aquatic habitat in the canal system because the water surface elevation in the conveyance system is tightly controlled to maximize hydroelectric power generation and efficient delivery of irrigation water. Installation of some water delivery system improvements (e.g., canal lining) would require dewatering the canal. In accord with the HCP, a qualified biologist will be on-site when canals are dewatered. If razorback suckers are found in the canal when it is dewatered, they will be captured and returned to LCR. Thus, adverse impacts to razorback suckers would be avoided.	Less than significant with implementation of the HCP	The Proposed Action does not include any proposed ground disturbing construction activities; therefore, BR-25 will not apply. Mitigation implemented by IID for QSA. No additional mitigation required.	N/A	Less than significant
BR – 26: Water quality changes in the drains could affect special-status species	Assuming water conservation using on-farm irrigation-system and water delivery system improvements, the Proposed Project would decrease the concentration of pesticides in drainwater (as associated with TSS and sediment-associated contaminants), benefiting the special-status species associated with drain habitat, but the concentration of selenium, salinity, and dissolved constituents in the drains would increase relative to the Baseline. If no change in water quality conditions, as explained for Alternative 4. Thus, the magnitude of water quality changes under the Proposed Project would depend on the amount of water conserved through Fallowing. Nevertheless, the increase in selenium concentration that would occur with conservation using on-farm irrigation system and/or water delivery system improvements is a potentially significant impact of the water conservation and transfer component of the Proposed Project on special-status species. However, implementation of the HCP component of the Proposed Project would reduce this potential impact to less than significant. The HCP (Appendix C) contains a more detailed evaluation of the effects of implementing the HCP on special-status species.	Less than significant with implementation of the HCP	The temporary short-term (3 years) reduction of flows in drains would not alter water quality due to the temporary reductions. By-pass flows may be reduced, but aquatic species in drainages would not be adversely affected compared with existing flow variability. Any reduction in drain habitat would be reversed when flow volumes rebound in 2027. Mitigation implemented by IID for QSA. No additional mitigation required.	N/A	Less than significant
BR – 27: Changes in drain habitat could affect special-status species	The predicted reduction in cattails could adversely affect Yuma clapper rails and other special-status species using the drains. This effect constitutes a potentially significant impact of the water conservation and transfer component of the Proposed Project. In addition to changes in physical habitat, increased selenium concentration in the drains under the Proposed Project could adversely affect Yuma clapper rails and other special-status species using the drains. These potential effects are addressed under Impact BR –	Less than significant with implementation of the HCP	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic dry year conditions and would not permanently reduce acreages of habitat within drains that are occupied by special status species. Any reduction in drain habitat would be reversed when flow volumes	N/A	Less than significant

QSA EIR Impacts	QSA EIR Mitigation	QSA EIR Significance after Mitigation	DRAFT Proposed Action - Impacts	Proposed Mitigation	TCRCP Significance After Mitigation
	26. These water quality changes also are a potentially significant impact of the water conservation and transfer component of the Proposed Project. However, implementation of the HCP component of the Proposed Project would reduce these potential impacts to less than significant (see Impact BR – 32). The HCP (Appendix C) contains a more detailed evaluation of the effects of implementing the HCP on special-status species associated with drain habitat.		rebound in 2027. Mitigation implemented by IID for QSA. No additional mitigation required.		
BR – 28: Changes in the Tamarisk Scrub habitat could affect special-status species	The Proposed Project would not significantly reduce the availability of tamarisk scrub supported by the agricultural drains or along the New and Alamo Rivers as a result of changes in flow or water quality. Installation of seepage recovery systems and lateral interceptors could eliminate about 58 acres of tamarisk scrub habitat. This small reduction in tamarisk scrub would not significantly adversely affect special-status species because (1) tamarisk is common and abundant throughout the project area, (2) tamarisk is of limited habitat quality, and (3) none of the special-status species depend on this habitat.	No Impact	The Proposed Action does not include any proposed ground disturbing construction activities, or installation of seepage recovery systems; therefore, BR-28 will not apply.	N/A	No Impact
BR – 29: Water conservation practices could affect special-status species associated with agricultural fields	No Mitigation. As explained under Impacts BR-16, BR-18, and BR -19, installation of on-farm irrigation system and water delivery system improvements or fallowing would not substantially reduce the availability of agricultural lands in the IID water service area. Thus, the Proposed Project would not significantly affect special-status species associated with agricultural fields. Section 3.8 of the HCP (Appendix C) provides a species-by-species evaluation of the impacts of the Proposed Project on special-status species associated with agricultural fields in the IID water service area.	Less than significant	The temporary short-term (3 years) reduction of active agriculture would temporarily reduce on-farm habitats used by wildlife. Wildlife would access actively farmed lands in close proximity.	N/A	Less than significant
BR – 30: Water conservation practices could affect special-status species associated with desert habitat	The only features of the Proposed Project that could affect desert habitat would be water delivery system improvements involving construction (e.g., canal lining, reservoirs) along the canals adjacent to desert habitat. No regulating reservoirs, mid-lateral reservoirs, or canal lining are proposed along these canals. Seepage recovery systems could be installed along the East Highline Canal, but these systems would be constructed on the agricultural field side of the canal. Thus, no construction activities required for the water delivery system improvements would occur in desert habitat, and no significant impacts to special-status species would occur as a result of the water conservation and transfer component of the Proposed Project.	No Impact	The Proposed Action does not include any proposed ground disturbing construction activities, or installation of seepage recovery systems; therefore, BR-30 will not apply.	N/A	No Impact
BR – 31: Water conservation practices could affect burrowing owls.	No Mitigation. Fallowing could be used to generate a portion of the water conserved under the Proposed Project. As explained in more detail for Alternative 4 under Impact A4-BR-13, Fallowing has the potential to reduce the availability of insects on which burrowing owls prey. If fallowed fields are concentrated in a few areas, potentially, owls would abandon territories adjacent to fallowed fields. Because Fallowing would be only one of many methods used to conserve water under the Proposed Project and because owls are not limited by prey availability in the Imperial Valley, the amount of land fallowed would not reduce prey populations to a level that would be expected to cause owls to abandon territories. The HCP (Appendix C) contains a more detailed evaluation of the effects of implementing various water conservation activities and the HCP on burrowing owls.	Less than significant	The temporary short-term (3 years) reduction of active agriculture would temporarily reduce on-farm habitats used by wildlife. Wildlife would access actively farmed lands in close proximity.	N/A	Less than significant
HCP-BR – 32: Creation of managed marsh habitat would benefit wildlife associated with drain habitat	With implementation of the HCP component, the Proposed Project would have beneficial effects on special-status species associated with drain habitat. Section 3.5 Drain Habitat Conservation Strategy of the HCP (Appendix C) provides additional information on the effects of implementing the Drain Habitat Conservation Strategy on habitat conditions for species associated with drain habitat and the responses of special-status species.	Beneficial impact	This impact does not apply to the Proposed Action.	N/A	N/A
HCP-BR – 33: Creation of managed marsh could decrease agricultural field habitat	This potential reduction in agricultural field habitat would not significantly affect species using this habitat for two reasons. First, 652 acres constitutes a small amount (about 0.1 percent) of the total agricultural area in the IID water service area. Even with consideration of the potential loss of agricultural field habitat from other aspects of the Proposed Project (e.g., installation of tailwater return systems), agricultural land would remain abundant. Secondly, some of the species using agricultural fields also would use managed marsh habitat (e.g., white-faced ibis), resulting in no net loss of habitat value.	No impact	This impact does not apply to the Proposed Action.	N/A	N/A
HCP-BR – 34: Creation of native tree habitat could benefit wildlife associated with Tamarisk Scrub	By compensating for tamarisk scrub permanently lost with native tree habitat, species associated with tamarisk scrub would benefit from higher habitat quality. Section 3.4, Tamarisk Scrub Habitat Conservation Strategy of the HCP, provides additional information on the effects of implementing the Tamarisk Scrub Habitat Conservation Strategy on habitat conditions for species associated with tamarisk and the responses of special-status species.	Beneficial impact	This impact does not apply to the Proposed Action..	N/A	N/A
HCP-BR – 35: The desert habitat conservation strategy would avoid impacts to	Species not associated with desert habitat would not be affected by measures implemented under the Desert Habitat Conservation Strategy.	No impact	This impact does not apply to the Proposed Action..	N/A	N/A

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wildlife associated with desert habitat	Section 3.6, Desert Habitat Conservation Strategy of the HCP, provides additional information on the effects of implementing this strategy on desert habitat and the responses of special-status species.				
HCP-BR – 36: Avoidance measures would benefit burrowing owls	Implementation of the HCP would minimize adverse impacts associated with these activities while perpetuating aspects of the IID water service area's activities that benefit owls. The Burrowing Owl Conservation Strategy would contribute to the persistence of burrowing owls in the Imperial Valley and thereby further benefit the species. Section 3.7.1, Burrowing Owls of the HCP, discusses the effects of implementing this strategy on burrowing owls.	Beneficial impact	This impact does not apply to the Proposed Action.	N/A	N/A
HCP-BR – 37: Avoidance measures of burrowing owl conservation strategy would benefit other special-status species	The Burrowing Owl Conservation Strategy includes requirements to avoid construction activities and certain earth-disturbing O&M activities along the drains and canals during the owl's breeding period, if occupied burrows would be affected. If other species breed nearby, they would similarly benefit from the avoidance measure for burrowing owls.	Beneficial impact	This impact does not apply to the Proposed Action..	N/A	N/A
HCP-BR – 38: Desert pupfish conservation strategy would increase habitat for pupfish	With implementation of the HCP component, the Proposed Project would benefit desert pupfish. Section 3.7.2, Desert Pupfish of the HCP, discusses the response of desert pupfish to the HCP measures.	Beneficial impact	This impact does not apply to the Proposed Action..	N/A	N/A
HCP-BR – 39: Increased habitat from the desert pupfish conservation strategy would benefit other special-status species	The Desert Pupfish Conservation Strategy includes maintaining the existing amount of desert pupfish habitat and increasing the amount of pupfish habitat as the elevation of the Salton Sea recedes. So, this Strategy would contribute to maintaining and increasing the amount of drain habitat, benefiting species associated with drain habitat, both those with and without special state or federal status.	Beneficial impact	This impact does not apply to the Proposed Action..	N/A	N/A
HCP-BR – 40: HCP measures would avoid impacts to Razorback Suckers	Under the HCP, IID would salvage razorback suckers found when canals are dewatered and transport the fish to the LCR for release. As a result of this action, significant impacts to razorback suckers would be avoided.	No Impact	This impact does not apply to the Proposed Action..	N/A	No Impact
Salton Sea					
BR – 41: Reduced drain flows could affect adjacent wetlands dominated by cattail/bulrush vegetation	No Mitigation. The Salton Sea database identifies 217 acres of adjacent wetlands dominated by cattails and bulrushes. In the IID water service area, the Salton Sea database identifies three parcels dominated by cattails: one on the southwestern edge (35 acres) and two on the southern edge (32 acres). A fourth parcel on the eastern edge of the Sea is dominated by bulrushes (17 acres). The remaining 133 acres identified as adjacent wetland dominated by cattail or bulrush are adjacent to the northwestern area of the Salton Sea in CVWD's service area. Because cattails and bulrush cannot tolerate saline water, these areas must be supported by a freshwater source (i.e., drainwater from CVWD or IID). The Proposed Project would increase freshwater flows in drains in the CVWD service area and would potentially increase freshwater flows to the 133-acre adjacent wetland in the CVWD service area. The remaining three areas identified as adjacent wetlands are misclassified in the Salton Sea database. The first parcel of 35 acres is a managed duck club and does not meet the definition of an adjacent wetland (i.e., unmanaged areas). Of the two parcels totaling 32 acres, one is an IID drain, and the other is a marsh managed by USFWS. The drain parcel is managed by IID as part of its drainage system; impacts to drain vegetation are addressed under Impact BR- 10. The other parcel managed by USFWS does not meet the definition of an adjacent wetland (i.e., unmanaged areas). Habitat values of the parcel managed by USFWS and the duck club would not change with implementation of the Proposed Project; therefore, the two parcels would not be affected. The last parcel encompassing 17 acres is sustained by runoff from CDFG's managed marsh area in the Wister Unit. Because CDFG would not change management of marsh areas in the Wister Unit under the Proposed Project, the amount of water leaving the Wister Unit and supporting the 17-acre parcel would not change. Therefore, this parcel would not be affected under the Proposed Project.	No impact	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic dry year conditions and would not permanently reduce acreages of habitat adjacent to the Salton Sea including the emerging wetlands on the newly exposed playa. By-pass flows may be reduced, but flows would still reach the Salton Sea after flowing through adjacent wetland habitats. Any reduction of emerging wetland areas resulting from reduced flows would be reversed when flow volumes rebound in 2027.	N/A	No impact
BR – 42: Reduced sea elevation could affect the acreage of adjacent wetlands dominated by tamarisk and shoreline strand	No Mitigation. The extent to which the water surface elevation of the Sea contributes to supporting this community is uncertain. Depending on the relationship between the water surface elevation of the Sea and maintenance of the shoreline strand and adjacent wetlands, water conservation under the Proposed Project could change the amount of tamarisk scrub habitat in shoreline strand and adjacent wetland areas. There is, however, uncertainty about the extent and likelihood of these possible changes. As the Sea recedes, tamarisk could establish at lower elevations, replacing habitat lost at high elevations. Alternatively, it has been suggested that tamarisk will not establish in areas exposed by a receding sea level because of excessive soil salinity (Reclamation and SSA 2000). In areas where drainwater or shallow groundwater is the predominant water source, no change in tamarisk-dominated adjacent wetlands is expected. It is not possible to predict the	Less than significant	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic dry year conditions and would not permanently reduce acreages of habitat adjacent to the Salton Sea including the emerging wetlands on the newly exposed playa. By-pass flows may be reduced, but flows would still reach the Salton Sea after flowing through adjacent wetland habitats. Any reduction of emerging wetland areas resulting from reduced	N/A	Less than significant

QSA EIR Impacts	QSA EIR Mitigation	QSA EIR Significance after Mitigation	DRAFT Proposed Action - Impacts	Proposed Mitigation	TCRCP Significance After Mitigation
	magnitude of changes in tamarisk in shoreline strand and adjacent wetland areas. Although it is not possible to predict the magnitude of change in the tamarisk adjacent to the Salton Sea, a reduction in the amount would not be anticipated to cause a significant impact because (1) tamarisk is an invasive, non-native species of poor habitat quality for wildlife and (2) no special-status species depend on tamarisk. Implementation of the Salton Sea Conservation Strategy under the HCP component of the Proposed Project would further ensure that no significant impacts occur.		flows would be reversed when flow volumes rebound in 2027.		
BR – 43: Increased salinity would change invertebrate resources in the Salton sea	In accord with the significance criteria, because no invertebrates are candidate, sensitive, or special-status species, the acceleration in the changes in the invertebrate community of the Salton Sea is not a significant impact (less than significant). Regardless of the Proposed Project, the Salton Sea is naturally transitioning to a more saline system, as has occurred at Mono Lake and the Great Salt Lake. The change in the composition of the invertebrate community in and of itself is not a significant impact but could significantly affect bird or fish resources through reduced food availability. These potential impacts are addressed separately under Impact BR-44.	Less than significant	The temporary short-term (3 years) reduction of flows in drains would not degrade water quality compared to the long-term (up to 75 years) reductions posed by the QSA. Increased salinity may accelerate during the short-term (3 years) period of reduced flows, but would not result in increased salinity compared to long term impacts identified in the EIR/EIS.	N/A	Less than significant
BR – 44: Changes in the invertebrate community could affect shorebirds and other waterbirds:	Mono Lake is designated as part of the Western Hemisphere Shorebird Network and is 1 of only 17 sites in the Western Hemisphere with this designation. The lake supports large numbers of migrating shorebirds. Wilson's and red-necked phalaropes are abundant with maximum counts of about 45,000 and 70,000, respectively (Jones & Stokes Associates 1993). Annual counts of eared grebes typically range from 600,000 to 900,000 (Jones & Stokes Associates 1993). Other abundant shorebird species identified by Point Reyes Bird Observatory during surveys conducted in late August 1989, 1990, and 1991 were American avocet (8,467), western sandpiper (4,043), and least sandpiper (1,408). Ruddy ducks also are common with Christmas bird counts typically in the range of 500 to 900. Other shorebird species in smaller numbers at Mono Lake include black-bellied plover, greater and lesser yellowlegs, long-billed curlews, black-necked stilts, semipalmated plover, and willets. The species of shorebirds that use Mono Lake also occur at the Salton Sea as migratory birds or winter residents (see Tables 3.2-19 and 3.2-20). Similarly, eared grebes and ruddy ducks are abundant at both Mono Lake and the Salton Sea. Given that the shorebird and waterbird (grebes and ruddy ducks) species that use the Sea also use Mono Lake, in which the brine flies and brine shrimp are the primary prey species, it is reasonable to expect that these species would similarly exploit brine flies and brine shrimp as they become the dominant invertebrate at the Salton Sea. Therefore, changes in the invertebrate community would have less-than-significant impacts on shorebirds and other waterbirds using this resource.	Less than significant	The temporary short-term (3 years) reduction of flows due to reduced orders by IID would mimic dry year conditions and would not permanently reduce acreages of habitat at the Salton Sea including the emerging wetlands on the newly exposed playa. Habitat may recede during the period of reduced flows but would rebound following resumption of flows in 2027 and would not result in reduced habitat acreage compared to long term impacts identified in the EIR/EIS.	N/A	Less than significant
BR – 45: Increased salinity would reduce fish resources in the Salton Sea	Under both the Baseline and the Proposed Project, the salinity of the Salton Sea would rise and exceed levels at which fish species inhabiting the Salton Sea could reproduce. For gulf croaker and tilapia, the thresholds could be exceeded up to 5 and 11 years earlier under the Proposed Project, resulting in earlier declines in these two species. This acceleration is considered a less-than-significant impact to fish resources for two reasons. First, the differences between when species-specific salinity thresholds would be exceeded are small (5 to 11 years). Second, based on the significance criteria, only effects to candidate, sensitive or special-status species or certain effects to native fish (e.g., nursery habitat, migratory routes) constitute significant biological impacts. Because all fish species are introduced, non- native species, the impacts are less than significant.	Less than significant	The temporary short-term (3 years) reduction of flows in drains would not degrade water quality compared to the long-term (up to 75 years) reductions posed by the QSA. Increased salinity may accelerate during the short-term (3 years) period of reduced flows but would not result in increased salinity compared to long term impacts identified in the EIR/EIS.	N/A	Less than significant
BR – 46: Reduced fish abundance would affect piscivorous birds	The projected changes in fish abundance would occur under both the Proposed Project and the Baseline. The Proposed Project would accelerate the changes in fish abundance and the subsequent response of piscivorous birds by about 11 years. The earlier occurrence of adverse effects to piscivorous birds is considered a significant, but avoidable, impact of the water conservation and transfer component of the Proposed Project. Implementation of the HCP component of the Proposed Project would reduce this impact to less than significant.	Less than significant with implementation of the HCP	The temporary short-term (3 years) reduction of flows in drains would not reduce habitat compared to the long-term (45-75 years) reductions posed by the QSA. Reduced fish abundance would be similar to long term impacts identified in the EIR/EIS.	N/A	Less than significant
BR – 47: Changes in selenium in the Salton Sea would not affect fish and birds	No Mitigation. The Proposed Project would decrease annual loading of selenium to the Salton Sea relative to the Baseline. However, selenium exhibits unusual behavior in the Salton Sea, concentrating in the sediment rather than the water column. Most selenium in the Sea is in sediments, and the sediments are the dominant source for exposure to aquatic organisms. It is not possible to predict the selenium concentrations in biota or specific environmental media that would occur with implementation of the Proposed Project. However, it is likely that the Sea will continue to maintain waterborne concentrations near the current level of 2 µg/L and would not change exposure of fish and birds to waterborne selenium. The Proposed Project would decrease the amount of selenium entering the Salton Sea relative to the Baseline and in that way reduce the annual accumulation of selenium in sediments. However, because of the large amount of selenium stored in Sea sediments, the slight reduction in selenium loading relative to the Baseline would not	No impact	As concluded in the EIR/EIS, reduced flows would reduce loading of selenium into the Salton Sea. The temporary short-term (3 years) reduction of flows in drains would not degrade water quality compared to the long-term (up to 75 years) reductions posed by the QSA.	N/A	No impact

QSA EIR Impacts	QSA EIR Mitigation	QSA EIR Significance after Mitigation	DRAFT Proposed Action - Impacts	Proposed Mitigation	TCRCP Significance After Mitigation
	substantially change the exposure of fish and birds to selenium in the sea, in general. Therefore, the Proposed Project would have no effect on exposure of fish and birds to selenium in the Salton Sea.				
BR – 48: Reduced sea elevation could affect colonial nest/roost sites	Hérons and egrets, along with other species, nest in communal rookeries in trees, large shrubs, and snags around the Salton Sea. In general, these rookeries are found over water or in trees in marshes or on islands. However, they also occur over land. Like the nesting/roosting islands and islets described, snags probably are in only a few feet of water. As with the nesting/roosting islands, these snags would connect to the mainland under both the Proposed Project and the Baseline, occurring up to 7 years earlier under the Proposed Project. Because of the small temporal difference in the snags connecting to the mainland, and considering that herons and egrets nest and roost in snags that are not surrounded by water, the Proposed Project would not significantly affect communal rookeries in snags or trees at the Salton Sea.	Less than significant	The temporary short-term (3 years) reduction of flows in drains may accelerate the reduction in sea elevation, but would not alter the long term predictions of the Salton Sea elevation resulting from the long-term (up to 75 years) reductions posed by the QSA.	N/A	Less than significant
BR – 49: Reduced sea elevation could affect the availability of mudflat and shallow water habitat	No Mitigation. Under both the Proposed Project and Baseline, shallow water/mudflat habitat could be lost or reduced as the Sea recedes, but under both alternatives, new areas of shallow water/mudflat habitat also would be created as the Sea recedes. Because the magnitude and likelihood of changes in the amount and characteristics of shallow water/mudflat habitat, either positively or negatively, would not differ substantially between the Proposed Project and the Baseline, the Proposed Project would not significantly affect the availability of shallow water/mudflat habitat.	Less than significant	The temporary short-term (3 years) reduction of flows in drains may accelerate the reduction in sea elevation, but would not alter the long term predictions of the Salton Sea elevation resulting from the long-term (up to 75 years) reductions posed by the QSA.	N/A	Less than significant
BR – 50: Water quality changes could increase the incidence of avian disease outbreaks	No Mitigation. The links between lake enrichment, productivity, and bird disease are weak and ill-defined. Nevertheless, conditions contributing to avian disease outbreaks would persist under both the Baseline and Proposed Project. Relative to the Baseline, the Proposed Project would likely reduce phosphorus and sediment-associated loading, but nitrate loading would increase along with dissolved constituents in general. It is unknown what such a change in the mix of nutrient loads would have on lake productivity. Regardless, the lake is already highly eutrophic, and trophic states are not quantitatively linked to avian disease. As a result, a change in the mix of nutrient loading under the Proposed Project is not expected to increase the incidence of avian disease.	No impact	The temporary short-term (3 years) reduction of flows in drains would not alter the long term predictions of the Salton Sea water quality resulting from the long-term (up to 75 years) reductions posed by the QSA.	N/A	No impact
BR – 51: Increased salinity could isolate drains supporting desert pupfish	Desert pupfish have a high salinity tolerance. Using 90 g/L as the threshold for when pupfish could no longer move among drains via the Salton Sea (Salton Sea Science Subcommittee 1999), the salinity projections for the Baseline show that salinity of the Sea would not exceed 90 g/L in 75 years. Under the Proposed Project, with conservation of 300 KAFY the salinity of the Sea would exceed 90 g/L in 2022. At this salinity, the Sea could become intolerable to pupfish and prevent them from moving among drains. If the Sea becomes a barrier to pupfish, pupfish could be isolated in individual drains. Small, isolated populations are at risk of extinction because of environmental and genetic stochasticity. Ultimately, this condition also would occur under the Baseline, but at a later time. However, because of the large difference in when pupfish populations could be isolated between the Baseline and Proposed Project, this is a potentially significant impact of the water conservation and transfer component of the Proposed Project. However, implementation of the HCP component of the Proposed Project would reduce this impact to less than significant. Habitat Conservation Plan (Salton Sea Portion) - The Salton Sea Conservation Strategy of the HCP has several components to address potential impacts to biological resources at the Salton Sea. The strategy generally consists of measures to address the following: - Effects to piscivorous birds from an accelerated decline in fish abundance - Effects to nesting/roosting sites from an accelerated decline in water surface elevation - Effects to species associated with tamarisk scrub from greater magnitude and rate of decline in water surface elevation - Effects to pupfish from accelerated increase in salinity levels Approach 2 from QSA was implemented: <u>HCP (Salton Sea Portion) Approach 2: Use of Conserved Water as Mitigation</u> Under Approach 2, IID would conserve additional water (beyond that required for transfer) and use it as mitigation water to offset the inflow reduction to the Salton Sea. In this way, IID would avoid any changes in inflow to the Sea from conservation and transfer of water. Thus, changes in the salinity, surface elevation, and surface area of the Sea under Approach 2	Less than significant with implementation of the HCP Note: IID implemented Approach 2 instead of Approach 1, as detailed in the QSA. HCP1-BR-52 through 55 were not implemented following completion of the QSA EIR/EIS.	The temporary short-term (3 years) reduction of flows in drains would not degrade water quality compared to the long-term (up to 75 years) reductions posed by the QSA. Increased salinity may accelerate during the short-term (3 years) period of reduced flows but would not result in increased salinity compared to long term impacts identified in the EIR/EIS. This impact does not apply to the Proposed Action	N/A	Less than significant

QSA EIR Impacts	QSA EIR Mitigation	QSA EIR Significance after Mitigation	DRAFT Proposed Action - Impacts	Proposed Mitigation	TCRCP Significance After Mitigation
	would be the same as the No Project alternative. The response of biological resources to change in salinity and surface elevation would be the same as described for the No Project alternative. By avoiding changes in inflow to the Sea from water conservation, this approach would avoid impacts to biological resources of the Sea.				
HCP1-BR – 52: Maintenance of fish resources would benefit piscivorous birds	Under the Baseline, the abundance of tilapia is expected to decline in about 2023, when the salinity of the Sea is projected to exceed 60 g/L. At this point, as described previously under Impact BR – 46, use of the Salton Sea by piscivorous birds would be expected to decline. As noted, tilapia have been collected at a salinity as high as 120 g/L. Assuming that fish could be successfully stocked until the salinity of the Sea surpasses 120 g/L. Approach 1 could maintain tilapia (and therefore use by piscivorous birds) at the Salton Sea until about 2032, about 10 years longer than under the Baseline. Following the stocking program, IID would construct ponds to continue to provide fish. The ponds would be maintained through the end of the permit term unless a long-term restoration project was implemented. In combination with the fish hatchery, Approach 1 would provide certainty that foraging opportunities would be available at the Sea for 75 years. In contrast, under the Baseline, by the end of the 75-year period, the salinity is projected to be about 86 g/L, and with few fish expected to persist, use of the Salton Sea by piscivorous birds likely would be minimal. Implementation of Approach 1 would ensure that foraging habitat was available throughout the 75-year permit term and benefit piscivorous birds (beneficial impact). The HCP contains a species-by-species evaluation of the effects of Approach 1 on species proposed for coverage under the HCP.	Note: IID implemented Approach 2 instead of Approach 1, as detailed in the QSA. HCP1-BR-52 through 55 were not implemented following completion of the QSA EIR/EIS	This impact does not apply to the Proposed Action	N/A	N/A
HCP1-BR – 53: Creation of nesting/roosting islands would benefit Gull-billed Terns and Black skimmers	Under the Baseline, islands currently used by black skimmers, gull-billed terns, and other colonial birds are projected to become connected to the mainland by 2015. The islands created under Approach 1 would be located so they would not become connected to the mainland. Therefore, they would be available to black skimmers, gull-billed terns, and other birds for a longer period of time than under the Baseline, benefiting these species.	Note: IID implemented Approach 2 instead of Approach 1, as detailed in the QSA. HCP1-BR-52 through 55 were not implemented following completion of the QSA EIR/EIS	This impact does not apply to the Proposed Action	N/A	N/A
HCP1-BR – 54: Creation of native tree habitat could benefit wildlife associated with Tamarisk Scrub	Tamarisk scrub is poor quality habitat, and most of the species associated with tamarisk scrub in the Proposed Project area find optimal habitat in native riparian communities or mesquite bosque. By compensating for net loss in tamarisk scrub with native tree habitat, species associated with tamarisk scrub would benefit from the higher habitat quality of the replacement habitat.	Note: IID implemented Approach 2 instead of Approach 1, as detailed in the QSA. HCP1-BR-52 through 55 were not implemented following completion of the QSA EIR/EIS	This impact does not apply to the Proposed Action	N/A	N/A
HCP1-BR – 55: Maintenance of population connectivity would benefit desert pupfish	To avoid the potential for isolating pupfish populations in the drains, under the HCP, IID would ensure continued genetic exchange among populations. When the salinity of the Salton Sea reaches 90 g/L (or lower as determined by the HCP Implementation Team), IID would implement actions agreed to by USFWS and CDFG to ensure genetic interchange among the pupfish populations in the drains. In addition to ensuring connectivity among pupfish populations, IID would contribute to the recovery of desert pupfish by constructing and managing a Tier 3 refugium pond to support a population of pupfish consistent with the goals of the Desert Pupfish Recovery Plan (Marsh and Sada 1993). This pond would increase the overall desert pupfish population and decrease the risk of loss of genetic diversity and extinction.	Note: IID implemented Approach 2 instead of Approach 1, as detailed in the QSA. HCP1-BR-52 through 55 were not implemented following completion of the QSA EIR/EIS	This impact does not apply to the Proposed Action	N/A	N/A

Appendix HYDRO-1

Flow Statistics Tables

Under the Proposed Action, IID will reduce diversions up to 300,000 acre feet (AF)/year from the Colorado River for a period of three years resulting in a maximum 900,000 AF of conserved water. The effect of the Proposed Action on the flow of water in the LCR and within the IID service area was evaluated as an average flow reduction, evenly applied both spatially and temporally. Monthly variability in discharge to the Salton Sea in the IID drain network under existing conditions was analyzed and compared to the Proposed Action for each drain.

IID's diversions from the Lower Colorado River have been decreasing since the implementation of the QSA in 2002 as shown in Table H1-1. An annual diversion of 2.535 MAF is assumed in this analysis as the existing average flow volume through the IID system. This volume is the same assumption used for DWR's SSAM and the Long Range Plan (DWR, 2022). The annual proportional reduction in diversions to IID using the Proposed annual reduction of 300 TAF divided by 2.535 MAF is 11.9 percent. To characterize the magnitude of monthly diversions to IID, the mean monthly and annual diversion volumes were calculated for the years 2000 through 2020 and re-scaled by the ratio of the 22-year annual average of 2.753 MAF and 2.535 MAF (**Table H1-1** and **Figure H1-1**). The mean monthly diversion volumes were then converted to mean daily diversion rates in cfs for existing conditions. The estimated mean daily diversion rate under the Proposed Action for each month was calculated by subtracting 414 cfs from the existing conditions mean daily mean diversion rate (**Table H1-2**). As a check, the diversion rate-weighted mean was calculated and was found to be 11.9 percent, which is in accord with the proportion of the Proposed annual reduction. The results are summarized in Table H1-2.

Estimates of the reduction in monthly drain flow to the Salton Sea were made by applying the monthly proportional reduction in Table H1-2 of the Proposed diversion reductions to mean monthly drain flow for the 2017 to 2023 period (Table H1-3). The standard deviation of monthly drain flow in AF was calculated for existing conditions and under the Proposed Action. In this way, the relative magnitude of drain discharge variability under existing conditions was compared to the magnitude of the effect of flow reduction under the Proposed Action. The effect of the Proposed Action would reduce flows by approximately 11.9 percent on annual basis. However, since a proportional reduction in discharge was applied to each monthly drain discharge, the relative effect of the Proposed Action is highest in those months with the least flow. For instance, the effect of flow reduction in the IID drainage network is lower in months with high runoff (April through September) and highest in months with lower runoff (October through March).

This average monthly flow reduction would be well within the standard deviation of historic (last five years) drainage flows for every drain. That is to say, impacts of the flow reduction would not significantly alter the pattern of flow variability for every drain. During any month of the year under existing conditions, drain flows vary significantly more than the 11.9 percent increment estimated to be the effect of the Proposed Action.

TABLE H1-1

U.S. BUREAU OF RECLAMATION COLORADO RIVER MONTHLY DIVERSIONS (AF) TO IMPERIAL IRRIGATION DISTRICT FOR YEARS 2000 TO 2022

Colorado River Monthly Diversions (AF) to Imperial Irrigation District													
Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
2000	159,534	179,174	283,818	352,066	362,321	332,461	352,379	305,213	179,293	145,911	179,311	145,975	2,977,456
2001	125,766	167,868	221,562	342,406	371,484	339,109	370,894	340,093	293,193	265,665	198,881	154,005	3,190,927
2002	153,082	192,273	277,049	332,514	360,734	333,917	377,089	341,232	272,637	257,724	187,775	143,876	3,230,252
2003	162,274	126,025	278,351	336,869	339,641	319,043	341,347	293,460	265,472	270,714	178,927	154,238	3,066,361
2004	141,009	142,098	266,314	296,357	331,689	321,012	325,220	299,970	254,353	200,251	142,698	101,823	2,822,794
2005	107,626	92,107	264,840	319,404	340,457	318,711	339,173	264,213	265,738	216,677	187,354	144,226	2,860,526
2006	155,181	177,064	236,042	299,375	342,111	316,698	326,189	302,081	265,331	244,800	176,117	153,336	2,994,325
2007	157,668	174,743	287,839	317,642	333,477	310,384	339,390	290,303	249,979	230,433	149,390	11,278	2,952,526
2008	121,090	179,039	302,559	354,756	326,038	294,192	324,639	288,199	234,857	221,274	164,539	107,926	2,919,108
2009	149,728	138,256	291,539	318,877	284,424	254,593	271,045	249,091	215,700	228,542	159,637	119,923	2,679,356
2010	87,028	103,002	245,534	291,276	321,872	282,699	311,096	274,205	245,160	186,780	169,938	122,179	2,640,769
2011	148,868	131,536	271,913	317,419	317,743	305,923	333,956	303,172	243,663	240,458	159,160	125,542	2,899,353
2012	146,018	175,122	282,788	332,230	334,585	316,965	303,373	244,271	240,452	243,470	166,409	111,919	2,897,602
2013	128,295	138,943	246,298	291,516	294,139	276,919	265,914	222,207	184,563	224,741	142,898	119,019	2,535,452
2014	112,654	147,221	240,771	267,407	300,923	283,010	291,138	215,476	199,711	192,825	153,596	91,696	2,496,428
2015	114,944	149,559	225,000	273,215	218,767	256,347	248,279	241,971	205,432	217,581	174,857	129,697	2,455,649
2016	84,186	168,966	241,342	242,006	275,253	280,128	254,111	235,997	198,192	203,110	156,965	121,306	2,461,562
2017	58,392	127,709	245,589	268,744	283,328	279,141	261,534	228,921	215,151	229,926	156,229	133,951	2,488,615
2018	123,031	165,030	222,166	281,155	298,009	279,935	258,328	242,009	205,137	210,785	150,338	79,292	2,515,215
2019	89,225	120,375	225,344	273,787	312,564	289,701	293,201	275,510	227,562	220,660	123,027	78,841	2,529,797
2020	110,253	133,835	147,400	236,304	327,819	288,291	277,937	244,294	216,451	220,493	158,613	125,686	2,487,376
2021	92,643	144,715	253,897	290,313	301,824	287,866	283,947	255,113	215,127	212,376	150,661	129,428	2,617,910
2022	125,484	173,712	268,163	302,782	326,101	290,967	258,839	211,687	169,125	190,311	163,413	132,451	2,613,035
Average:	124,086	149,929	253,309	301,670	317,622	298,174	304,740	268,204	228,795	220,674	163,075	119,027	2,753,582

Source: Colorado River Accounting and Water Use Report: Arizona, California, and Nevada for years 2000 through 2022. Available at <https://www.usbr.gov/lc/region/g4000/wtracct.html>

TABLE H1-2
ESTIMATED EXISTING CONDITIONS AND PROPOSED ACTION COLORADO RIVER MONTHLY USBR DIVERSION RATES (CFS) TO IID

Month	Existing Diversion (cfs)	Proposed Diversion (cfs)	Proposed Monthly Reduction (cfs)	Percent Reduction
January	1,857.9	1,443.5	414.4	22.3%
February	2,485.3	2,070.9	414.4	16.7%
March	3,792.7	3,378.3	414.4	10.9%
April	4,667.3	4,252.9	414.4	8.9%
May	4,755.6	4,341.2	414.4	8.7%
June	4,613.2	4,198.8	414.4	9.0%
July	4,562.7	4,148.3	414.4	9.1%
August	4,015.7	3,601.3	414.4	10.3%
September	3,539.8	3,125.4	414.4	11.7%
October	3,304.0	2,889.6	414.4	12.5%
November	2,523.0	2,108.6	414.4	16.4%
December	1,782.1	1,367.7	414.4	23.3%
				<i>Weighted Mean: 11.9%</i>

Source: ESA analysis of Colorado River Accounting and Water Use Report: Arizona, California, and Nevada for years 2000 through 2022. Available at <https://www.usbr.gov/lc/region/g4000/wtracct.html>

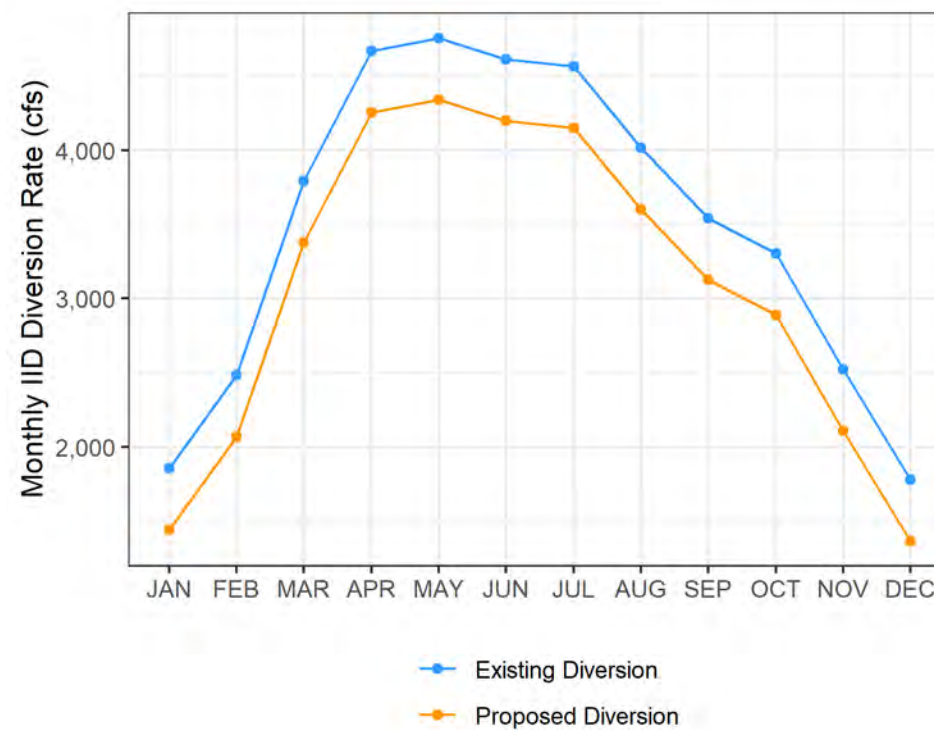
FIGURE H1-1. ESTIMATED EXISTING CONDITIONS AND PROPOSED ACTION COLORADO RIVER MONTHLY USBR DIVERSION RATES (CFS) TO IID

TABLE H1-3

SUMMARY OF MONTHLY MEAN IID DRAIN DISCHARGE (AF) FOR EXISTING CONDITIONS AND DRAIN DISCHARGE REDUCTION (AF) UNDER THE PROPOSED ACTION. THE STANDARD DEVIATION (SD) OF THE MEAN MONTHLY IID DRAIN DISCHARGE THE PROPOSED ACTION MONTHLY FLOW REDUCTION ARE ALSO PRESENTED

Drain	Month	Existing Mean Monthly AF	Proposed Mean Monthly AF	Existing Mean Monthly SD	Proposed Mean Reduction AF
Niland Drain 1	1	29.3	24.9	17.8	4.4
Niland Drain 1	2	20.9	16.9	15.2	4.0
Niland Drain 1	3	61.3	56.9	61.3	4.4
Niland Drain 1	4	38.0	33.7	21.0	4.3
Niland Drain 1	5	29.2	24.8	21.9	4.4
Niland Drain 1	6	46.6	42.3	39.0	4.3
Niland Drain 1	7	53.2	48.8	46.4	4.4
Niland Drain 1	8	32.8	28.4	16.6	4.4
Niland Drain 1	9	40.5	36.3	20.6	4.3
Niland Drain 1	10	34.6	30.2	29.2	4.4
Niland Drain 1	11	21.6	17.3	11.2	4.3
Niland Drain 1	12	29.7	25.2	8.1	4.4
Niland Drain 2	1	35.8	24.2	15.2	11.7
Niland Drain 2	2	42.8	32.3	17.7	10.5
Niland Drain 2	3	65.0	53.4	50.3	11.7
Niland Drain 2	4	91.7	80.4	56.1	11.3
Niland Drain 2	5	121.8	110.2	85.1	11.7
Niland Drain 2	6	165.9	154.6	69.3	11.3
Niland Drain 2	7	168.0	156.4	39.9	11.7
Niland Drain 2	8	144.0	132.3	52.0	11.7
Niland Drain 2	9	121.4	110.1	36.3	11.3
Niland Drain 2	10	103.3	91.6	60.4	11.7
Niland Drain 2	11	63.1	51.8	24.6	11.3
Niland Drain 2	12	35.8	24.2	10.6	11.7
Niland Drain 3	1	13.8	10.1	16.4	3.7
Niland Drain 3	2	30.6	27.3	13.0	3.4
Niland Drain 3	3	29.7	26.0	17.6	3.7
Niland Drain 3	4	35.3	31.7	34.8	3.6
Niland Drain 3	5	30.0	26.2	24.7	3.7
Niland Drain 3	6	37.6	34.0	27.1	3.6
Niland Drain 3	7	48.9	45.2	49.8	3.7
Niland Drain 3	8	44.4	40.7	31.7	3.7
Niland Drain 3	9	41.1	37.5	36.7	3.6
Niland Drain 3	10	30.4	26.6	27.9	3.7
Niland Drain 3	11	19.4	15.8	16.7	3.6
Niland Drain 3	12	9.5	5.7	7.2	3.7

Drain	Month	Existing Mean Monthly AF	Proposed Mean Monthly AF	Existing Mean Monthly SD	Proposed Mean Reduction AF
Niland Drain 4	1	18.6	15.2	21.2	3.4
Niland Drain 4	2	20.1	17.0	10.9	3.1
Niland Drain 4	3	26.7	23.2	15.4	3.4
Niland Drain 4	4	28.9	25.5	19.7	3.3
Niland Drain 4	5	18.8	15.4	28.7	3.4
Niland Drain 4	6	20.9	17.6	17.3	3.3
Niland Drain 4	7	33.4	30.0	35.9	3.4
Niland Drain 4	8	35.5	32.1	46.4	3.4
Niland Drain 4	9	54.7	51.4	71.6	3.3
Niland Drain 4	10	46.0	42.6	45.4	3.4
Niland Drain 4	11	18.5	15.1	7.2	3.3
Niland Drain 4	12	19.5	16.0	22.3	3.4
O Drain	1	444.0	376.7	153.0	67.4
O Drain	2	403.7	342.9	119.6	60.8
O Drain	3	641.6	574.2	152.0	67.4
O Drain	4	633.4	568.2	210.8	65.2
O Drain	5	624.3	557.0	126.1	67.4
O Drain	6	625.3	560.1	210.5	65.2
O Drain	7	663.1	595.8	345.0	67.4
O Drain	8	715.9	648.5	359.8	67.4
O Drain	9	597.2	532.0	259.0	65.2
O Drain	10	429.0	361.6	221.8	67.4
O Drain	11	431.3	366.1	138.1	65.2
O Drain	12	474.1	406.7	165.3	67.4
P Drain	1	176.6	134.8	100.6	41.8
P Drain	2	278.8	241.1	71.2	37.8
P Drain	3	368.1	326.3	82.7	41.8
P Drain	4	447.9	407.5	174.0	40.4
P Drain	5	474.6	432.8	82.3	41.8
P Drain	6	534.4	494.0	83.2	40.4
P Drain	7	502.1	460.3	85.4	41.8
P Drain	8	399.2	357.4	96.1	41.8
P Drain	9	303.7	263.3	92.5	40.4
P Drain	10	202.9	161.1	161.1	41.8
P Drain	11	260.0	219.6	160.6	40.4
P Drain	12	198.9	157.1	73.3	41.8
Pumice Drain	1	497.8	424.1	630.4	73.7
Pumice Drain	2	440.4	373.9	596.2	66.6
Pumice Drain	3	671.4	597.7	900.7	73.7

Drain	Month	Existing Mean Monthly AF	Proposed Mean Monthly AF	Existing Mean Monthly SD	Proposed Mean Reduction AF
Pumice Drain	4	622.8	551.4	1057.1	71.3
Pumice Drain	5	547.6	473.9	855.4	73.7
Pumice Drain	6	632.0	560.7	791.9	71.3
Pumice Drain	7	647.7	574.0	826.4	73.7
Pumice Drain	8	489.0	415.3	628.4	73.7
Pumice Drain	9	540.8	469.5	715.8	71.3
Pumice Drain	10	790.4	716.7	1075.0	73.7
Pumice Drain	11	806.9	735.5	972.1	71.3
Pumice Drain	12	626.2	552.5	744.0	73.7
Q Drain	1	134.2	109.4	82.9	24.8
Q Drain	2	122.5	100.2	82.1	22.4
Q Drain	3	182.2	157.4	71.5	24.8
Q Drain	4	230.4	206.4	61.0	24.0
Q Drain	5	299.9	275.1	154.6	24.8
Q Drain	6	281.0	257.0	112.6	24.0
Q Drain	7	311.1	286.3	123.0	24.8
Q Drain	8	244.5	219.7	88.3	24.8
Q Drain	9	226.9	202.9	105.6	24.0
Q Drain	10	153.0	128.2	134.3	24.8
Q Drain	11	142.6	118.6	59.5	24.0
Q Drain	12	130.9	106.1	46.5	24.8
R Drain	1	114.1	82.7	26.0	31.4
R Drain	2	134.8	106.5	49.4	28.4
R Drain	3	255.8	224.4	106.8	31.4
R Drain	4	264.9	234.5	120.4	30.4
R Drain	5	413.9	382.5	121.3	31.4
R Drain	6	331.5	301.2	67.6	30.4
R Drain	7	301.5	270.1	111.0	31.4
R Drain	8	391.1	359.7	175.0	31.4
R Drain	9	399.1	368.7	253.3	30.4
R Drain	10	254.4	223.0	174.8	31.4
R Drain	11	125.0	94.6	74.1	30.4
R Drain	12	129.1	97.7	32.3	31.4
S Drain	1	134.3	116.6	99.2	17.6
S Drain	2	122.7	106.8	88.2	15.9
S Drain	3	157.5	139.9	47.8	17.6
S Drain	4	133.4	116.3	43.3	17.1
S Drain	5	211.8	194.2	81.7	17.6
S Drain	6	185.6	168.6	56.9	17.1

Drain	Month	Existing Mean Monthly AF	Proposed Mean Monthly AF	Existing Mean Monthly SD	Proposed Mean Reduction AF
S Drain	7	179.0	161.4	58.1	17.6
S Drain	8	193.9	176.2	38.1	17.6
S Drain	9	143.7	126.7	54.3	17.1
S Drain	10	97.9	80.2	58.3	17.6
S Drain	11	86.1	69.0	60.4	17.1
S Drain	12	102.8	85.2	87.5	17.6
San Felipe Wash	1	167.9	154.1	113.6	13.7
San Felipe Wash	2	107.8	95.4	64.6	12.4
San Felipe Wash	3	106.8	93.1	60.7	13.7
San Felipe Wash	4	58.0	44.7	22.5	13.3
San Felipe Wash	5	37.7	24.0	25.4	13.7
San Felipe Wash	6	54.1	40.8	45.2	13.3
San Felipe Wash	7	90.3	76.5	52.5	13.7
San Felipe Wash	8	113.7	99.9	69.4	13.7
San Felipe Wash	9	119.6	106.3	79.8	13.3
San Felipe Wash	10	123.1	109.4	96.2	13.7
San Felipe Wash	11	175.6	162.3	107.2	13.3
San Felipe Wash	12	208.7	194.9	169.7	13.7
T Drain	1	318.6	293.9	101.6	24.6
T Drain	2	296.1	273.9	96.4	22.2
T Drain	3	224.6	200.0	125.5	24.6
T Drain	4	194.0	170.2	46.9	23.8
T Drain	5	236.0	211.3	92.6	24.6
T Drain	6	194.1	170.3	86.4	23.8
T Drain	7	172.1	147.5	52.7	24.6
T Drain	8	143.0	118.4	97.7	24.6
T Drain	9	96.6	72.8	53.8	23.8
T Drain	10	99.1	74.5	93.6	24.6
T Drain	11	237.5	213.7	155.5	23.8
T Drain	12	230.1	205.5	83.4	24.6
Trifolium 1 Drain	1	1560.4	1417.7	1567.1	142.7
Trifolium 1 Drain	2	1141.2	1012.3	1112.0	128.9
Trifolium 1 Drain	3	1313.9	1171.1	1180.1	142.7
Trifolium 1 Drain	4	1184.7	1046.5	837.5	138.1
Trifolium 1 Drain	5	847.0	704.2	867.2	142.7
Trifolium 1 Drain	6	866.7	728.6	772.0	138.1
Trifolium 1 Drain	7	858.1	715.3	751.7	142.7
Trifolium 1 Drain	8	913.0	770.2	794.0	142.7
Trifolium 1 Drain	9	801.6	663.4	918.6	138.1

Drain	Month	Existing Mean Monthly AF	Proposed Mean Monthly AF	Existing Mean Monthly SD	Proposed Mean Reduction AF
Trifolium 1 Drain	10	1269.3	1126.6	1372.0	142.7
Trifolium 1 Drain	11	1810.1	1671.9	1790.5	138.1
Trifolium 1 Drain	12	1596.9	1454.2	1679.4	142.7
Trifolium 12 Drain	1	214.0	159.2	104.7	54.8
Trifolium 12 Drain	2	375.2	325.7	104.8	49.5
Trifolium 12 Drain	3	605.4	550.7	244.5	54.8
Trifolium 12 Drain	4	598.4	545.4	164.5	53.0
Trifolium 12 Drain	5	523.7	468.9	93.7	54.8
Trifolium 12 Drain	6	425.3	372.3	79.4	53.0
Trifolium 12 Drain	7	502.0	447.2	63.0	54.8
Trifolium 12 Drain	8	465.3	410.5	79.9	54.8
Trifolium 12 Drain	9	454.9	401.9	84.4	53.0
Trifolium 12 Drain	10	663.3	608.5	746.5	54.8
Trifolium 12 Drain	11	334.4	281.4	119.4	53.0
Trifolium 12 Drain	12	273.0	218.2	106.2	54.8
Trifolium 20A Drain	1	43.1	38.1	44.1	5.0
Trifolium 20A Drain	2	29.0	24.5	25.4	4.5
Trifolium 20A Drain	3	39.8	34.8	24.9	5.0
Trifolium 20A Drain	4	45.8	41.0	24.1	4.9
Trifolium 20A Drain	5	42.9	37.9	13.6	5.0
Trifolium 20A Drain	6	51.7	46.8	24.9	4.9
Trifolium 20A Drain	7	64.8	59.8	42.6	5.0
Trifolium 20A Drain	8	59.9	54.8	32.8	5.0
Trifolium 20A Drain	9	49.5	44.7	27.7	4.9
Trifolium 20A Drain	10	28.8	23.7	26.2	5.0
Trifolium 20A Drain	11	21.6	16.7	25.6	4.9
Trifolium 20A Drain	12	20.8	15.8	29.1	5.0
Trifolium 22 Drain	1	239.9	205.4	85.3	34.5
Trifolium 22 Drain	2	264.2	233.1	57.2	31.2
Trifolium 22 Drain	3	651.6	617.1	306.6	34.5
Trifolium 22 Drain	4	506.5	473.1	81.3	33.4
Trifolium 22 Drain	5	206.0	171.5	70.1	34.5
Trifolium 22 Drain	6	162.0	128.6	85.1	33.4
Trifolium 22 Drain	7	226.6	192.1	84.0	34.5
Trifolium 22 Drain	8	248.4	213.9	81.1	34.5
Trifolium 22 Drain	9	179.0	145.6	63.8	33.4
Trifolium 22 Drain	10	219.4	184.9	114.4	34.5
Trifolium 22 Drain	11	258.0	224.6	58.4	33.4
Trifolium 22 Drain	12	260.6	226.1	70.5	34.5

Drain	Month	Existing Mean Monthly AF	Proposed Mean Monthly AF	Existing Mean Monthly SD	Proposed Mean Reduction AF
Trifolium 23 Drain	1	228.3	194.1	97.8	34.2
Trifolium 23 Drain	2	245.9	215.0	80.1	30.9
Trifolium 23 Drain	3	339.9	305.7	97.3	34.2
Trifolium 23 Drain	4	314.2	281.1	90.4	33.1
Trifolium 23 Drain	5	247.5	213.3	60.5	34.2
Trifolium 23 Drain	6	239.9	206.8	121.1	33.1
Trifolium 23 Drain	7	347.3	313.1	215.2	34.2
Trifolium 23 Drain	8	257.1	222.9	117.2	34.2
Trifolium 23 Drain	9	308.8	275.7	106.9	33.1
Trifolium 23 Drain	10	312.1	277.9	171.3	34.2
Trifolium 23 Drain	11	302.4	269.3	165.6	33.1
Trifolium 23 Drain	12	250.4	216.2	127.8	34.2
U Drain	1	231.5	216.7	168.6	14.8
U Drain	2	189.0	175.6	102.4	13.4
U Drain	3	127.2	112.4	78.7	14.8
U Drain	4	98.0	83.7	39.4	14.3
U Drain	5	72.4	57.6	36.2	14.8
U Drain	6	55.5	41.2	19.8	14.3
U Drain	7	56.3	41.5	19.3	14.8
U Drain	8	79.2	64.4	29.2	14.8
U Drain	9	98.1	83.7	59.1	14.3
U Drain	10	83.8	69.0	90.3	14.8
U Drain	11	162.1	147.8	147.2	14.3
U Drain	12	215.3	200.5	140.6	14.8
W+Y Drain	1	38.2	16.7	48.6	21.5
W+Y Drain	2	67.0	47.6	78.8	19.4
W+Y Drain	3	140.6	119.1	126.7	21.5
W+Y Drain	4	179.7	158.9	156.2	20.8
W+Y Drain	5	241.5	220.0	171.7	21.5
W+Y Drain	6	353.3	332.5	225.0	20.8
W+Y Drain	7	328.0	306.5	214.1	21.5
W+Y Drain	8	224.1	202.6	205.3	21.5
W+Y Drain	9	219.0	198.2	233.1	20.8
W+Y Drain	10	177.3	155.8	155.0	21.5
W+Y Drain	11	100.5	79.7	94.3	20.8
W+Y Drain	12	64.7	43.1	51.2	21.5
Z Drain	1	216.7	175.0	230.7	41.7
Z Drain	2	220.5	182.8	202.0	37.6
Z Drain	3	249.9	208.3	130.1	41.7

Drain	Month	Existing Mean Monthly AF	Proposed Mean Monthly AF	Existing Mean Monthly SD	Proposed Mean Reduction AF
Z Drain	4	279.3	239.0	49.6	40.3
Z Drain	5	341.7	300.0	94.9	41.7
Z Drain	6	446.2	405.9	88.9	40.3
Z Drain	7	499.2	457.5	98.9	41.7
Z Drain	8	404.4	362.7	120.0	41.7
Z Drain	9	382.4	342.0	64.2	40.3
Z Drain	10	272.5	230.8	165.3	41.7
Z Drain	11	516.4	476.1	706.5	40.3
Z Drain	12	304.9	263.2	333.0	41.7

Appendix HYDRO-2

Playa Evaporation Assessment

PLAYA EVAPORATION ASSESSMENT

Hydrology / Water Quality

An analysis was conducted to estimate evapotranspiration (ET) demand for the natural communities mapped along the exposed Salton Sea playa that are fed by IID drain flows. Species dominance within each natural community was used to create representative ET values. ET demand in AF were calculated for several representative areas of the exposed playa where drain data was available (**Figure H2-1**). Six land cover types were not treated as channel-fed vegetation and were excluded from the ET analysis: these were agriculture, barren land, developed land, disturbed land, salt-panne, and the unvegetated channel/ditch beds. Evapotranspiration was calculated by using meteorological data to estimate the evapotranspiration rate for a reference cover, E_{t0} , (an irrigated grass surface) and applying a crop adjustment factor, K_v , to yield an estimated rate for the target vegetation type, E_{tv} . Crop adjustment factors have been calculated for a range of commercial crops and some native vegetation types (e.g., cattail marsh and willow-cottonwood forest), but were not available for all the covers present in the Action Area. Where no crop adjustment factors were available, a comparable vegetation type was substituted. For example, Tamarisk Thickets were modeled as large stand riparian, while Iodine Bush-Bush Seepweed Scrub were modeled as large stand permanent wetlands (**Table H2-1**). Monthly and annual reference cover E_{t0} rates were obtained from the California Irrigation Management Information System (CIMIS) meteorological station 41 at Calipatria, in the center of the Action Area and transformed to average ET in AF for each vegetation type in the Action Area (**Table H2-2**). Multiplying the average ET in AF for each vegetation type by the acreage of each mapped natural community polygon yields monthly estimate of ET demand (**Table H2-3**).

The drain data consisted of mean monthly flows in AF (**see Appendix HYDRO-1**) in 24 of the 29 IID drains with flow recorders that flow to the Salton Sea. Five aggregated natural community polygons were created (groups): three locations on the west shore where spatially adjacent natural communities were clearly supplied drain water from a single source were each aggregated, and two locations on the east shore where spatial adjacent natural communities were fed by multiple drains. In the latter case, monthly drain data were also aggregated for the analysis.

The analysis compared estimated ET demands of the existing mapped vegetation with the volume of flows from the drains, attempting to compare water demand with water availability. The analysis assumes that ET values are evenly distributed within each vegetation polygon. Actual conditions show this to be a conservative assumption because most polygons show a heterogenous mix of healthy and stressed vegetation. Similarly, the analysis assumes that the flow application is evenly distributed within the vegetation polygon. This is a conservative assumption because aerial images show that flows are directed in channels that meander and change over time, conveying some flow directly to the Sea.

Monthly and annual ET demand and drain flow volumes were compared under existing conditions to the Proposed Action conditions (**Table H2-4** and **Table H2-5**). The comparison shows that under existing conditions, there are some months in three of the five vegetation drain groups where ET demand is greater than the supply of drain water (values in red shown in Table H2-4). In the month of June, the East Drains, Elmore Lake Spill to San Felipe Wash, and the Trifolium 22 Drain groups show a deficit of drain flows. Elmore Lake Spill to San Felipe Wash show a deficit in June and July. Moreover, in the east drains the deficit spanned May through November. However, on an annual basis all the groups show a surplus of drain flows. A similar pattern for the water balance was found under the Proposed Action conditions (Table H2-6), except that the deficit during the summer months was greater. In the East Drains the span of months with a deficit was the same as for existing conditions. In addition, the span of deficit in the Pumice Drain and the Trifolium 22 Drain included the month of July. However, overall, there was not a deficit of drain flows on an annual basis due to the Proposed Action.

TABLE H2-1
NATURAL COMMUNITIES AND LAND COVER TYPES ALONG THE SALTON SEA IN THE IID ACTION AREA

Natural Community	ET Vegetation Type
Arrow Weed-Bush Seepweed Thickets/Scrub	Large stand riparian
Arrow Weed-Bush Seepweed Thickets/Scrub	large stand riparian
Bush Seepweed Scrub	large stand permanent wetland
Cattail Marsh	large stand permanent wetland
Cattail-Common Reed Marsh	large stand permanent wetland
Common Reed Marsh	large stand permanent wetland
Iodine Bush Scrub	large stand riparian
Iodine Bush-Bush Seepweed Scrub	large stand permanent wetland
Iodine Bush-Cattail Scrub/Marsh	large stand permanent wetland
Tamarisk Thickets	large stand riparian
Tamarisk-Allscale Thickets/Scrub	large stand riparian
Tamarisk-Arrow Weed Thickets	large stand riparian
Tamarisk-Arrow Weed-Bush Seepweed Thickets/Scrub	large stand permanent wetland
Tamarisk-Arrow Weed-Iodine Bush Thickets/Scrub	large stand riparian
Tamarisk-Arrow Weed-Quailbush Thickets/Scrub	large stand riparian
Tamarisk-Bush Seepweed Thickets/Scrub	large stand permanent wetland
Tamarisk-Cattail Thickets/Marsh	large stand permanent wetland
Tamarisk-Cattail-Common Reed Thickets/Marsh	large stand permanent wetland
Tamarisk Common Reed Thickets/Marsh	large stand permanent wetland
Tamarisk-Iodine Bush Thickets/Scrub	large stand riparian
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	large stand permanent wetland
Tamarisk-Iodine Bush-Common Reed Thickets/Scrub/Marsh	large stand permanent wetland
Tamarisk-Iodine Bush-Quailbush Thickets/Scrub	large stand riparian
Tamarisk-Quailbush Thickets/Scrub	large stand riparian
Tamarisk-Quailbush-Cattail Thickets/Scrub/Marsh	large stand permanent wetland
Tamarisk-Quailbush-Common Reed Thickets/Scrub/Marsh	large stand permanent wetland

SOURCE: ESA

TABLE H2-2
MONTHLY AVERAGE EVAPOTRANSPIRATION (AF) FOR REFERENCE VEGETATION TYPES IN THE IID ACTION AREA.

ET Vegetation type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Mean Evapotranspiration (AF)												
Large stand permanent wetland	0.7	0.7	0.8	1	1.05	1.2	1.2	1.2	1.05	1.1	1	0.75
Cottonwood	0.81	0.72	0.61	0.66	0.82	0.94	1.02	1.02	1.07	1.08	0.88	0.89

TABLE H2-3
VEGETATION TYPE, ACREAGE, DRAIN GROUP AND MONTHLY EVAPOTRANSPIRATION FOR MAPPED VEGETATION POLYGONS IN THE IID ACTION AREA.

Natural Community	ET Vegetation type	Acres	Drain Group	Jan ET	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Evapotranspiration (AF)															
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	0.5	East Drains	0.1	0.1	0.2	0.3	0.4	0.5	0.5	0.4	0.3	0.2	0.1	0.1
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	19.8	East Drains	2.9	3.9	7.1	11.5	14.7	17.8	18.2	16.7	11.7	9.1	5.1	2.8
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	23.3	East Drains	4.0	4.8	6.4	9.0	13.5	16.5	18.2	16.7	14.1	10.6	5.3	3.9
Iodine Bush-Cattail Scrub/Marsh	Large stand permanent wetland	1.9	East Drains	0.3	0.4	0.7	1.1	1.4	1.7	1.8	1.6	1.1	0.9	0.5	0.3
Iodine Bush Scrub	cottonwood	2.0	East Drains	0.3	0.4	0.6	0.8	1.2	1.4	1.6	1.5	1.2	0.9	0.5	0.3
Tamarisk Thickets	cottonwood	0.6	East Drains	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.4	0.4	0.3	0.1	0.1
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	252.3	East Drains	43.4	51.5	69.1	97.0	146.5	178.4	196.8	180.7	152.2	114.4	57.1	42.1
Tamarisk-Cattail-Common Reed Thickets/Marsh	Large stand permanent wetland	0.9	East Drains	0.1	0.2	0.3	0.5	0.7	0.8	0.8	0.8	0.5	0.4	0.2	0.1
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	1.6	East Drains	0.2	0.3	0.6	0.9	1.2	1.5	1.5	1.4	1.0	0.7	0.4	0.2
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	36.2	East Drains	6.2	7.4	9.9	13.9	21.0	25.6	28.3	25.9	21.8	16.4	8.2	6.0
Tamarisk Thickets	cottonwood	424.3	East Drains	72.9	86.7	116.3	163.0	246.4	299.9	330.9	303.8	255.9	192.3	96.0	70.8
Iodine Bush Scrub	cottonwood	12.7	East Drains	2.2	2.6	3.5	4.9	7.4	9.0	9.9	9.1	7.7	5.8	2.9	2.1
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	63.0	East Drains	10.8	12.9	17.3	24.2	36.6	44.5	49.1	45.1	38.0	28.5	14.2	10.5
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	143.7	East Drains	21.3	28.5	51.7	83.7	106.9	129.7	131.9	121.1	85.1	66.4	37.0	20.2

Natural Community	ET Vegetation type	Acres	Drain Group	Jan ET	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Tamarisk-Cattail-Common Reed Thickets/Marsh	Large stand permanent wetland	2.6	East Drains	0.4	0.5	0.9	1.5	1.9	2.4	2.4	2.2	1.6	1.2	0.7	0.4
Cattail Marsh	Large stand permanent wetland	1.1	East Drains	0.2	0.2	0.4	0.6	0.8	1.0	1.0	0.9	0.6	0.5	0.3	0.2
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	261.5	East Drains	38.8	51.9	94.0	152.3	194.5	236.0	240.0	220.3	154.8	120.8	67.2	36.8
Tamarisk Thickets	cottonwood	10.3	East Drains	1.8	2.1	2.8	4.0	6.0	7.3	8.1	7.4	6.2	4.7	2.3	1.7
Tamarisk Thickets	cottonwood	12.0	East Drains	2.1	2.5	3.3	4.6	7.0	8.5	9.4	8.6	7.3	5.5	2.7	2.0
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	0.6	East Drains	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.3	0.3	0.1	0.1
Tamarisk-Cattail-Common Reed Thickets/Marsh	Large stand permanent wetland	1.4	East Drains	0.2	0.3	0.5	0.8	1.0	1.2	1.3	1.2	0.8	0.6	0.4	0.2
Iodine Bush Scrub	cottonwood	4.6	East Drains	0.8	0.9	1.3	1.8	2.7	3.3	3.6	3.3	2.8	2.1	1.0	0.8
Iodine Bush Scrub	cottonwood	24.5	East Drains	4.2	5.0	6.7	9.4	14.2	17.3	19.1	17.5	14.8	11.1	5.5	4.1
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	13.7	East Drains	2.4	2.8	3.8	5.3	8.0	9.7	10.7	9.8	8.3	6.2	3.1	2.3
Tamarisk Thickets	cottonwood	2.6	East Drains	0.5	0.5	0.7	1.0	1.5	1.9	2.1	1.9	1.6	1.2	0.6	0.4
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	823.8	East Drains	141.6	168.3	225.8	316.6	478.4	582.3	642.6	589.8	496.8	373.5	186.4	137.5
Tamarisk Thickets	cottonwood	0.8	East Drains	0.1	0.2	0.2	0.3	0.5	0.6	0.6	0.6	0.5	0.4	0.2	0.1
Tamarisk-Quailbush Thickets/Scrub	cottonwood	21.9	Pumice Drain	3.8	4.5	6.0	8.4	12.7	15.5	17.1	15.7	13.2	9.9	5.0	3.7
Tamarisk Thickets	cottonwood	18.5	Pumice Drain	3.2	3.8	5.1	7.1	10.7	13.0	14.4	13.2	11.1	8.4	4.2	3.1
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	7.2	Trifolium 23 Drain	1.1	1.4	2.6	4.2	5.3	6.5	6.6	6.0	4.2	3.3	1.8	1.0
Cattail-Common Reed Marsh	Large stand permanent wetland	1.7	Trifolium 23 Drain	0.3	0.3	0.6	1.0	1.3	1.5	1.6	1.4	1.0	0.8	0.4	0.2

Natural Community	ET Vegetation type	Acres	Drain Group	Jan ET	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	3.8	Elmore Lake Spill to San Felipe Wash	0.6	0.8	1.4	2.2	2.8	3.4	3.5	3.2	2.2	1.8	1.0	0.5
Tamarisk-Cattail-Common Reed Thickets/Marsh	Large stand permanent wetland	0.9	Elmore Lake Spill to San Felipe Wash	0.1	0.2	0.3	0.5	0.7	0.8	0.8	0.8	0.5	0.4	0.2	0.1
Tamarisk-Cattail-Common Reed Thickets/Marsh	Large stand permanent wetland	1.0	Elmore Lake Spill to San Felipe Wash	0.1	0.2	0.4	0.6	0.7	0.9	0.9	0.8	0.6	0.5	0.3	0.1
Tamarisk-Allscale Thickets/Scrub	cottonwood	0.7	Trifolium 22 Drain	0.1	0.1	0.2	0.3	0.4	0.5	0.6	0.5	0.4	0.3	0.2	0.1
Cattail-Common Reed Marsh	Large stand permanent wetland	56.5	Trifolium 22 Drain	8.4	11.2	20.3	32.9	42.0	51.0	51.9	47.6	33.4	26.1	14.5	7.9
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	211.4	East Drains	31.4	42.0	76.0	123.1	157.2	190.7	194.0	178.0	125.1	97.6	54.4	29.7
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	217.3	East Drains	32.3	43.2	78.1	126.5	161.6	196.1	199.4	183.0	128.6	100.3	55.9	30.6
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	33.9	East Drains	5.8	6.9	9.3	13.0	19.7	24.0	26.5	24.3	20.5	15.4	7.7	5.7
Tamarisk-Iodine Bush-Quailbush Thickets/Scrub	cottonwood	96.2	East Drains	16.5	19.7	26.4	37.0	55.9	68.0	75.1	68.9	58.0	43.6	21.8	16.1
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	108.2	East Drains	18.6	22.1	29.6	41.6	62.8	76.5	84.4	77.4	65.2	49.0	24.5	18.0
Iodine Bush-Cattail Scrub/Marsh	Large stand permanent wetland	50.2	East Drains	7.5	10.0	18.0	29.2	37.3	45.3	46.1	42.3	29.7	23.2	12.9	7.1
Tamarisk Thickets	cottonwood	56.9	East Drains	9.8	11.6	15.6	21.9	33.1	40.2	44.4	40.8	34.3	25.8	12.9	9.5
Tamarisk-Iodine Bush-Common Reed Thickets/Scrub/Marsh	Large stand permanent wetland	122.2	East Drains	18.2	24.3	43.9	71.2	90.9	110.3	112.2	103.0	72.3	56.4	31.4	17.2
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	9.1	East Drains	1.4	1.8	3.3	5.3	6.8	8.2	8.3	7.7	5.4	4.2	2.3	1.3

Natural Community	ET Vegetation type	Acres	Drain Group	Jan ET	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	124.1	East Drains	18.4	24.6	44.6	72.2	92.3	112.0	113.8	104.5	73.4	57.3	31.9	17.4
Tamarisk Thickets	cottonwood	60.7	East Drains	10.4	12.4	16.6	23.3	35.2	42.9	47.3	43.5	36.6	27.5	13.7	10.1
Tamarisk Thickets	cottonwood	24.0	East Drains	4.1	4.9	6.6	9.2	14.0	17.0	18.7	17.2	14.5	10.9	5.4	4.0
Iodine Bush Scrub	cottonwood	91.8	East Drains	15.8	18.8	25.2	35.3	53.3	64.9	71.6	65.8	55.4	41.6	20.8	15.3
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	268.8	East Drains	46.2	54.9	73.7	103.3	156.1	190.0	209.7	192.5	162.1	121.9	60.8	44.9
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	90.3	East Drains	13.4	17.9	32.4	52.6	67.1	81.5	82.8	76.0	53.4	41.7	23.2	12.7
Tamarisk-Cattail-Common Reed Thickets/Marsh	Large stand permanent wetland	36.5	East Drains	5.4	7.2	13.1	21.2	27.1	32.9	33.5	30.7	21.6	16.8	9.4	5.1
Tamarisk Thickets	cottonwood	63.0	East Drains	10.8	12.9	17.3	24.2	36.6	44.6	49.2	45.1	38.0	28.6	14.3	10.5
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	3.2	East Drains	0.6	0.7	0.9	1.2	1.9	2.3	2.5	2.3	1.9	1.5	0.7	0.5
Tamarisk Thickets	cottonwood	27.5	Pumice Drain	4.7	5.6	7.5	10.6	16.0	19.4	21.5	19.7	16.6	12.5	6.2	4.6
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	138.7	Pumice Drain	20.6	27.5	49.9	80.8	103.2	125.2	127.3	116.8	82.1	64.1	35.7	19.5
Tamarisk-Iodine Bush-Common Reed Thickets/Scrub/Marsh	Large stand permanent wetland	29.4	Pumice Drain	4.4	5.8	10.6	17.1	21.9	26.6	27.0	24.8	17.4	13.6	7.6	4.1
Tamarisk-Cattail-Common Reed Thickets/Marsh	Large stand permanent wetland	81.0	Trifolium 22 Drain	12.0	16.1	29.1	47.2	60.3	73.1	74.3	68.2	47.9	37.4	20.8	11.4
Tamarisk-Arrow Weed-Iodine Bush Thickets/Scrub	cottonwood	51.9	Elmore Lake Spill to San Felipe Wash	8.9	10.6	14.2	20.0	30.2	36.7	40.5	37.2	31.3	23.6	11.8	8.7
Tamarisk Thickets	cottonwood	121.1	Trifolium 23 Drain	20.8	24.7	33.2	46.6	70.4	85.6	94.5	86.7	73.1	54.9	27.4	20.2
Tamarisk-Iodine Bush-Quailbush Thickets/Scrub	cottonwood	0.6	East Drains	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.4	0.3	0.3	0.1	0.1

Natural Community	ET Vegetation type	Acres	Drain Group	Jan ET	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Iodine Bush Scrub	cottonwood	1.8	East Drains	0.3	0.4	0.5	0.7	1.0	1.3	1.4	1.3	1.1	0.8	0.4	0.3
Iodine Bush Scrub	cottonwood	16.4	East Drains	2.8	3.4	4.5	6.3	9.5	11.6	12.8	11.8	9.9	7.4	3.7	2.7
Iodine Bush Scrub	cottonwood	5.5	East Drains	0.9	1.1	1.5	2.1	3.2	3.9	4.3	3.9	3.3	2.5	1.2	0.9
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	13.5	Pumice Drain	2.3	2.8	3.7	5.2	7.9	9.6	10.6	9.7	8.2	6.1	3.1	2.3
Tamarisk Thickets	cottonwood	16.6	Pumice Drain	2.8	3.4	4.5	6.4	9.6	11.7	12.9	11.9	10.0	7.5	3.8	2.8
Tamarisk Thickets	cottonwood	3.1	Pumice Drain	0.5	0.6	0.9	1.2	1.8	2.2	2.4	2.2	1.9	1.4	0.7	0.5
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	7.4	East Drains	1.1	1.5	2.6	4.3	5.5	6.7	6.8	6.2	4.4	3.4	1.9	1.0
Tamarisk-Cattail-Common Reed Thickets/Marsh	Large stand permanent wetland	0.7	East Drains	0.1	0.1	0.3	0.4	0.5	0.6	0.6	0.6	0.4	0.3	0.2	0.1
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	0.7	East Drains	0.1	0.1	0.2	0.4	0.5	0.6	0.6	0.6	0.4	0.3	0.2	0.1
Iodine Bush Scrub	cottonwood	0.5	East Drains	0.1	0.1	0.1	0.2	0.3	0.3	0.4	0.3	0.3	0.2	0.1	0.1
Iodine Bush Scrub	cottonwood	4.0	East Drains	0.7	0.8	1.1	1.5	2.3	2.8	3.1	2.9	2.4	1.8	0.9	0.7
Iodine Bush Scrub	cottonwood	1.7	East Drains	0.3	0.3	0.5	0.7	1.0	1.2	1.3	1.2	1.0	0.8	0.4	0.3
Iodine Bush Scrub	cottonwood	0.5	East Drains	0.1	0.1	0.1	0.2	0.3	0.3	0.4	0.3	0.3	0.2	0.1	0.1
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	0.7	East Drains	0.1	0.1	0.2	0.4	0.5	0.6	0.6	0.6	0.4	0.3	0.2	0.1
Cattail Marsh	Large stand permanent wetland	2.3	East Drains	0.3	0.5	0.8	1.3	1.7	2.1	2.1	1.9	1.4	1.1	0.6	0.3
Cattail Marsh	Large stand permanent wetland	0.2	East Drains	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	0.1	East Drains	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0

Natural Community	ET Vegetation type	Acres	Drain Group	Jan ET	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	1.1	East Drains	0.2	0.2	0.4	0.7	0.9	1.0	1.1	1.0	0.7	0.5	0.3	0.2
Tamarisk-Cattail-Common Reed Thickets/Marsh	Large stand permanent wetland	20.8	East Drains	3.1	4.1	7.5	12.1	15.5	18.8	19.1	17.5	12.3	9.6	5.3	2.9
Cattail Marsh	Large stand permanent wetland	7.7	East Drains	1.1	1.5	2.8	4.5	5.7	6.9	7.0	6.5	4.5	3.5	2.0	1.1
Tamarisk-Quailbush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	0.2	East Drains	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	212.6	East Drains	31.6	42.2	76.4	123.8	158.1	191.9	195.1	179.1	125.8	98.2	54.7	29.9
Tamarisk-Cattail-Common Reed Thickets/Marsh	Large stand permanent wetland	4.3	East Drains	0.6	0.9	1.5	2.5	3.2	3.9	3.9	3.6	2.5	2.0	1.1	0.6
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	2.9	East Drains	0.4	0.6	1.0	1.7	2.1	2.6	2.6	2.4	1.7	1.3	0.7	0.4
Tamarisk-Quailbush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	15.4	East Drains	2.3	3.1	5.5	9.0	11.5	13.9	14.1	13.0	9.1	7.1	4.0	2.2
Tamarisk-Quailbush-Common Reed Thickets/Scrub/Marsh	Large stand permanent wetland	6.3	East Drains	0.9	1.2	2.3	3.7	4.7	5.7	5.8	5.3	3.7	2.9	1.6	0.9
Tamarisk-Quailbush Thickets/Scrub	cottonwood	0.1	East Drains	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	0.8	East Drains	0.1	0.2	0.2	0.3	0.5	0.6	0.6	0.6	0.5	0.4	0.2	0.1
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	0.5	East Drains	0.1	0.1	0.2	0.3	0.4	0.5	0.5	0.4	0.3	0.2	0.1	0.1
Tamarisk-Quailbush Thickets/Scrub	cottonwood	2.3	East Drains	0.4	0.5	0.6	0.9	1.3	1.6	1.8	1.7	1.4	1.1	0.5	0.4

Natural Community	ET Vegetation type	Acres	Drain Group	Jan ET	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cattail Marsh	Large stand permanent wetland	2.5	East Drains	0.4	0.5	0.9	1.5	1.9	2.3	2.3	2.1	1.5	1.2	0.6	0.4
Iodine Bush Scrub	cottonwood	1.9	East Drains	0.3	0.4	0.5	0.7	1.1	1.3	1.4	1.3	1.1	0.8	0.4	0.3
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	3.7	East Drains	0.6	0.7	1.3	2.2	2.8	3.4	3.4	3.1	2.2	1.7	1.0	0.5
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	0.8	East Drains	0.1	0.2	0.3	0.4	0.6	0.7	0.7	0.6	0.5	0.4	0.2	0.1
Tamarisk-Cattail-Common Reed Thickets/Marsh	Large stand permanent wetland	4.1	East Drains	0.6	0.8	1.5	2.4	3.1	3.7	3.8	3.5	2.4	1.9	1.1	0.6
Tamarisk Thickets	cottonwood	0.6	East Drains	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.4	0.4	0.3	0.1	0.1
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	0.2	East Drains	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	2.0	East Drains	0.3	0.4	0.7	1.1	1.5	1.8	1.8	1.7	1.2	0.9	0.5	0.3
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	1.1	East Drains	0.2	0.2	0.3	0.4	0.6	0.7	0.8	0.8	0.6	0.5	0.2	0.2
Tamarisk-Cattail-Common Reed Thickets/Marsh	Large stand permanent wetland	147.8	East Drains	22.0	29.4	53.1	86.1	109.9	133.4	135.7	124.5	87.5	68.3	38.0	20.8
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	14.1	East Drains	2.1	2.8	5.1	8.2	10.5	12.7	13.0	11.9	8.4	6.5	3.6	2.0
Tamarisk-Cattail-Common Reed Thickets/Marsh	Large stand permanent wetland	1.9	East Drains	0.3	0.4	0.7	1.1	1.4	1.7	1.7	1.6	1.1	0.9	0.5	0.3
Tamarisk Thickets	cottonwood	0.8	East Drains	0.1	0.2	0.2	0.3	0.5	0.6	0.6	0.6	0.5	0.4	0.2	0.1
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	1.2	East Drains	0.2	0.2	0.4	0.7	0.9	1.0	1.1	1.0	0.7	0.5	0.3	0.2
Tamarisk Thickets	cottonwood	4.6	East Drains	0.8	0.9	1.3	1.8	2.7	3.3	3.6	3.3	2.8	2.1	1.1	0.8

Natural Community	ET Vegetation type	Acres	Drain Group	Jan ET	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Iodine Bush Scrub	cottonwood	10.3	East Drains	1.8	2.1	2.8	3.9	6.0	7.3	8.0	7.3	6.2	4.7	2.3	1.7
Iodine Bush Scrub	cottonwood	1.6	East Drains	0.3	0.3	0.4	0.6	0.9	1.1	1.3	1.2	1.0	0.7	0.4	0.3
Tamarisk-Iodine Bush-Quailbush Thickets/Scrub	cottonwood	0.9	East Drains	0.1	0.2	0.2	0.3	0.5	0.6	0.7	0.6	0.5	0.4	0.2	0.1
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	4.4	East Drains	0.6	0.9	1.6	2.5	3.2	3.9	4.0	3.7	2.6	2.0	1.1	0.6
Tamarisk Thickets	cottonwood	1.2	East Drains	0.2	0.3	0.3	0.5	0.7	0.9	1.0	0.9	0.7	0.6	0.3	0.2
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	1.0	East Drains	0.2	0.2	0.4	0.6	0.8	0.9	0.9	0.9	0.6	0.5	0.3	0.1
Tamarisk-Iodine Bush-Cattail Thickets/Scrub/Marsh	Large stand permanent wetland	0.5	East Drains	0.1	0.1	0.2	0.3	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0.1
Iodine Bush Scrub	cottonwood	1.4	Trifolium 23 Drain	0.2	0.3	0.4	0.5	0.8	1.0	1.1	1.0	0.8	0.6	0.3	0.2
Iodine Bush Scrub	cottonwood	0.3	East Drains	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1
Tamarisk Thickets	cottonwood	49.1	Elmore Lake Spill to San Felipe Wash	8.4	10.0	13.4	18.9	28.5	34.7	38.3	35.1	29.6	22.2	11.1	8.2
Tamarisk-Iodine Bush Thickets/Scrub	cottonwood	25.1	Trifolium 22 Drain	4.3	5.1	6.9	9.6	14.6	17.7	19.6	18.0	15.1	11.4	5.7	4.2
Cattail Marsh	Large stand permanent wetland	0.3	East Drains	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.0
Cattail Marsh	Large stand permanent wetland	62.8	East Drains	9.3	12.5	22.6	36.5	46.7	56.6	57.6	52.9	37.1	29.0	16.1	8.8
Cattail Marsh	Large stand permanent wetland	6.1	East Drains	0.9	1.2	2.2	3.5	4.5	5.5	5.6	5.1	3.6	2.8	1.6	0.9
Cattail Marsh	Large stand permanent wetland	64.8	East Drains	9.6	12.9	23.3	37.7	48.2	58.5	59.5	54.6	38.4	29.9	16.7	9.1

Natural Community	ET Vegetation type	Acres	Drain Group	Jan ET	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cattail-Common Reed Marsh	Large stand permanent wetland	0.5	East Drains	0.1	0.1	0.2	0.3	0.4	0.5	0.5	0.5	0.3	0.3	0.1	0.1
Tamarisk-Cattail Thickets/Marsh	Large stand permanent wetland	293.3	East Drains	43.6	58.2	105.4	170.8	218.1	264.6	269.1	247.0	173.6	135.4	75.4	41.2

TABLE H2-4
EXISTING CONDITIONS MONTHLY EVAPOTRANSPIRATION, MEAN MONTHLY DRAIN FLOWS, AND WATER BALANCE FOR NATURAL COMMUNITIES MAPPED ALONG THE EXPOSED PLAYA IN THE SALTON SEA SURVEY AREA. ANNUAL SUMMARIES OF EACH PARAMETER ARE ALSO SHOWN

Vegetation Drain Group	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Monthly ET (AF)													
East Drains	767	961	1,492	2,265	3,124	3,796	4,017	3,687	2,848	2,178	1,146	737	27,018
Elmore Lake Spill to San Felipe Wash	18	22	30	42	63	77	84	77	64	48	24	18	567
Pumice Drain	42	54	88	137	184	223	233	214	161	123	66	41	1,566
Trifolium 22 Drain	25	33	56	90	117	142	146	134	97	75	41	24	981
Trifolium 23 Drain	22	27	37	52	78	95	104	95	79	60	30	22	700
Mean Monthly Drain Flows (AF)													
East Drains	1,999	2,070	2,676	2,825	3,261	3,405	3,495	3,256	2,852	2,415	2,251	2,011	32,515
Elmore Lake Spill to San Felipe Wash	168	108	107	58	38	54	90	114	120	144	176	209	1,384
Pumice Drain	1,005	910	1,300	1,588	1,418	1,596	1,644	1,269	1,387	1,994	1,760	1,409	17,279
Trifolium 22 Drain	240	264	652	507	206	162	227	248	179	256	258	261	3,459
Trifolium 23 Drain	228	246	340	314	248	240	347	257	309	364	302	250	3,446
Existing Monthly Flows minus ET Demand Balance (AF)													
East Drains	1,231	1,109	1,184	561	138	(391)	(522)	(431)	4	237	1,105	1,274	5,498
Elmore Lake Spill to San Felipe Wash	150	86	77	16	(25)	(22)	6	37	55	95	151	191	817
Pumice Drain	963	856	1,212	1,451	1,235	1,372	1,411	1,055	1,226	1,870	1,694	1,368	15,712
Trifolium 22 Drain	215	232	595	417	89	20	80	114	82	181	217	237	2,478
Trifolium 23 Drain	206	219	303	262	170	145	244	162	230	304	272	229	2,746

Vegetation Drain Group	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Existing Monthly Flows minus ET Demand Balance (inch/Acre)													
East Drains	0.02	0.02	0.02	0.01	0.00	(0.01)	(0.01)	(0.01)	0.00	0.00	0.02	0.02	0.10
Elmore Lake Spill to San Felipe Wash	0.12	0.07	0.06	0.01	(0.02)	(0.02)	0.00	0.03	0.04	0.07	0.12	0.15	0.64
Pumice Drain	0.30	0.26	0.37	0.45	0.38	0.42	0.44	0.33	0.38	0.58	0.52	0.42	4.86
Trifolium 22 Drain	0.11	0.12	0.30	0.21	0.05	0.01	0.04	0.06	0.04	0.09	0.11	0.12	1.26
Trifolium 23 Drain	0.13	0.14	0.19	0.17	0.11	0.09	0.15	0.10	0.15	0.19	0.17	0.15	1.74

SOURCE: ESA

TABLE H2-5

PROPOSED ACTION MONTHLY EVAPOTRANSPIRATION, MEAN MONTHLY DRAIN FLOWS, AND WATER BALANCE FOR NATURAL COMMUNITIES MAPPED ALONG THE EXPOSED PLAYA IN THE SALTON SEA SURVEY AREA. ANNUAL SUMMARIES OF EACH PARAMETER ARE ALSO SHOWN.

Vegetation Drain Group	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Monthly ET (AF)													
East Drains	767	961	1,492	2,265	3,124	3,796	4,017	3,687	2,848	2,178	1,146	737	27,018
Elmore Lake Spill to San Felipe Wash	18	22	30	42	63	77	84	77	64	48	24	18	567
Pumice Drain	42	54	88	137	184	223	233	214	161	123	66	41	1,566
Trifolium 22 Drain	25	33	56	90	117	142	146	134	97	75	41	24	981
Trifolium 23 Drain	22	27	37	52	78	95	104	95	79	60	30	22	700
Mean Monthly Drain Flows (AF)													
East Drains	1,671	1,774	2,349	2,508	2,933	3,087	3,168	2,928	2,535	2,087	1,933	1,683	28,657
Elmore Lake Spill to San Felipe Wash	154	95	93	44	24	41	76	100	106	130	162	195	1,220
Pumice Drain	831	753	1,126	1,419	1,244	1,427	1,470	1,095	1,218	1,820	1,592	1,235	15,228
Trifolium 22 Drain	205	233	617	473	171	128	192	214	145	221	224	226	3,048
Trifolium 23 Drain	194	215	305	281	213	206	313	222	275	329	269	216	3,037
Proposed Monthly Flows minus ET Demand Balance (AF)													
East Drains	903.5	813.2	856.1	243.4	(190.1)	(708.2)	(849.7)	(759.1)	(312.8)	(91.0)	787.9	946.0	1,639.2
Elmore Lake Spill to San Felipe Wash	135.7	73.4	63.2	2.3	(39.2)	(36.0)	(7.7)	22.6	41.8	81.3	137.8	177.1	652.4
Pumice Drain	788.4	698.5	1,037.4	1,282.2	1,060.5	1,203.8	1,236.9	880.7	1,057.5	1,696.3	1,525.8	1,194.1	13,662.0
Trifolium 22 Drain	180.2	200.2	560.3	382.8	53.8	(14.1)	45.4	79.2	48.3	145.9	183.1	202.1	2,067.3
Trifolium 23 Drain	171.2	187.7	268.4	228.4	135.0	111.7	208.8	127.2	196.1	269.7	238.8	194.0	2,336.9

Vegetation Drain Group	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Proposed Monthly Flows minus ET Demand Balance (inches/Acre)													
East Drains	0.016	0.014	0.015	0.004	(0.003)	(0.012)	(0.015)	(0.013)	(0.005)	(0.002)	0.014	0.017	0.029
Elmore Lake Spill to San Felipe Wash	0.106	0.057	0.049	0.002	(0.031)	(0.028)	(0.006)	0.018	0.033	0.063	0.108	0.138	0.509
Pumice Drain	0.244	0.216	0.321	0.397	0.328	0.373	0.383	0.273	0.327	0.525	0.472	0.370	4.228
Trifolium 22 Drain	0.092	0.102	0.286	0.195	0.027	(0.007)	0.023	0.040	0.025	0.074	0.093	0.103	1.055
Trifolium 23 Drain	0.109	0.119	0.170	0.145	0.086	0.071	0.132	0.081	0.124	0.171	0.151	0.123	1.482

SOURCE: ESA

Appendix HYDRO-3

SSAM

Estimating Salton Sea Elevation and Salinity for Future Inflow Scenarios for the Imperial Irrigation District

Prepared by: Tetra Tech for the Salton Sea Management Program

December 18, 2023

Introduction

The Salton Sea is a terminal lake in Riverside and Imperial Counties, California, receiving runoff from Imperial Valley and Coachella Valley watersheds, including runoff from exports originating in the Colorado River basin. Over the past decades, the Sea's water level has been declining, and it has been the subject of various modeling efforts to quantify the decline and assess the resulting environmental impacts. This memo summarizes a modeling methodology and analysis to evaluate the consequences of water conservation actions being proposed by the Imperial Irrigation District over three calendar years, from 2024 to 2026.

The US Bureau of Reclamation developed a spreadsheet model in the early 2000s called the Salton Sea Accounting Model (SSAM) [1]. SSAM balances the Sea's water and salt mass on an annual timestep, assuming the Sea is uniformly mixed. The primary SSAM inputs are 1) a projected hydrology for the major inflows to the Sea 2) salinity-dependent evaporation, and 3) direct precipitation terms. The mass balance equation calculates the change in volume at each timestep, and the Sea's total volume is simulated for the duration of the projected hydrology. An elevation-area-capacity (EAC) curve derived from Sea bathymetric survey data allows for a singular relationship between the Sea's volume, surface area, and surface elevation.

Starting in the mid-2010s, Tetra Tech began updating the SSAM model (SSAM 2.0) to incorporate the latest available hydrological data, bathymetry data [2], and add new features to simulate water needs for various habitat projects, such as concepts in the Salton Sea Long Range Plan (LRP) [3] or projects that are part of the Phase 1 Salton Sea Management Program. This document describes the model framework, inputs, and outputs.

In response to ongoing drought, SSAM 2.0 is currently being used to estimate water management scenarios on the Colorado River. SSAM 2.0 calculates changes in salinity and exposed playa at Salton Sea based on contemplated allocation reductions. As part of this effort, Tetra Tech evaluated a set of scenarios with different levels of reduction and incorporated multiple following and water-use efficiency considerations. The model assumptions and outputs were reviewed by IID, CVWD, the Bureau of Reclamation and the California Natural Resources Agency in a series of meetings in mid- to late-2022. A final set of updates were made in 2023 and are presented in this document.

Model Hydrology used in SSAM 2.0

The Salton Basin is the northern arm of the former Colorado River delta system. Agricultural return flows and drainage from these valleys and parts of the Mexicali Valley, in addition to municipal and industrial discharges in the watershed, feed the major rivers flowing to the Salton Sea. The Salton Sea watershed encompasses an area of approximately 8,000 square miles from San Bernardino County in the north to the Mexicali Valley (Republic of Mexico) to the south.

The principal sources of inflow to the Salton Sea are the Whitewater River to the north (also known as the Coachella Valley Stormwater Channel [CVSC]), the Alamo and New Rivers to the south, and direct return flows from agricultural drains in the Imperial Valley and Coachella Valley. The riverine sources of inflow are recorded by United States Geological Survey (USGS) gage stations situated at the river mouths, with observations dating back to at least 1988.

The Whitewater River (CVSC) is the primary river drainage channel of CVWD. It brings stormwater runoff, agricultural return flows, and municipal and fish farm discharges from the Coachella Valley to the Salton Sea. In the last few years, flows recorded by the Whitewater River USGS gage (USGS Station ID: 10259540) have been less than 50,000 AF/year.

The Alamo River originates approximately two miles south of the International Border with Mexico and flows north and into the Salton Sea. The USGS station that records Alamo River inflows into the Salton Sea is located near this point of discharge into the Sea (USGS Station ID: 10254730). The Alamo River is dominated by agricultural return flows from IID. In recent years, this flow has averaged 560,000 AF/year.

The New River also originates in Mexico. It travels through the Mexicali Valley, crosses the International Border, and flows into the Salton Sea. The New River carries urban runoff, industrial and municipal flows, and agricultural runoff from the Mexicali Valley. There are two USGS gages along the New River. One is in the Imperial Valley, near the mouth of the river at the Salton Sea (USGS Station ID: 10255550). The other is at the International Border (USGS Station ID: 10254970). Since 2018, flows at the New River (Imperial Valley) station have been consistently less than 350,000 AF/year. Flows at the New River (International Border) station have remained stable between 60,000 AF/year and 64,000 AF/year in the same timeframe.

Other outflows to the Salton Sea include a system of agricultural drains in the Imperial Valley, which discharge surface runoff into the Alamo and New Rivers, and agricultural drains in the Coachella Valley.

The agricultural drains in the Imperial Valley introduce approximately 830,000 AF/year of surface runoff to the Alamo and New Rivers.

The relationship between these flows, the Salton Sea, and the IID and CVWD watersheds are illustrated in **Figure 1**. Other losses are from IID and CVWD watershed evapotranspiration (ET) and evaporation out of the Salton Sea. Other inflows include precipitation, local watershed, and groundwater inflows into the Sea. The ungaged flows (*italicized in Figure 1*) can be estimated by using the reported irrigated acreage and ET rates in the valleys and local weather data that are available for Imperial County, California.

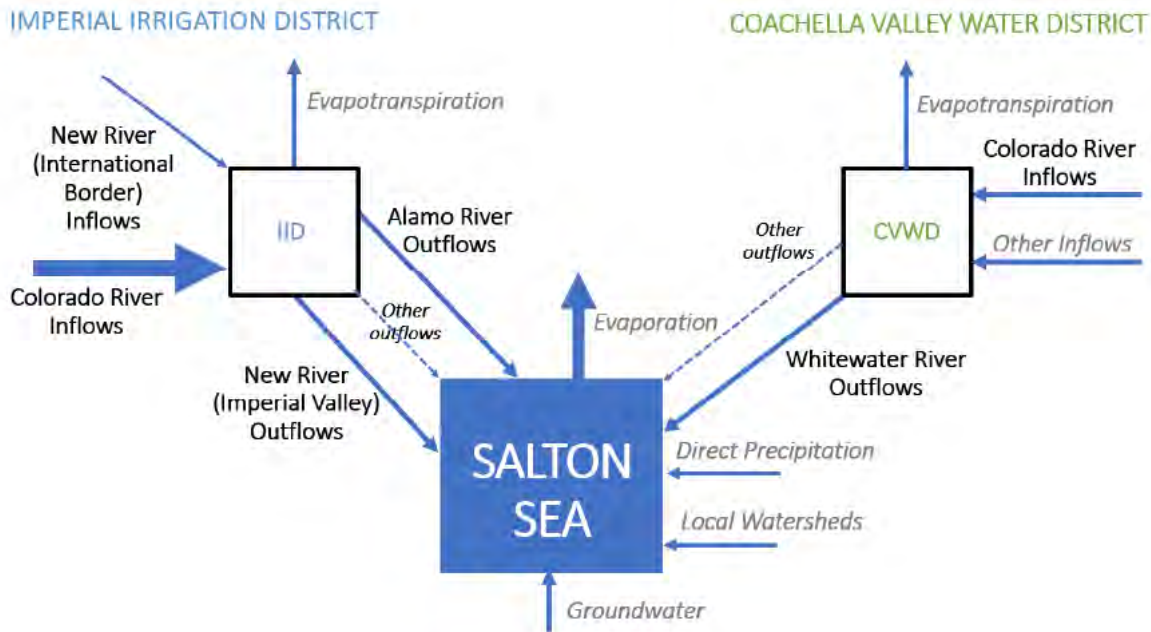


Figure 1. Flows into and out of the Imperial Irrigation District (IID), the Coachella Valley Water District (CVWD), and the Salton Sea. Flows that are italicized are ungauged but can be estimated.

Future Hydrology: Delivery allocations and climate change

The development of future inflow to the Sea is centered around determining how much the total freshwater inflow may change due to effects of climate change, including basin-wide ET changes for the areas producing the Sea's runoff, as well as any hypothetical changes to Colorado River water allocations, which make up the majority of Salton Sea inflows.

Long-term Colorado River allocations to Imperial Valley were made by considering the output of the Colorado River Simulation System (CRSS) model, which is used by USBR to provide long-term projections at the Colorado River basin.

On October 5, 2022, California users of Colorado River water released a statement proposing to conserve 400,000 AF of water each year from 2023 to 2026 to contribute towards stabilizing elevations in Lake Mead.¹ IID pledged to cut 250,000 AFY, an amount contingent on federal funding and voluntary participation of water users.² Other California users of Colorado River water that signed the statement were the Metropolitan Water District, CVWD, and the Palo Verde Irrigation District.

For the purpose of the EA for IID's Temporary Colorado River Conservation Project, developed in late 2023, the amount of targeted conservation examined for this memorandum is 300,000 AFY for the period 2024 to 2026, for a total of 900,000 AF of conservation. This amount forms the basis for the short-term (2024-2026) inflow reductions considered here, with two different total amounts based on the specific implementation of the reduction:

¹ <http://crb.ca.gov/2022/10/california-water-agencies-pledge-to-conserve-additional-water-to-stabilize-the-colorado-river-basin/>

² <https://calmatters.org/environment/2022/10/california-colorado-river-water/>

- Fallowing conservation program (300 TAFY)
- Hybrid conservation program (50 TAFY efficiency and 250 TAFY fallowing)

Based on a review of records over the past 5 years, the fallowing effect represents a 35.7% loss to the Sea, derived from the fraction of Salton Sea inflow compared to Colorado River water supply to IID. The resulting inflow reductions for the conservation programs over the years 2024 – 2026 are shown in **Table 1**.

Table 1. Inflow reduction to the Salton Sea as a consequence of reduction in water supplies from the Colorado River to IID.

Assumption	Inflow Reduction for 300,000 AFY Drought Reduction	Equation for Inflow Reduction
Baseline - No drought reduction	0	-
Fallowing (35.7% Loss)	107,100	$35.7\% * 300,000$
50 TAFY Efficiency & Fallowing (35.7% Loss)	139,250	$50,000 + 35.7\% * (300,000 - 50,000)$

These reductions are expected to be met through a combination of an On-Farm Efficiency Conservation Program, an Alternative Crop Efficiency Program, a Deficit Irrigation Program, and a Farm Unit Fallowing Program. It is to be understood that many of these programs do not constitute conventional all-or-nothing fallowing; nevertheless a “fallowed acres equivalent” can be computed based on the net ET and the overall average ET rate. A schematic of the inflow reduction scenarios, their net IID inflows to the sea, and the fallowed equivalents is shown in **Figure 2**.

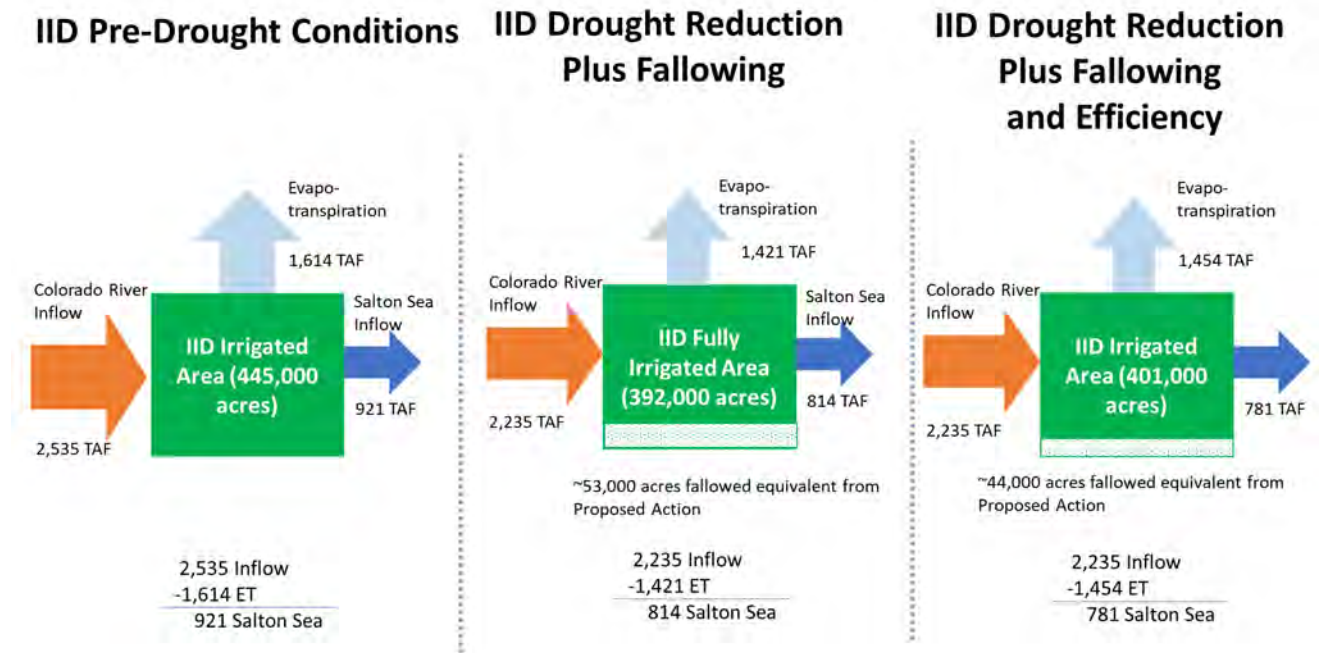


Figure 2. Schematic of the effects of Colorado River allocations on IID inflow to the Sea (modified from a previous version provided to Reclamation)

During earlier planning in 2022, CVWD suggested using delivery reductions of 25 TAFY (10% of inflow reduction to IID). The reduction would be achieved through voluntary Colorado River Water Conservation Program up to 10 TAFY. Average return flows to drains are 20%, so the maximum potential reduction in flows to Salton Sea over the four-year period would be approximately 2,000 AFY. The remainder and any amount that cannot be achieved by the Colorado River Water Conservation Program would be achieved by reducing recharge at CVWD groundwater recharge facilities, which would have no impact to flows to the Salton Sea for the four-year period. The impact on flows to the Salton Sea from Coachella Valley will be small, and therefore are not included in the modeling.

Projections of future IID water delivery were produced using the Colorado River Simulation System (CRSS) model developed by the US Bureau of Reclamation. The CRSS model was developed and is used by Reclamation to provide long-term projections at the Colorado River Basin (Reclamation, 2012 [4]). The June 2021 version of the CRSS model was obtained from Wheeler et al. (2022) [5] and was provided with the initial conditions in June 2021. Future water demands as the “2016 demands” (2016 Upper Colorado River Commission Schedule for the Upper Division States; and 2007 Final Environmental Impact Statement for the Colorado River Interim Guidelines with the update on Nevada demand in 2019 for the Lower Division States) provided in the CRSS June 2021 version (Wheeler et al. 2022 [5]) were used. The projections of water delivery and other conditions at the Colorado River Basin were obtained from the CRSS model during the period 2022–2060. For this work, a baseline water delivery of 2.535 MAF to IID was assumed, to which the drought reductions were applied.

The projected temperature and windspeed changes from California’s Cal-Adapt RCP8.5 climate scenarios³ were incorporated into estimates of ET using the Penman-Monteith equation. For both maximum/minimum temperature and windspeed, the projected change between 1991-2020 and 2035-2064 was added to a set of observed baseline numbers. For temperature, the baseline numbers were a seasonal pattern (monthly) of maximum/minimum temperature observations from 2004-2021. For wind speed, the baseline number was based on an average of four windspeed stations near the Salton Sea from 2015-2021. Based on these climate change effects, ET is expected to increase by 3.5 to 5.0% by 2035-2064 (see **Table 2**). As a conservative estimate for the future inflow scenarios, an increase of 5% is assumed. Therefore, the climate-adjusted ET rate is 3.78 AF/acre of irrigated land (or 5% increase from the current estimate of 3.60 AF/acre). The volume of water lost assumes an irrigated acreage value of 445,011 acres, which is the average over 2018 to 2021 for the Imperial Valley.

Table 2. Penman-Monteith estimates of ET.

Trace	Annual average maximum temperature increase (°C)	Annual average minimum temperature increase (°C)	Average wind speed change (m/s)	Estimated % increase in ET (1971-2000 to 2035-2064) via Penman-Monteith Equations
Low	1.69	1.66	0.987	3.56%
Average	2.01	1.96	0.988	4.46%
High	2.20	2.22	0.990	5.02%

In the Coachella Valley, the Indio Subbasin Water Management Plan Update (Indio Subbasin GSAs, 2021 [6]) was utilized as the source for future inflow to the Sea. The scenario representing future projects with climate change was selected as the most appropriate scenario with 70,000 AFY as the flow representing future conditions at the Sea. This represents the total inflow to the Sea from the Coachella Valley, including the gaged CVSC.

The model results shown here use a future hydrology that linearly decreases from current values to 889,448 (see Table 3) by 2040. Further details about the hydrology in the Salton Sea Long Range Plan modeling work can be found in Appendix B of [3].

³ <https://cal-adapt.org/>

Table 3. Future long-term hydrology based on LRP high probability inflow.

INFLOW TERM	VALUE (AF/year)	JUSTIFICATION
Imperial Valley	852,900	Inflow to Imperial Valley (2,535,000 AFY) minus ET at 3.78 AF/acre of irrigated land
Mexico	0	Mexico flows gradually decrease to zero from the Scenario #1 value of 66,100 AFY
Coachella Valley	70,000	Simulated drain flow for future projects with climate change scenario (Indio Subbasin GSAs, 2021)
Local watershed	4,680	See Section 5.3.4 of Appendix B in [6]
Groundwater	11,900	See Section 5.3.5 of Appendix B in [6]
Lithium Allocation	-50,000	Lithium is a new and growing water use in the basin.
TOTAL	889,000 AF/year	

Primary Model Calculations

The model operates by water and salt mass conservation of the Sea. At each annual timestep, the following quantities of water volume are added (+) or subtracted (-) from the volume that was present at the beginning of the year:

- (+) Freshwater Inflows, a time series input from the relevant estimated hydrology scenario, as discussed above.
- (-) Total Water Volume needed to satisfy evaporation demands of fixed-size conservation projects, when applicable.
- (-) Total Water Volume needed to meet dust suppression obligations, defined as 1 acre-ft of water annually per acre of area within the 2003 shoreline not covered by the remaining Sea or any planned conservation projects in a given year.
- (-) Direct evaporation volume from the dynamically sized Sea, dependent on the area and salinity of the Sea in a given year, using the same quadratic polynomial regression in USGS's original SSAM model (see below), which takes a baseline evaporation rate (calibrated to be 69.9 inches annual, see below) and returns a smaller evaporation rate with increasing salinity.
- (+) Direct precipitation volume on the Sea. Values from 2004-2012 are from PRISM. More recent years (2013-2022) are filled in from California Irrigation Management Information System (CIMIS) Imperial Valley data. The historical average of the updated dataset is approximately equal to 2.5 inches per year, and that is the value used for all future years.

Similarly, salt mass has the following additions (+) and subtractions (-) at each timestep, assuming direct evaporation and precipitation of water to have minimal effect on salt balance:

- (+) Salt coming in with freshwater inflows, using the inflow-dependent regression present in USGS's original SSAM model, which has higher salt concentrations with lower inflow volumes.
- (-) Annual salt precipitation of 0.15% of the current salt mass in the Sea.
- (-) Any salt above saturation salinity of 280 ppt.

Bathymetry data and EAC curve

For any state of the Sea, there is a 1-1-1 relationship between its elevation, area, and capacity (volume), also known as the EAC relationship or EAC curve (see Figure 3 and Figure 4). This relationship was estimated from the latest available bathymetry data (interpolated to the nearest 0.1 ft using the underlying raster dataset in [3]) and is available to view in the model spreadsheet EACInput. For each model run, this EAC curve is used to get the initial Sea volume (as the initial conditions are specified as an elevation) and to convert the Sea volume at each timestep to a Sea area and Sea elevation (interpolated to the nearest tenth of a foot, NAVD88).

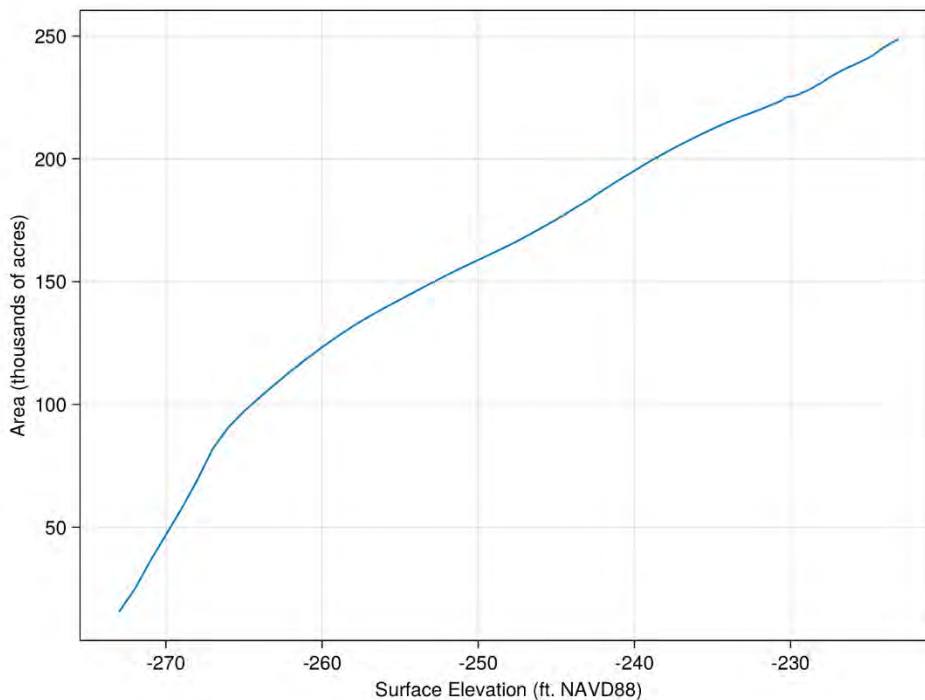


Figure 3. Relationship between elevation and area in the EAC curve used in these SSAM 2.0 modeling efforts.

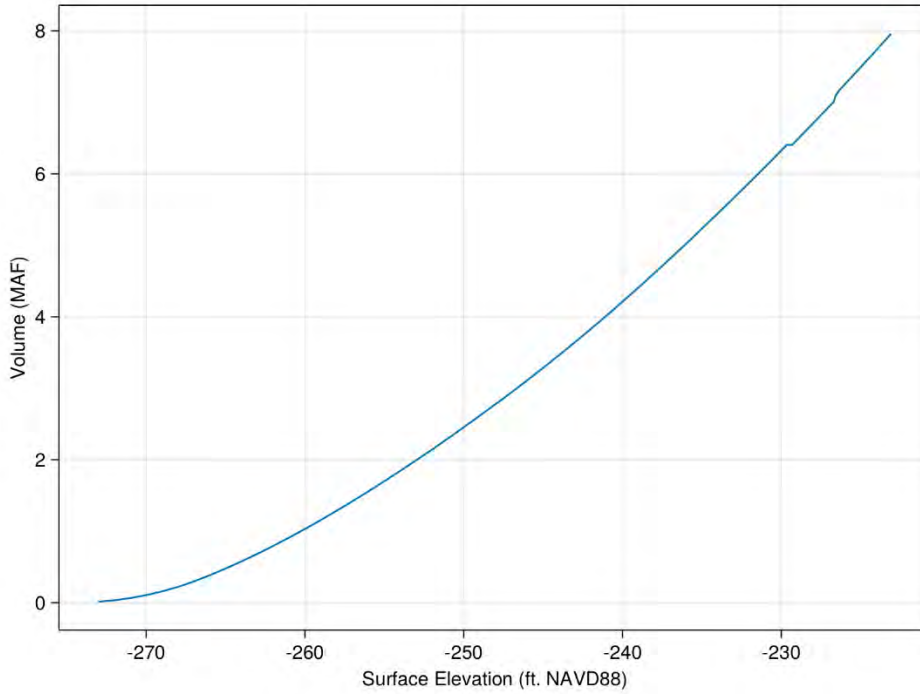


Figure 4. Relationship between elevation and volume in the EAC curve used in these SSAM 2.0 modeling efforts.

Salinity-Dependent Evaporation

The evaporation rate from the Sea's surface is reduced as salt concentration in the Sea increases. The original USBR SSAM modeled this effect using a regression of the form:

$$E_{net} = E_{base} \cdot \left(\frac{a+b \cdot (S/1000)^{2.5}}{a+b \cdot (S_{ref}/1000)^{2.5}} \right)^2,$$

where:

- E_{base} is the baseline evaporation amount for freshwater,
- S , is the Sea's salinity at the current timestep,
- S_{ref} is a reference salinity value (set to 45723.33 ppm),
- a and b are model constants with values 0.981902618 and -1.39819E-07, respectively.

The same equation was used in the SSAM 2.0 updated by Tetra Tech and is illustrated in Figure 5.

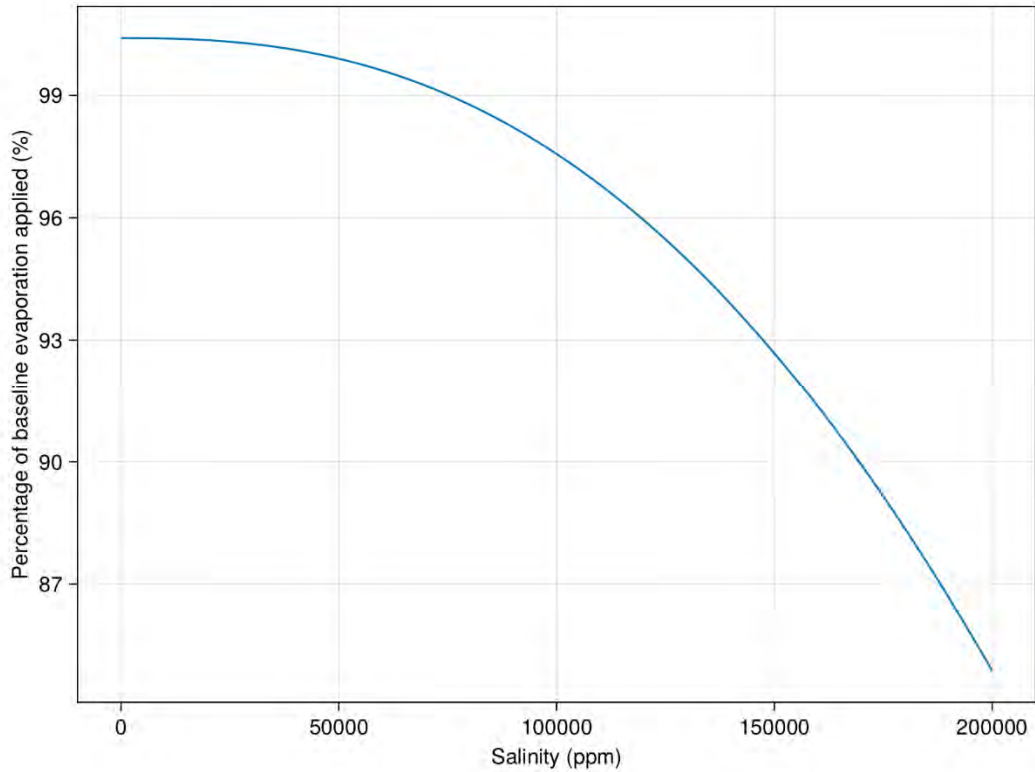


Figure 5. Illustration of decrease in net evaporation with salinity.

Salinity-Dependent Inflow Salinity

The salinity of the water specified as total inflow depends on the inflow volume in the form of a linear regression used in the original USBR model. $S_I = a + b \cdot V_I$, where $a = 5016.07448$ and $b = -0.00204508$, and this formulation has been retained in the Tetra Tech-updated version of SSAM.

Model Inputs

The main inputs the user is required to provide to the model are the following:

- The model begins in 2020 at an elevation of -235.5 ft NAVD88 with an initial salinity of 74,250 ppm.
- Total freshwater inflow each year, specified as a time series from the chosen starting year to 2100. This is the input that was modified to consider different drought mitigation scenarios.
- The baseline evaporation (i.e., evaporation before salinity-based modification) for each year. This was derived as a calibrated average value from historical data from 2004 to 2021. This average, i.e., a constant value of 69.9 inches per year, is used for all future years (2022 onwards).
- Although the model can simulate water use from conservation projects, the results shown in this memo do not include the effects of 10-Year plan projects, including SCH.

These input data are shown in **Table 4**.

Table 4. Primary SSAM 2.0 input data

Year	Inflow Baseline (af)	Inflow Fallowing (af)	Inflow Fallowing and Efficiency (af)	Base evaporation (in)	Precipitation (in)
2004	1,205,693	1,205,693	1,205,693	66.0	4.4
2005	1,252,187	1,252,187	1,252,187	66.0	4.4
2006	1,214,560	1,214,560	1,214,560	70.0	0.7
2007	1,206,227	1,206,227	1,206,227	66.0	1.9
2008	1,166,790	1,166,790	1,166,790	74.0	2.7
2009	1,058,828	1,058,828	1,058,828	66.0	1.0
2010	1,190,201	1,190,201	1,190,201	69.0	4.9
2011	1,172,468	1,172,468	1,172,468	66.0	1.9
2012	1,267,420	1,267,420	1,267,420	68.0	2.2
2013	1,143,849	1,143,849	1,143,849	74.0	1.8
2014	1,098,163	1,098,163	1,098,163	66.0	0.6
2015	1,126,640	1,126,640	1,126,640	73.0	1.5
2016	1,148,693	1,148,693	1,148,693	74.0	1.9
2017	1,104,305	1,104,305	1,104,305	74.0	4.0
2018	1,065,116	1,065,116	1,065,116	74.0	2.3
2019	1,044,076	1,044,076	1,044,076	68.0	3.4
2020	1,053,611	1,053,611	1,053,611	71.0	2.0
2021	1,093,575	1,093,575	1,093,575	74.0	2.0
2022	1,090,859	1,090,859	1,090,859	69.9	2.5
2023	1,080,139	1,080,139	1,080,139	69.9	2.5
2024	1,064,483	957,383	925,233	69.9	2.5
2025	1,048,826	941,726	909,576	69.9	2.5
2026	1,033,169	926,069	893,919	69.9	2.5
2027	1,017,513	1,017,513	1,017,513	69.9	2.5
2028	1,001,856	1,001,856	1,001,856	69.9	2.5
2029	986,199	986,199	986,199	69.9	2.5
2030	970,543	970,543	970,543	69.9	2.5
2031	954,886	954,886	954,886	69.9	2.5
2032	939,229	939,229	939,229	69.9	2.5
2033	923,573	923,573	923,573	69.9	2.5
2034	907,916	907,916	907,916	69.9	2.5
2035	892,259	892,259	892,259	69.9	2.5
2036	891,695	891,695	891,695	69.9	2.5
2037	891,131	891,131	891,131	69.9	2.5
2038	890,567	890,567	890,567	69.9	2.5
2039	890,003	890,003	890,003	69.9	2.5
2040	889,438	889,438	889,438	69.9	2.5

Model Outputs

The primary outputs of interest are Sea area, elevation, and salinity. These are all reported on an annual timestep in the ModelCalcs spreadsheet.

Model Calibration

No sufficiently robust sources of direct Salton Sea evaporation data exist, so the baseline evaporation rate was treated as a calibration parameter. Daily Sea elevation data from 2004-2021 and periodic salinity data (approximately every three months) from 2004-2020 were available for use in calibration.

The model was initialized to January 2004 based on the average data of the first month of each of the above series. Then, historical inflow from 2004-2020 was input into the model.

First, evaporation was initialized to 68 inches for all years. Then an iterative calibration process was then applied to each year from 2004 to 2020 to better match observed salinity and elevation data as follows:

- Evaluate the effect of setting the evaporation of the year in question to each value in the set of candidates: {66, 67, 68, ..., 74}. This range was deemed to be consistent with previously used estimates of annual evaporation in other analyses.
- Linearly interpolate the model output within the calendar year since the observed data are daily while the model output is annual.
- Note the rank for each candidate according to best sum of squared error performance on each for salinity and elevation only within the year being evaluated.
- Choose the candidate salinity with the best performance according to the weighted average of three times the elevation rank and one times the salinity rank. The elevation data were given more weight because there is less noise in that dataset.
- Proceed to the next year and repeat the process.

The model was able to match the observed elevation and salinity data well after calibration (see Figure 6 and Figure 7). The resulting average annual evaporation used for all future years was 69.9 inches.

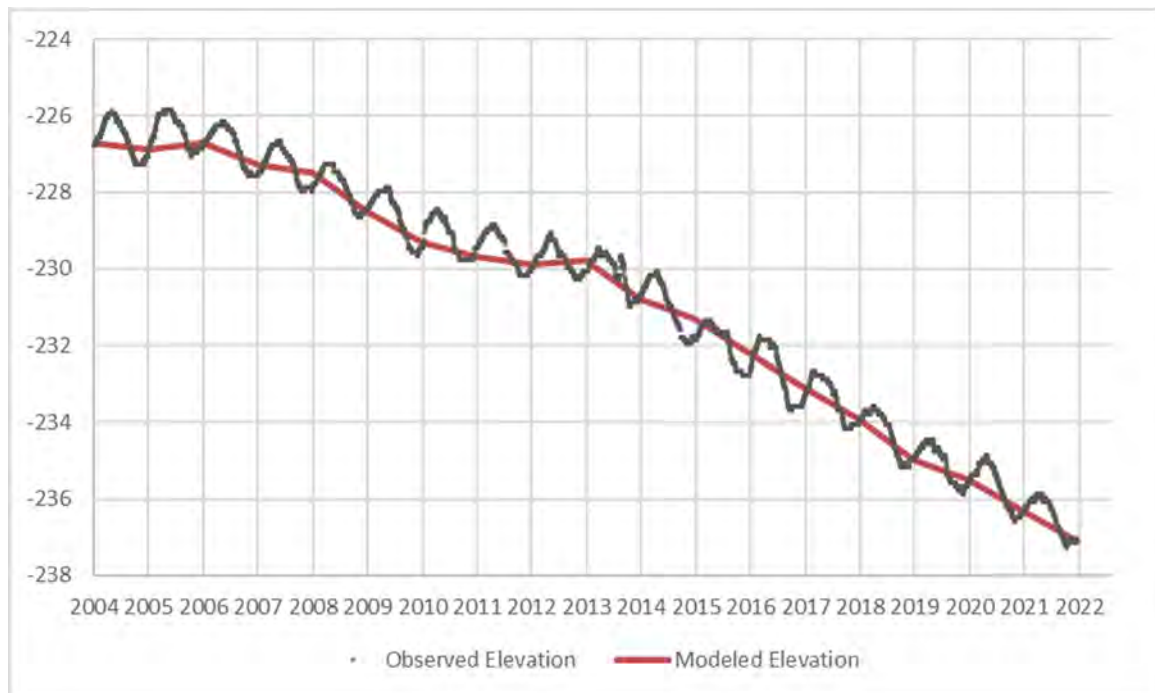


Figure 6. Observed and Calibrated Salton Sea Elevation (ft NAVD88)

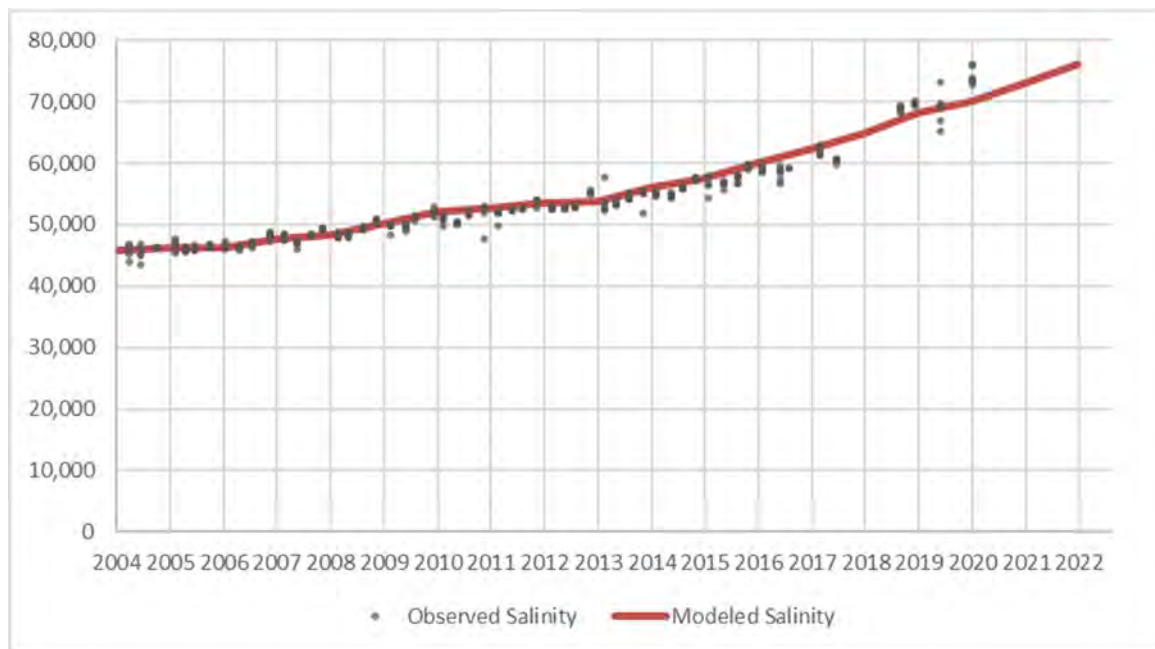


Figure 7. Observed and Calibrated Salton Sea Salinity (ppm)

As a sensitivity analysis, we also repeated the entire calibration with best-estimate historical inflows perturbed by +/- 5%. The case with 5% less inflow decreased the calibrated average evaporation to 68.0 inches, whereas the case with 5% more inflow increased it to 71.0 inches.

Modeled Inflow Scenarios

Figure 8 shows the three inflow scenarios used for the projections in this study, the baseline projected flow, and with drought conservation with fallowing on IID lands and with fallowing and efficiency on IID lands. Fallowing and efficiency results in lower inflows to the sea than fallowing alone. The drought conservation was applied for 3 calendar years (2024-2026). The results for other variables, including exposed lakebed and salinity, are shown in **Figure 9** through **Figure 12**.

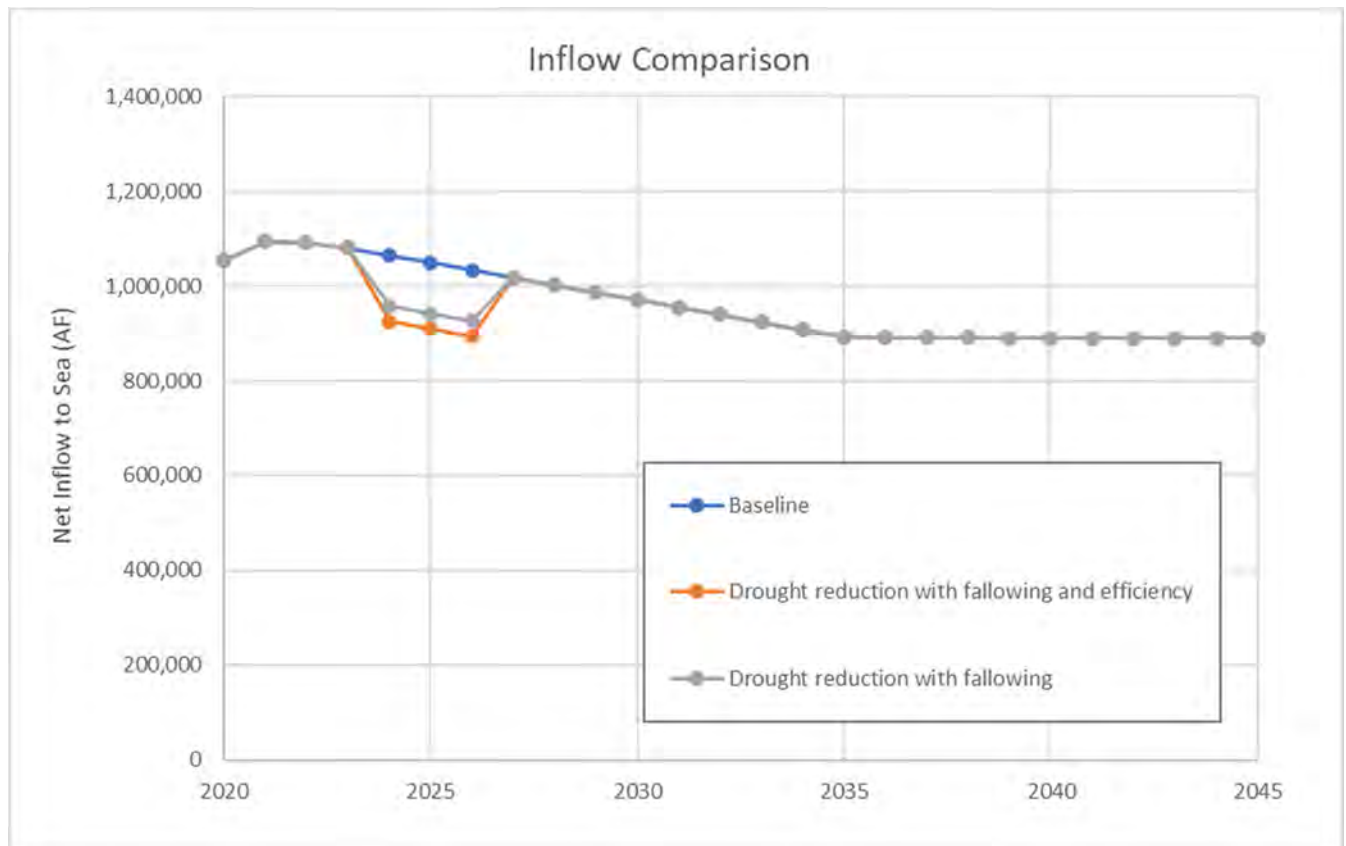


Figure 8. Effect of estimated drought reduction inflows on total inflow to Sea used by the model.

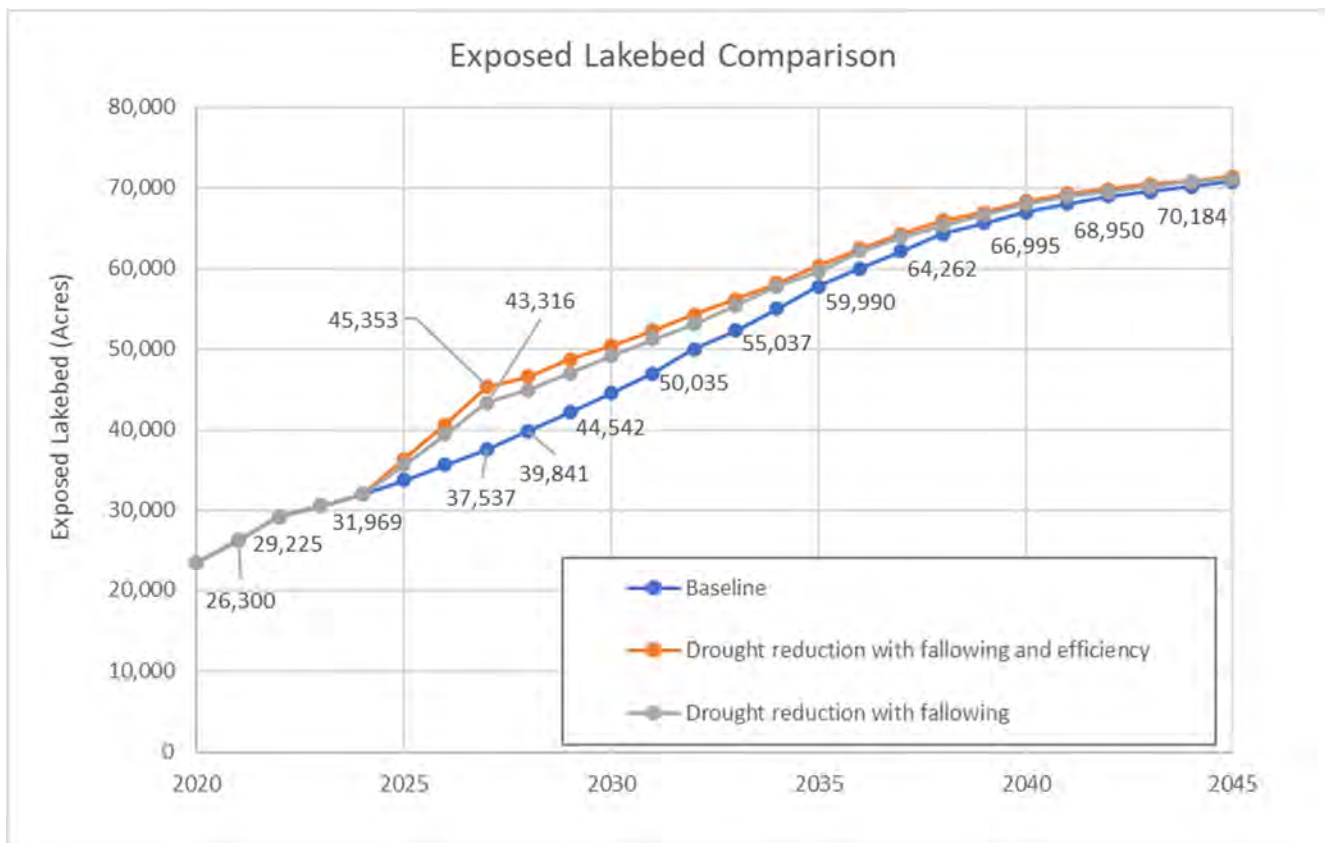


Figure 9. Impact to exposed lakebed from drought reduction scenarios (2020-2045)

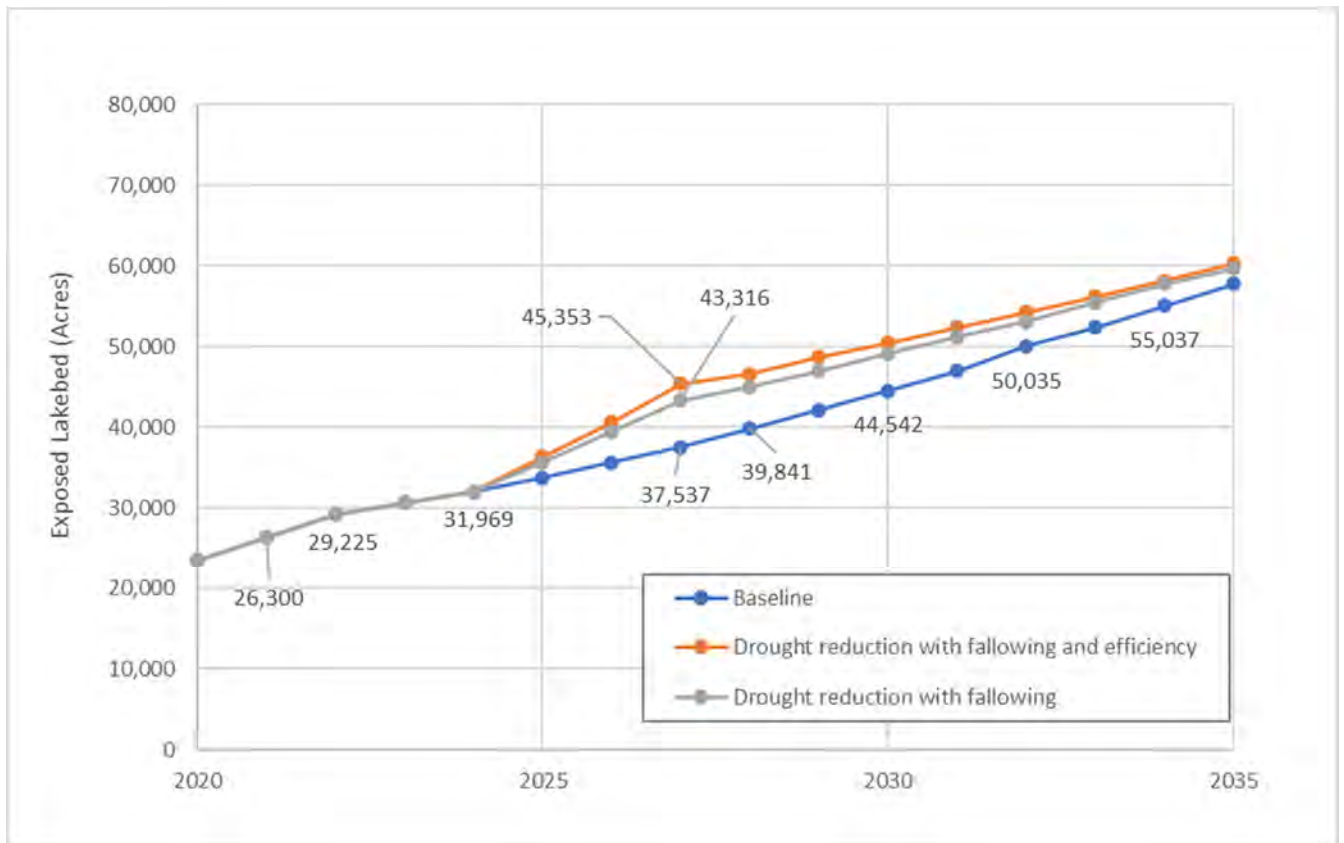


Figure 10. Impact to exposed lakebed from drought reduction scenarios (2020-2035)

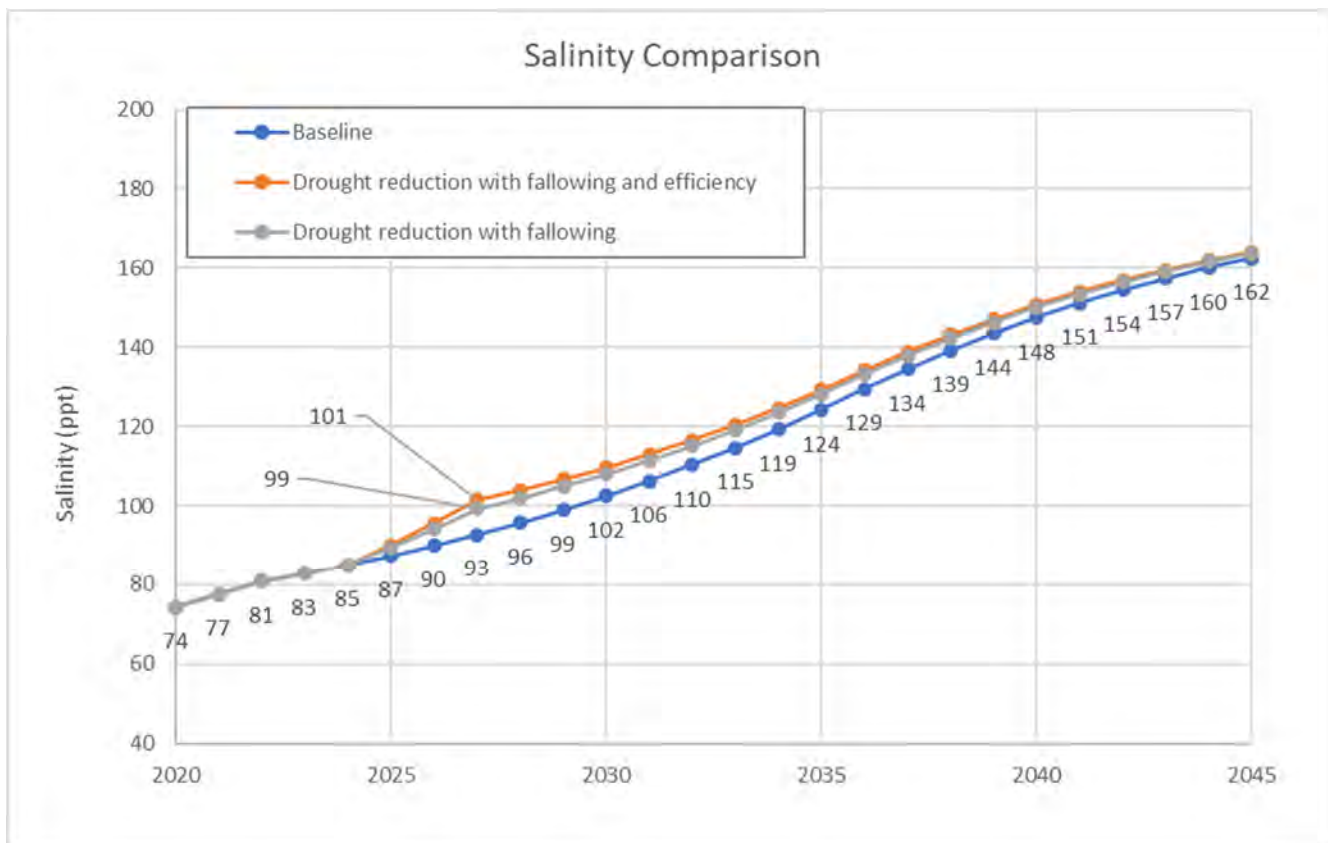


Figure 11. Impact to salinity from drought reduction scenarios (2020-2045)

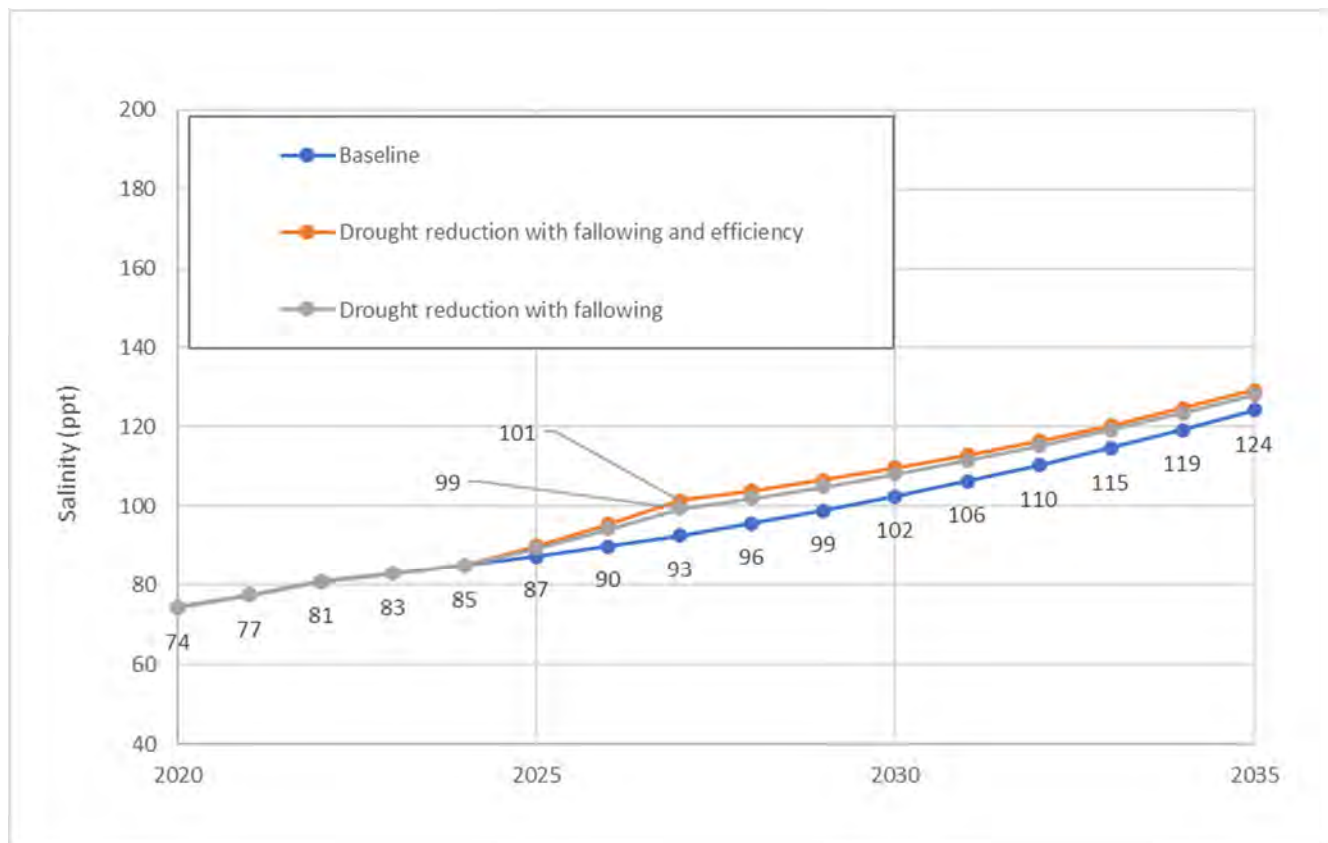


Figure 12. Impact to salinity from drought reduction scenarios (2020-2035)

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[6] Indio Subbasin Groundwater Sustainability Agencies (GSAs), 2021. 2022 Indio Subbasin Water Management Plan Update, prepared for the Sustainable Groundwater Management Act.
http://www.indiosubbasinsgma.org/wp-content/uploads/2022/02/Indio-SGMA-AlternativePlan-V1_2-FINAL-Adopted-Dec-2021.pdf

Appendix RTC-1

Responses to Comments

Comment 1: Pacific Institute, Alianza Coachella Valley, Audubon California, Leadership Counsel for Justice & Accountability, Sierra Club California

	Comment	Response
1.	Key Recommendations As we discuss in the following, the draft EA's affected environment is too small and the draft EA inappropriately relies on conditions in 2045 to minimize the potential impacts of the Proposed Action on air quality and on human and environmental health in the intervening 21 years. We recommend that Reclamation revise the EA to incorporate more appropriate and more durable impact avoidance measures, including: 1. set a near-term deadline for completion of the vegetation mapping effort; 2. monitor the drains discharging to the former Red Hill Bay and vegetation supported by those drains; 3. implement an "SCIA Salton Sea Playa Monitoring and Reporting Plan;" 4. expedite the implementation of "Mitigation Measure AQ-7: (1) Restrict Access" to playa; 5. expedite the implementation of planned projects to protect and restore emergent vegetation and augment habitat in alternative locations around the Salton Sea; and 6. initiate the process of transferring title to the federal land known as the "Salton Sea Test Base" to Imperial County or to the State of California. Timely implementation of these six, durable impact avoidance measures could enable the SCIA to proceed without the need to resort to a more robust environmental impact statement that recognizes the potential for the Proposed Action to have a significant effect on the human environment. The rapid implementation of all of the recommended impact avoidance measures could obviate the need for a consistent and thorough air quality and public health assessment and should enable Reclamation and IID to proceed with the Proposed Action, protecting those dependent on the Colorado River system as well as those in the Salton Sea region.	The Proposed Action is approval of an agreement for the temporary period of three years for the creation of conserved water that would reduce IID's annual diversion of Colorado River water by up to 300,000 acre-feet per year. The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented. The three-year period of the Proposed Action is significantly shorter in duration than the water conservation and reduction in diversions under the QSA. The EA recognizes the Proposed Action may accelerate certain impacts already associated with the water conservation under the QSA. The QSA Mitigation Monitoring and Reporting Program (MMRP), including IID's Salton Sea Air Quality Mitigation Program (SS AQMP), is implemented on an ongoing basis regardless and will address any impacts that occur despite anticipated timing. Additionally, the IID Drain and Salton Sea Vegetation Monitoring and Reporting Plan (Monitoring Plan) sets forth feasible and specific impact avoidance measures that will be implemented by IID in coordination with Reclamation, USFWS and CDFW during the three years of the Proposed Action. Reclamation has committed up to \$250 million dollars to support expanded and accelerated SSMP projects at the Salton Sea.

	Comment	Response
2.	Colorado River Agreements We commend the Department of the Interior, the California Natural Resources Agency (CNRA), IID, and the Coachella Valley Water District for signing the December 2022 <i>Commitment to Support Salton Sea Management Related to Water Conservation in the Lower Colorado River Basin</i> (Commitments Agreement) and collectively committing “to addressing, managing, and mitigating impacts to the Salton Sea and surrounding communities associated with additional water conservation activities.” We thank Interior for committing \$250 million to support Salton Sea-related project implementation and staff capacity at the water agencies and at the Torres-Martinez Desert Cahuilla Tribe as part of the Commitments Agreement and understand that this funding is linked to the Proposed Action. We thank Interior for disbursing more than \$70 million of this funding to date, funding CNRA is currently using to expand the Species Conservation Habitat project, and look forward to the disbursement of the remaining funds. (California's recent commitment, in its FY2024/25 budget, of \$65.8 million to Salton Sea projects and – importantly – to operations and maintenance costs for such projects also offers hope that the rate of habitat and dust suppression project implementation at the Salton Sea will increase, benefiting public and environmental health.) It is not clear why the EA does not reference the Commitments Agreement and its potential contribution to impact avoidance measures; we urge Reclamation to correct this omission in the final EA.	The following text has been added to Section 1.2 Reclamation Authority, Policy, and Resource Management on pages 3-4 of the EA: “Additionally, in December of 2022, the Department of the Interior, the California Natural Resources Agency (CNRA), IID, and the Coachella Valley Water District signed a <i>Commitment to Support Salton Sea Management Related to Water Conservation in the Lower Colorado River Basin</i> to facilitate voluntary conservation in the Lower Colorado River Basin. As part of this agreement, the Department of the Interior committed \$250 million in support the implementation of CNRA's Salton Sea Management Program, specifically to support expanded and accelerated projects at the Salton Sea.”
3.	As noted in the December 11, 2023, comment letter by Leadership Counsel and Pacific Institute (incorporated by reference and attached here for your convenience) on the October 2023 revised <i>Draft SEIS for Near-term Colorado River Operations</i> (draft SEIS), the rate of California's project construction at the Salton Sea (much less completion) remains well below the rate of the Salton Sea's decline (currently about 2,400 acres per year). As noted in the December 2023 comment letter, “Sections 3.8, 3.9, 3.13, 3.16, and 3.17 of the draft SEIS (summarized in Table 2-9) note that the proposed action would adversely affect water quality, air quality, biological resources, socioeconomics, and environmental justice in the Salton Sea region, for a period of 26 years.”	The Proposed Action in the EA is fully developed allowing for the analysis to consider specific aspects of the Proposed Action, such as the Monitoring Plan. The EA is consistent with the March 2024 Final SEIS, which provides in pertinent part in Section 3.7 Water Deliveries, Section 3.7.2 Environmental Consequences, under Issue 6, page 3-84: “Therefore, the Proposed Action could result in expedited (but not additional) lakebed exposure compared with the No Action Alternative, due to less possible available agricultural runoff.” The analysis in the EA is consistent with the SEIS.

	Comment	Response
	The inconsistency of the draft EA and last year's draft SEIS is a significant defect Reclamation should correct.	
4.	Affected Environment The EA should explicitly define the affected environment. The affected environment should include the region in which impacts may be felt. The affected environment is much more extensive than the Proposed Action Area (described as the IID Contract Service Area, shown in Fig. 1-1). The Proposed Action would accelerate the lowering elevation of the Salton Sea, thereby accelerating the exposure of the shoreline. This acceleration in turn would result in the earlier potential for increasing fugitive dust emissions and related HAP emissions and exposure to communities surrounding the Salton Sea. (p. 51) The EA should define the affected environment as the Salton Sea as a whole and communities surrounding the Salton Sea and should note the demographics of these adjacent communities, many of which carry existing burdens of impaired air quality.	The EA focuses on the IID Contract Service Area because the conservation of Colorado River water under the Proposed Action will occur in this area. The EA recognizes the affected environment for each resource topic area may extend beyond the IID Contract Service Area and assesses potential environmental impacts that may result from the Proposed Action as appropriate for the resource topic. The scope of the affected environment depends on the resource being evaluated. For example, Section 3.3 Air Quality analyzes the entire Salton Sea region (e.g. Salton Sea Air Basin, page 40; Regional Air Quality, page 41; IID's SS AQMP, State's Salton Sea Management Program (SSMP) and Dust Suppression Action Plan (DSAP) projects, page 44; hydrogen sulfide and hazardous air pollutants monitoring, page 44).
5.	Similarly, the Affected Environment for Biological Resources should be expanded to include the Salton Sea shoreline as of the publication of the EA, e.g., approximately -240.6' (NGVD 1929), as well as an appropriate buffer (roughly 500 meters) inland from this shoreline, to incorporate potential impacts to species using the shoreline interface. The EA's false equation of the affected environment to the IID Contract Service Area must be corrected.	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action.
6.	Cumulative Projects The draft EA notes that "Cumulative effects are potential impacts on the environment that result from the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions" (p. 15). Reclamation's NEPA Handbook notes that "Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (p. 8-18) and that, "If appropriate, the EA should also discuss potential cumulative impacts resulting from actions taken by Reclamation, other Federal agencies, and State and local agencies, and how they relate to the action being considered" (p. 6-8). The assertion on p. 15 that "while it is possible that these events may	The EA identifies cumulative projects in Table 1-1. Each impact analysis for each resource area includes an assessment of the "incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions" may collectively result in significant impacts. The cumulative analysis for each resource area takes into account the projects listed in Table 1-1 and finds that the increment of effect of the Proposed Action when added to those projects will not result in an overall increase in effects. The Department of Water Resources (DWR) modeling using the Salton Sea Accounting Model (SSAM) includes these projects in its assumptions and, therefore, accounts for reduced flows.

	Comment	Response
	occur earlier, they will still occur without the Proposed Action” ignores expected changes in the magnitude and severity and duration of these events due to the Proposed Action and should be revised accordingly.	
7.	Table 1.1 includes “WRP No. 4 Recycled Water Program” but the EA neglects to quantify how much it would diminish the inflows to the Salton Sea or discuss the potential cumulative impacts of this proposed action.	The CVWD WRP No. 4 Recycled Water Improvement Project at full build-out is intended to provide all recycled water from the plant to meet customer needs, thereby eliminating discharges ultimately reaching the Salton Sea. According to the Notice of Preparation of an Environmental Impact Report and Notice of Scoping Meeting, issued on October 12, 2023, the plant currently treats and discharges an average daily flow of approximately 5.7 million gallons per day (or when converted to acre-feet, approximately 17.49 acre-feet per day and 6,385 acre-feet per year). While this reduction in flows is permanent, it is 0.007% of the total inflows to the Sea calculated by DWR in its hydrology modeling. CVWD intends to construct Phase I of the project within 5 years. Based on timing and volume. There will not be a significant cumulative impact resulting from the combination of the Proposed Action and the WRP No. 4 Recycled Water Improvement Project based on the short-term duration of the Proposed Action and the incremental reduction to inflows of the two projects, which will not occur during the same period of time.
8.	Table 1.1 notes that the status of the QSA Habitat Conservation Plan (HCP) is “Ongoing (Partially in Planning, Construction and Completed).” More than twenty years have passed since IID signed the QSA, yet the HCP has yet to be completed.	The HCP has been deleted from the Cumulative Projects List in Table 1-1.
9.	Table 1.1 (“Cumulative Projects List”) should include the Lower Basin post-2026 alternative, in which California proposes to conserve as much as 440,000 acre-feet of water annually as part of the post-2026 Colorado River operations. While intra-state allocation of this reduction has yet to be determined, it is reasonably foreseeable that IID would continue to participate in actions to protect the Colorado River system at some level, and potentially at a level comparable to the Proposed Action, especially since it is unlikely that the California Colorado River contractors could achieve 440,000 AF of annual reductions absent IID participation at that level. Correcting this omission will dramatically affect the impacts analysis as a whole; it is not clear why this reasonably foreseeable – indeed, expected – action was omitted from the list of cumulative projects	A wide range of alternatives for the multi-year NEPA process for the post-2026 Colorado River operating guidelines are currently being considered and analyzed. Therefore, conservation volumes are speculative and not reasonably foreseeable. For this reason, post-2026 conservation volumes were not included in the Cumulative Projects list. The Proposed Action is approval of an SCIA under Reclamation’s Lower Colorado River Basin System Water Conservation and Efficiency Program (LC Conservation Program) with funding allocated from the Inflation Reduction Act of 2022 (Public Law No. 117-169) to support the Near-Term Colorado River Operations evaluated in Reclamation’s March 2024 Final SEIS. This

	Comment	Response
	and from the impacts analysis. Similarly, p. 18 states, “Colorado River water deliveries to IID would return to pre-Proposed Action volumes beginning in 2027 upon the expiration of the SCIA and conclusion of the water conservation programs provided for by the SCIA.” As noted in the EA “Purpose and Need” and Reclamation’s on-going efforts to develop management alternatives for the post-2026 period, it is more than reasonably foreseeable that IID will enter into additional conservation agreements for the post-2026 period and that “Colorado River water deliveries to IID ~~would~~ will not return to pre-Proposed Action volumes.” Reclamation should revise the draft EA to correct this significant error.	is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate.
10.	Monitoring We commend the development and implementation of the proposed “IID Drain and Salton Sea Vegetation Monitoring and Reporting Plan (Monitoring Plan) for the three years of the Proposed Action, calendar years 2024 through 2026” (p. 20). The EA should set a deadline for completion of this vegetation mapping effort, such as within one month of the certification of the final EA, to ensure that the final map provides a useful baseline for comparison. Presumably, IID’s contractor has completed much of this work already, as documented in its annual <i>Salton Sea Playa Exposure Estimate</i> memoranda.	The vegetation mapping of existing communities will be conducted in 2024.
11.	Please explain why neither the drains discharging to the vegetated area in the former Red Hill Bay nor the vegetated area itself (circled in orange) have been designated for monitoring, as shown in Figure 2-4b (pasted below).	The area circled in the comment is not appropriate for monitoring because it is not connected to an IID drain. Water is pumped onto the site from a few adjacent lands. The site is also subject to an Abatement Order from the Imperial County Air Pollution Control District.
12.	IID should also implement an “SCIA Salton Sea Playa Monitoring and Reporting Plan,” perhaps as part of IID’s existing Salton Sea Air Quality Mitigation Program (SS AQMP), to ensure that the Proposed Action will not result in additional dust emissions from exposed lakebed. The SCIA Playa Monitoring Plan should also include triggers that would require action by IID should emissions be observed. The SCIA Playa Monitoring Plan would need a separate funding source, distinct from the existing QSA Joint Powers Authority, since it would monitor and mitigate impacts above and beyond those generated by the QSA itself. Section 2.VI.A.i of the December 2022 <i>Commitments Agreement</i> suggests a federal funding source for the SCIA Playa Monitoring Plan; alternatively, the State of	The EA notes on page 15 that the QSA EIR/EIS is incorporated by reference. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing. Appendix AQ-2 SS AQMP was added to the EA, which explains the SS AQMP in detail.

	Comment	Response
	California and/or IID could contribute to such a plan. (Assuming the SCIA generates 700,000 acre-feet through 2026, of which 100,000 would be generated by OFECP and the remainder from DIP, and accounting for lost water sales and 25% for administrative and environmental costs and lost hydropower generation suggests that IID would net more than \$200 million from the SCIA, providing a potential funding source for some portion of the six impact avoidance measures we recommend.)	
13.	The Monitoring Plan described in the draft EA, combined with the proposed SCIA Playa Monitoring Plan, would provide valuable information on the impacts of the Proposed Action. The two monitoring plans will also inform the development of impact avoidance and/or mitigation measures for additional IID water conservation measures contemplated for post-2026 Colorado River operations.	The Monitoring Plan will be implemented in addition to the MMRP and SS AQMP. Additional monitoring and funding sources are outside the scope of this Proposed Action.
14.	Impact Avoidance Measures We commend Reclamation for developing robust drain and vegetation impact avoidance measures, though we question whether delivering water to mitigate for the conservation of water may be the most appropriate approach. A complimentary approach, consistent with the purpose and need for the Proposed Action, could be to expedite the implementation of planned projects to protect and restore emergent vegetation and augment habitat in alternative locations around the Salton Sea, such as the proposed Bombay Beach Wetland (BBW) project and potential desert pupfish habitat at the Sonny Bono Salton Sea National Wildlife Refuge. We recommend that IID engage closely with the State to expedite landownership agreements and grant funding agreements to expedite implementation of the BBW project. Additionally, we encourage IID to enhance its collaboration with Reclamation and Audubon regarding public access design to facilitate smooth project progress and community engagement.	The recommendations of the BBW project and habitat at the Refuge are outside the scope of the Proposed Action and the analysis of this EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA's SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects.
15.	IID, CNRA, and Reclamation should work with Imperial County to expedite the implementation of "Mitigation Measure AQ-7: (1) Restrict Access . Public access, especially off-highway vehicle access, will be limited, to the extent legally and practically feasible, to minimize disturbance of natural crusts and soils surfaces" (p. 50). Expanding and expediting the implementation of the BBW, potential desert pupfish projects, and Measure AQ-7 would provide durable solutions and lasting	Reclamation is committed to working with all the parties at the Salton Sea and to meet the terms of the 2022 Commitments Agreement, including providing up to \$250 million to support ongoing restoration efforts.

	Comment	Response
	benefits to the region and, if implemented quickly and robustly, could bolster acceptance of the Proposed Action.	
16.	Reclamation should also work with state and local officials to support their efforts to initiate the transfer of the federal land known as the “Salton Sea Test Base” to Imperial County or to the State of California, as described in the attached December 11, 2023, comment letter. In addition to providing land for impact avoidance measures for the Proposed Action, the Test Base would provide space for a much-needed Salton Sea research campus. This transfer would demonstrate state and federal commitments to the Salton Sea (consistent with the December 2022 <i>Commitments Agreement</i>) and the value and benefits of partnerships and collaboration.	The recommendation to transfer the Salton Sea Test Base land is outside the scope of the Proposed Action and the analysis of this EA.
17.	Recreation Table 3-1 (p. 39) states that “The Proposed Action involves water conservation programs and would not impact recreational facilities. No further assessment is necessary.” In fact, the proposed water conservation programs would, as noted on p. 51, “accelerate the lowering elevation of the Salton Sea, thereby accelerating the exposure of the shoreline,” which in turn would likely affect recreational facilities such as the Salton Sea State Recreation Area and the historical North Shore Beach and Yacht Club, frequented by local communities as a community center for its programmatic use. Table 2-9 of the Draft SEIS notes that “shoreline recreation on the Salton Sea shoreline could be more adversely affected if IID and CVWD contribute to SEIS conservation” (e.g., the Proposed Action). Reclamation should evaluate impacts on recreational facilities in the EA and follow the impacts analysis in the draft SEIS.	The EA finds that acceleration of the impacts to recreation at the Salton Sea would not be substantially different than already evaluated in the QSA EIR/EIS.
18.	Air Quality The assertion on p. 15 that “the temporary impacts associated with the Proposed Action would taper off to projected future baseline levels by the year 2045” raises the question of why the year 2045 is an appropriate basis for evaluation. Similarly, the assertion that “the Proposed Action ... would not increase overall emissions when considered with other projects in the Action Area” is inconsistent with Fig. 9 in Appendix C (pasted below for your convenience), which shows 7,800 additional acres	Based on modeling conducted by DWR using SSAM for the implementation of the Salton Sea Management Plan (SSMP) included in Appendix HYDRO-3, the EA finds that the Proposed Action would accelerate the lowering elevation of the Salton Sea. Impacts resulting from lowering Sea elevation would include the same acreage as analyzed in the QSA EIR/EIS (as shown in Figure 9 referenced in the comment), but they would occur earlier, slowing down over time until reaching No Action Alternative conditions by 2045. Implementation of the SS AQMP is ongoing and is designed to

	Comment	Response
	of playa exposure in 2027, and additional playa exposure each year through 2044. For the first 10+ years (2025-2035+), the additional playa exposure likely measures in the thousands of acres.	be adaptive and proactively detect, locate, and assess potential dust emissions regardless of timing, rate and extent of the playa exposure. Dust control measures are designed, installed and monitored where needed pursuant to the SS AQMP. With the acceleration of exposed playa, the EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified and mitigated in the QSA EIR/EIS.
19.	The cumulative difference in the annual amount of lakebed exposed by “Drought reduction with fallowing and efficiency” and the baseline from 2024 through 2045, as shown in Figure 9 (below), exceeds 62,000 acres. Unfortunately, the draft EA does not include a table listing incremental annual playa exposure; this is a material issue that needs to be addressed. Since we can expect that each year of additional, incremental playa exposure would likely lead to additional emissions, we expect that the Proposed Action, <i>especially when considered with relevant, reasonably foreseeable projects such as the Lower Basin post-2026 alternative</i> , would measurably increase annual and overall emissions. Please revise the EA to estimate the magnitude and duration of additional emissions due to the fact that “The Proposed Action would accelerate the lowering elevation of the Salton Sea, thereby accelerating the exposure of the shoreline” (p. 51) and “there would be an increase of the potential for fugitive dust emissions and related HAP emissions and exposure to communities surrounding the Salton Sea earlier than would otherwise occur” (p. 49).	The EA notes on page 15 that the QSA EIR/EIS is incorporated by reference. Unmitigated playa emissions account for less than 1% of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. Implementation of the SS AQMP is ongoing and is designed to be adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure. Therefore, the acceleration of impacts will be addressed by the existing mitigation.
20.	The draft EA largely ignores the effects of hydrogen sulfide emissions on air quality. It also misattributes the hydrogen sulfide emissions solely to monsoon winds and does not consider ways that changing water quality may directly impact hydrogen sulfide emissions. The impact of hydrogen sulfide on air quality is noticed by local communities, especially farmworkers who complain about the smell and the health effects subsequent to being exposed to it for prolonged periods of time. The draft EA should consider how additional near-shore monitoring could help inform relevant Impact Avoidance Measures for the Proposed Action or how the lack of current monitoring should compel local and state agencies to expand monitoring efforts. This is also a point outlined in a	The EA notes on page 44 that anaerobic decay on the sea floor can result in the production of hydrogen sulfide that is emitted to the atmosphere when winds turn over water stratifications. Lowering water elevations can worsen this natural dynamic. Since 2013, SCAQMD has operated H ₂ S monitors at two locations in the eastern Coachella Valley: at the SCAQMD Mecca air monitoring station (Saul Martinez Elementary School) and at the station operated by IID (Salton Sea Near Shore, Lincoln Avenue and 73rd Avenue, Mecca). As stated on page 44, California has set a nuisance odor standard for H ₂ S at 30 ppb (0.3 part per million [ppm]); there is no federal standard (SCAQMD 2022a). The conditions described in the comment result in odiferous air quality due to the functions of the Sea

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	letter sent by Alianza Coachella Valley and its partners in response to the IID SCIA and its draft EA.	as a terminal water body. The EA concludes that hydrogen sulfide emissions would be similar to those estimated in the QSA EIR/EIS but may occur sooner.
21.	Biological Resources The Biological Resources section of the draft EA suffers from serious errors. The “affected environment,” limited to “the IID Contract Service Area,” ignores impacts to the Salton Sea as a whole and to shoreline areas outside the “the IID Contract Service Area.”	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action.
22.	The vegetation field mapping effort mischaracterizes vegetation type and extent.	With respect to the vegetation mapping along the southern shoreline of the Salton Sea, the comment points out an error in the labeling a large portion of the Red Hill Bay area as Tamarisk-Iodine Bush Thickets/Scrub habitat, but instead is not vegetated and has surface roughening. In response to this comment, Figure 3-3c has been modified to reflect the disturbed area. Also, in response to this comment, the acreage totals provided in Table 3-4 have been updated to reflect this change.
23.	The Literature and Database Review cites Reclamation’s SEIS but ignores the findings of the SEIS, such as: Water elevations are predicted to be lower under the Proposed Action for the Salton Sea, exacerbating existing issues of water availability and salinity for migratory birds and terrestrial wildlife. ... Based on increased salinity, the Salton Sea will become increasingly less tolerable to even the most saline-tolerant freshwater species such as tilapia and desert pupfish. (pp. 3-194-195 of the draft SEIS) and According to the updated SSAM and projections of future IID water delivery using Reclamation’s CRSS model, the Proposed Action would expedite previously anticipated decreases in water level and corresponding increases in exposed playa at the Salton Sea beginning in 2024, worsening existing issues of water availability and salinity for special status species as compared with the No Action Alternative. (P. 3-219 of the draft SEIS)	The Salton Sea is a terminal inland lake that is continually increasing in salinity over time due to evaporation. The Proposed Action in the EA is fully developed allowing for the analysis to consider specific aspects of the Proposed Action. The analysis in the EA is pursuant to DWR’s modeling using SSAM, which is the same modeling completed for the SEIS. The modeling was refined for the Proposed Action in the EA which finds that there would be an acceleration of the increase in salinity by 3 to 4 years and then would reach the same levels as identified in the QSA EIR/EIS. The MMRP will address the accelerated increase in salinity. This analysis is consistent with the SEIS, which recognized that increases in salinity from the Proposed Action would be analyzed in this EA.

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24.	P. 53 states “These conditions, including the current Salton Sea elevation, are materially similar to conditions predicted in the QSA EIR/EIS for the present timeframe.” The figure below, from Formation’s Feb. 2024 Playa Exposure Estimate, shows that “Actual Observed Playa Exposure” is well below the 5th percentile of predicted playa exposure. The current Salton Sea elevation is not “materially similar to conditions predicted in the QSA EIR/EIS for the present timeframe.”	The statement on page 53 is accurate that the Salton Sea elevation is “materially similar to conditions predicted in the QSA EIR/EIS for the present timeframe.” Less playa exposure is “materially similar conditions.” The IID Technical Memorandum: Salton Sea Playa Exposure Estimate cited by the comment is based on modeling conducted by IID using its SALSA2 modeling. The Technical Memorandum is consistent with and does not change the analysis in the EA.
25.	Figure 3-3c of the EA, below left, labels the majority of the former Red Hill Bay as “Tamarisk-Iodine Bush Thickets/Scrub.” The screenshot of a 7/8/2024 Google Map image of the same area, below right and enlarged below that, shows that IID has applied “surface roughening” to the majority of the area; it is almost completely devoid of vegetation. Unless “Developed” or “Disturbed” in the legends of the four “Vegetation and Land Cover Types” figures in the EA refer to IID or SSMP dust suppression projects (in which case they should note this characterization explicitly), the roughly 5,000 acres of such dust suppression projects around the Salton Sea should be clearly characterized and identified in the figures and the habitat characterization. The EA claims that “The analysis is based on a review of the sources listed above, field visits and vegetation mapping, and a review of agricultural drain flow data” (p. 53). The image above shows the area that the draft EA erroneously characterizes, in Figure 3-3c, as “Tamarisk-Iodine Bush Thickets/Scrub.” It is not dominated by any vegetation at all; it is the site of IID’s Red Hill Bay Dust Control Project. This area is readily accessible via Garst Road and via Red Hill. It is not clear what type of vegetation analysis was actually performed for this area, but the magnitude of the error here undermines the credibility of the vegetation analysis and biological resources impact assessment as a whole. They need to be redone.	Figure 3-3c has been modified to reflect the disturbed area. Also, the acreage totals provided in Table 3-4 have been updated to reflect this change. Comprehensive vegetative mapping will be completed in 2024.
26.	In addition to the drain and vegetation impact avoidance measures described in the EA, we recommend that the Proposed Action proponents expedite the implementation of planned projects to protect and restore emergent vegetation and augment habitat in alternative locations around the Salton Sea, such as the proposed Bombay Beach	The BBW project and desert pupfish habitat at the Refuge are outside of the scope of the Proposed Action and the analysis of this EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the

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	Wetland project and potential desert pupfish habitat at the Sonny Bono National Wildlife Refuge. Expanding and expediting the implementation of such projects would provide durable solutions and lasting benefits to the region and, if implemented quickly and robustly, could bolster acceptance of the Proposed Action.	Commitments Agreement in support of the implementation of CNRA's SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea.
27.	Environmental Justice As noted previously, the improper limitation of the “affected environment” to the IID contract service area inappropriately excludes from analysis other communities adjacent to the Salton Sea that would be affected by the Proposed Action, including communities such as Bombay Beach, Desert Shores, Salton City, Thermal, Oasis, North Shore, and Mecca. The Environmental Justice analysis should be redone to account for potential dust-emission impacts to these areas.	The EA assesses air quality impacts that could affect disadvantaged communities in the entire Salton Sea Air Basin, including the communities listed. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing. CNRA is currently implementing the SSMP and the Reclamation's funding to CNRA under the Commitments Agreement is to support and expedite the SSMP projects.
28.	The draft EA makes the following assertions: If maximum participation were to occur in the DIP, up to 180,000 acres of agricultural land could stop being irrigated for a 45- to 60-day period between the months of June through September for each of the three years of 2024, 2025, and 2026. ... the agricultural activities on a field are only interrupted for a short period of time and only during the temporary, short-term span of three years. Consequently, there would be negligible direct or indirect impacts to the businesses within the agricultural industry and no adverse effects on the environment of minority or low-income populations. (pp. 89-90) If maximum participation were to occur in the FUIP, up to 34,450 acres of agricultural land could be fallowed for 6 months to one year during the two years of 2025 and 2026. ... Although some businesses may be directly affected by the reduced farming activity, economic impacts of the FUIP implemented under the Proposed Action would be negligible given the longest possible period of fallowing would be a temporary, short-term period of two years. (p. 90) Please describe the economic analysis behind the assertions that there would be “negligible” impacts due to the Proposed Action. Is this simply a qualitative determination based on the potential duration of the Proposed	The EA acknowledges on page 89 that work opportunities in participating fields would be temporarily disrupted, as a result of the Proposed Action. Participation in the DIP is only for alfalfa, bermuda grass, and klein grass crops, which are perennial crops grown year-round and would be in active agricultural production before and after participation in the DIP. The agricultural activities on a field are only interrupted for a short period of time (45 to 60 days out of 365 days). IID would prioritize the OFECP and DIP over the FUIP. Implementation of the FUIP is unlikely and may only be for a single year. The FUIP would only be implemented if IID was unable to reach conservation targets under the Proposed Action through implementation of the OFECP and DIP. This is not anticipated to occur given current levels of participation in the OFECP under the QSA and interest among potential participants in the DIP. If the FUIP were to be implemented, the conservation volume would be limited to the difference in the target volume and the volume of conservation from the OFECP and DIP, minimizing the impact from the FUIP. As stated in the SEIS, by “avoiding higher levels of modeled shortage through increased system conservation, available water supply for irrigation use would be maintained in a manner that would reduce irrigation impacts for all entities who rely on the Lower Basin water supply for irrigation use, including those located in environmental justice counties in... California (Imperial and Riverside Counties).”

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	Action? Was any quantitative assessment performed to validate this determination? For example, what impact might these reductions have on work hours and compensation for business and labor? What threshold constitutes an adverse impact on minority or low-income populations?	
29.	P. 90 states “The Proposed Action involves the implementation of temporary water conservation programs and would not disproportionately impact disadvantaged communities.” This assertion appears to be unfounded. Participating IID landowners could be paid \$300 per acre-foot conserved while farmworkers – disproportionately from disadvantaged communities – could temporarily lose employment and wages. The socioeconomic impact on local disadvantaged communities adds to the challenges they already face of poverty, poor physical and mental well-being, access to recreational opportunities, lack of economic upward mobility, and exclusion from decision-making Partnership comments on IID SCIA EA July 24, 2024 p. 12 of 14 processes. This adds to the fact that many farmworkers lack stable and dignified work that includes health and retirement benefits while they contribute immensely to the state agricultural economy of \$1.4 billion on the Riverside County side, \$2.9 billion on the Imperial Valley side and while the local agricultural industry saw growth in total agricultural production of 14.5% between 2021 and 2022. While crop production continues to grow in the region, investments in our disadvantaged communities do not match that pace to improve quality of life. This appears on its face to be a disproportionate impact. Please clarify this analysis and finding.	Under the Proposed Action, Reclamation will fund conserved water that will remain in Lake Mead for the benefit of the Colorado River System, which benefits all water users within the basin. Per the SEIS, page 3-333, Reclamation only has authority to disburse these funds to the public entity under contract and cannot direct how they are used after that disbursement.
30.	Human Health The improper limitation of the “affected environment” to the IID contract service area inappropriately excludes from analysis other communities adjacent to the Salton Sea that would be affected by the Proposed Action. The Human Health analysis should be redone to account for potential dust-emission impacts to these areas.	Section 3.3 Air Quality analyzes the entire Salton Sea region and the human health analysis is based on this analysis. Because the current and anticipated playa exposure is higher in the relatively larger, shallower southern end of the Sea, the analysis in the southern end and the most directly impacted communities from the acceleration of playa exposure is appropriate for Section 3.7 Human Health. The SS AQMP is implemented for the entire Salton Sea and will address any impacts that occur despite anticipated timing and location.
31.	The Human Health section analysis should quantify and describe the impacts of the draft EA’s earlier acknowledgement that “There would be an increase of the potential for fugitive dust emissions and related HAP	Until the playa is exposed, the location, frequency and magnitude of future emissions are unknown. The timing and location of playa exposure is a function of the Salton Sea floor bathymetry and the Sea’s response to inflows, salt loads, and evaporation rates. The

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	emissions and exposure to communities surrounding the Salton Sea earlier than would otherwise occur" (p. 49).	increase for potential fugitive dust emissions is accurate, but the SS AQMP is ongoing and is designed to be adaptive and proactively detect, locate, and assess potential dust emissions regardless of timing, rate and extent of the playa exposure. Therefore, the acceleration of impacts will be addressed by the existing mitigation.
32.	The assertion that "The exposed Salton Sea acreage is anticipated to occur as a result of the QSA and would be addressed by the IID's SS AQMP" (p. 93) ignores the SS AQMP's funding mechanism – the QSA JPA – and wrongly implies that the SS AQMP would have funding authority to expedite the implementation of dust suppression projects to address the playa exposure due to the Proposed Action. An appropriate impact avoidance measure, as noted above, would be to identify and commit a new funding source to support additional SS AQMP dust suppression projects on the portion of the roughly 7,800 additional acres exposed by the Proposed Action that are found to be emissive. Only with these additional, appropriately funded, impact avoidance measures would it be plausible that "the Proposed Action would not increase adverse effects to human health" (p. 94).	The budgeting and funding of the QSA JPA is outside the scope of the Proposed Action and analysis of the EA. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA's Salton Sea Management Program, specifically to support expanded and accelerated SSMP projects at the Salton Sea.
33.	P. 94 states "Further, given the many factors affecting respiratory conditions in children and adults, there is no data to indicate that the acceleration of the exposed playa could exacerbate those conditions." The suggestion that there is no data linking playa exposure with respiratory impacts is patently false. Farzan 2019, cited on p. 91, states "The disappearance of the Salton Sea will likely have unforeseen public health implications, while children and people with preexisting health conditions, such as asthma, may be more vulnerable to the impacts of such environmental changes." See also Johnston et al., 2019, "The disappearing Salton Sea: A critical reflection on the emerging environmental threat of disappearing saline lakes and potential impacts on children's health," <i>Science of The Total Environment</i> ; Jones and Fleck, 2020, "Shrinking lakes, air pollution, and human health: Evidence from California's Salton Sea," <i>Science of The Total Environment</i> ; Miao et al. 2022, "Evaluating health outcome metrics and their connections to air pollution and vulnerability in Southern California's Coachella Valley," <i>Science of The Total Environment</i> ; Ayres et al., 2022, "Potential impacts of reduced inflows to the Salton Sea: Forecasting non-market damages," <i>JAWRA</i> ; Biddle et al., 2023, "Aerosolized aqueous dust extracts	Unmitigated playa emissions account for less than 1% of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to

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	collected near a drying lake trigger acute neutrophilic pulmonary inflammation reminiscent of microbial innate immune ligands," <i>Science of The Total Environment</i> ; and Abman et al., 2024, "Water, dust, and environmental justice: The case of agricultural water diversions," <i>American Journal of Agricultural Economics</i> , among others.	consider in terms of human health. The SS AQMP will continue to be adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure.
34.	Consistency with the SSMP What's the basis for the assertion that "The Proposed Action would be consistent with the SSMP and Long-Range Plan" (p. 94)?	The Proposed Action will not interfere with the SSMP projects and the Long-Range Plan. The language about this project being consistent was removed and language related to Reclamation's commitment of \$250 million to assist in the implementation of the projects under the SSMP was added.
35.	Hydrology Water Quality The organization of the EA is unusual; water conservation and reduction in inflows drive impacts to other resource areas. The Hydrology/Water Quality section should precede the other sections.	The analysis in the EA is organized alphabetically by resource topic. The sections are cross-referenced when helpful to understand impact analysis.
36.	As noted in our comments on Cumulative Impacts, above, it is reasonably foreseeable that IID would continue to participate in actions to protect the Colorado River system at a level comparable to the Proposed Action. Such a reasonably foreseeable action would contribute significantly to cumulative hydrology impacts to the IID Contract Service Area and to the Salton Sea and surrounding communities.	A wide range of alternatives for the multi-year NEPA process for the post-2026 Colorado River operating guidelines are currently being considered and analyzed. Therefore, conservation volumes are speculative and not reasonably foreseeable. For this reason, post-2026 conservation volumes were not included in the Cumulative Projects list.
37.	The water conservation measures will impact nutrient concentration and composition due to fertilizer flowing into the Salton Sea. Major nutrients should be assessed both during and past the SCIA period, accounting for changes in fertilizer use after the term of the SCIA. Changes in nutrient loading have the potential to affect algal biomass production in the Salton Sea.	The EA provides an assessment beginning on page 107 that outlines impacts to water quality. The analysis concludes that the temporarily reduced flows under the Proposed Action will reduce nutrient loading into the Salton Sea compared with existing conditions.
38.	The water quality affects the regional air quality (and in certain cases beyond to even areas such as Los Angeles) through hydrogen sulfide production and likely other compounds produced by microalgae and therefore affects human and animal health. This coupled with extreme heat conditions is making life in and around the lake more unbearable. Mounting evidence from researchers and the local community continues to make the case for more resources to be allocated to the Salton Sea and for more impact avoidance measures to be implemented.	Since 2013, SCAQMD has operated H2S monitors at two locations in the eastern Coachella Valley: at the SCAQMD Mecca air monitoring station (Saul Martinez Elementary School) and at the station operated by IID (Salton Sea Near Shore, Lincoln Avenue and 73rd Avenue, Mecca). As stated on page 44, California has set a nuisance odor standard for H2S at 30 ppb (0.3 part per million [ppm]); there is no federal standard (SCAQMD 2022a). The EA notes on page 44 that anaerobic decay on the sea floor can result in the production of hydrogen sulfide that is emitted to the atmosphere when winds turn

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		over water stratifications. The conditions described in the comment result in odiferous air quality due to the functions of the Salton Sea as a terminal lake that is continually increasing in salinity over time due to evaporation. The proposed temporary annual flow reductions are within the range assessed in the QSA EIR/EIS. There would not be an increase in overall emissions of hydrogen sulfide compared with previously assessed conditions in the QSA EIR/EIS. The MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing.
39.	Conclusion As detailed above, the EA's analysis of the current condition as well as the direct, indirect and cumulative impacts of the Proposed Action is inadequate. Reclamation should incorporate more appropriate and more durable impact avoidance measures. Timely implementation of the six durable impact avoidance measures we describe above could enable the SCIA to proceed without the need to resort to a more robust environmental impact statement that recognizes the potential for the Proposed Action to have a significant effect on the human environment.	The EA recognizes the Proposed Action may accelerate certain impacts already associated with the water conservation under the QSA. The MMRP, including SS AQMP, is implemented on an ongoing basis regardless and will address any impacts that occur despite anticipated timing. Additionally, the Monitoring Plan sets forth feasible and specific impact avoidance measures that will be implemented by IID in coordination with Reclamation, USFWS and CDFW during the three years of the Proposed Action. Reclamation has committed up to \$250 million dollars to support expanded and accelerated SSMP projects at the Salton Sea.

Comment 2: Alianza Coachella Valley

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40.	While Alianza and our partners recognize IID's efforts to work with other agencies including the California Natural Resources Agency, Department of Interior, and the Coachella Valley Water District (CVWD) on their responsibility to restore the Salton Sea via the December 2022 <i>Commitment to Support Salton Sea Management Related to Water Conservation in the Lower Colorado River Basin</i> (Commitments Agreement), it is not clear that this other proposed approval for the SCIA and its EA addresses concerns made by the community and community-based organizations for many years regarding the receding Salton Sea's impact on regional air quality and their health.	The EA assesses air quality impacts that could affect disadvantaged communities in the entire Salton Sea Air Basin. Based on modeling conducted by DWR using SSAM for the implementation of the SSMP included in Appendix HYDRO-3, the EA finds that the Proposed Action would accelerate the lowering elevation of the Salton Sea by approximately 5 to 10 years. That is to say, impacts resulting from lowering Sea elevation would include the same acreage as analyzed in the QSA EIR/EIS, but they would occur earlier, slowing down over time until reaching No Action Alternative conditions by 2045. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing or location.

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41.	Although there is current funding allocated by the way of the 2022 Commitments Agreement and the SCIA outlined in the Salton Sea Partnership's letter via Michael Cohen (pg. 1) to help conserve water and implement Salton Sea Management Plan (SSMP) projects, the surrounding disadvantaged Salton Sea communities have been left out of funds that would help them mitigate the impacts.	The distribution of funding provided under the 2022 Commitments Agreement is outside the scope of this EA. The funding will help to address impacts from the Proposed Action by supporting expanded and accelerated projects at the Salton Sea that address air quality to protect health and restore habitat.
42.	This letter aims to address the following: • The current EA and SCIA's lack of robust scientific and socioeconomic analysis; • Recommendation for robust scientific, health and socioeconomic data to help understand and mitigate what the impacts of less water to the Salton Sea would have on the region;	Section 3.6 Environmental Justice begins on page 87 and includes the socioeconomic analysis and available data. Additional information has been added to the Environmental Justice Section.
43.	• A fund which would help to mitigate the impacts of the Proposed Action with additional resources and opportunities to the under-resourced communities.	Reclamation only has authority to disburse these funds to the public entity under contract and cannot direct how they are used after that disbursement.
44.	Environmental justice requires that federal actions not disproportionately impact under-resourced communities that are least able to bear the brunt of those impacts. The environmental assessment for IID water conservation program 2024-26 ("Assessment") fails to meet that test. Rather than forthrightly analyzing and mitigating potential impacts from water conservation efforts on under-resourced communities, the assessment dismisses them as insignificant without any credible analysis: With respect to socio-economic impacts, the Assessment concludes: <i>Therefore, although the IID Contract Service Area includes a higher rate of Hispanic/Latino populations and higher rate of residents below the poverty level when compared to the overall State of California, the Proposed Action would not disproportionately affect the minority and low-income populations in the area because the Proposed Action is not expected to significantly affect local socioeconomic conditions due to the short duration of the reduced farming activities The Proposed Action would temporarily reduce water deliveries to agricultural operations within the IID Contract Service Area for three years. The temporary, short-term water delivery reductions combined with other delivery</i>	Reclamation recognizes the need to not disproportionately impact environmental justice communities analyzing potential impacts in the SEIS and the EA. As stated in the SEIS, by "avoiding higher levels of modeled shortage through increased system conservation, available water supply for irrigation use would be maintained in a manner that would reduce irrigation impacts for all entities who rely on the Lower Basin water supply for irrigation use, including those located in environmental justice counties in... California (Imperial and Riverside Counties)."

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	<i>reductions would not contribute to permanent reductions in agricultural practices of the region supporting the local economy, which includes a high rate of minority and low-income population households. The Proposed Action involves the implementation of temporary water conservation programs and would not disproportionately impact disadvantaged communities. Thus, the Proposed Action, when considered with relevant past, present, and reasonably foreseeable projects would not contribute to cumulative impacts related to environmental justice issues in the IID Contract Service Area.</i>	
45.	The interim program will be for 2024-2026, and will likely serve as the template for long-term, post 2026, conservation efforts. The “short-term” reductions are significant enough to trigger hundreds of millions of dollars to local farmers to offset the impacts, but impacts to farm workers are dismissed as “insignificant” without analysis.	A wide range of alternatives for the multi-year NEPA process for the post-2026 Colorado River operating guidelines are currently being considered and analyzed. Therefore, conservation volumes are speculative and not reasonably foreseeable. Reclamation is unable to use Inflation Reduction Act funds for economic mitigation, but anticipates the compensation for the conserved water will “offset to some degree the level of economic impacts associated with reduced agricultural production.”
46.	The Assessment also dismisses as “insignificant” potential health impacts from an accelerated decline in the Salton Sea: <i>Proposed Action accelerates the exposure of playa that will already occur under existing conditions and does not result in greater exposed playa over the long term, and therefore will be addressed by IID’s SS AQMP and the implementation of dust control measures as determined to be necessary...., it would not contribute to cumulative human health impacts within the IID Contract Service Area.</i> The assessment dismisses the impact of accelerated decline of the Salton Sea because an equivalent decline would occur by 2045 (“long term”) without the project. Twenty years of accelerated decline go unaddressed. It is clear from the assessment that the water level decline will be accelerated in the short term and the EA notes that exposure of the playa and the associated air quality impacts (including both particulate matter and gasses such as hydrogen sulfide) will be accelerated by 5-10 years. Accelerating these impacts will have a quantifiable effect on human health that will not integrate out due to an assumed slowed rate of decline in the future.	This analysis in Section 3.7 Human Health is based on the analysis in Section 3.3 Air Quality. The EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified in the QSA EIR/EIS. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing.

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47.	Recent studies (Biddle et al. 2021, 2022, Batterman et al. 2023) indicate a potential nexus between the decline of the Salton Sea and disproportionate health impacts in the vicinity of the Sea.	Unmitigated playa emissions account for less than 1% of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to consider in terms of human health. The SS AQMP will continue to be adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure.
48.	moreover, ecological impacts in many systems depend on the rate of change, not just the magnitude of change. the water level results should be reinterpreted to give a full assessment of the integrated impacts over 20 years.	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. To ensure there are no ecological impacts, the Monitoring Plan will be implemented in addition to the MMRP.
49.	Overall, the scientific analysis in the EA is inadequate. Throughout the assessment, almost no scientific literature is cited. Instead, the analysis relies on the Salton Sea Restoration Project Environmental Impact Statement from 2000. This does not account for the ways that the Salton Sea has changed in the past two decades due to the impacts of that and	The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The EA provides a detailed assessment of potential impacts as a result of the changes in the

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	other projects nor for the ways that understanding of the Sea has changed in the intervening years. A partial bibliography is attached. This severely limits the analysis of the impacts of this specific project in the context of the Salton Sea today. The assessment acknowledges that the Salton Sea water levels and water quality are declining but fails to recognize that it is now a vulnerable ecosystem and that further changes may cause harm to both people living around the Salton Sea and further damage the ecosystem.	conditions since the QSA EIR/EIS was certified, which is supported by the bibliography in Section 5.0 and the Appendices. The EA acknowledges these changed conditions and the Proposed Action includes the Monitoring Plan to protect the ecosystems. The implementation of the MMRP is applicable and appropriate.
50.	The proposed water conservation measures will have an impact on the water level of the Salton Sea. This will have impacts on the exposed shoreline around the entire Salton Sea (not just the IID region), which can cause emissions of harmful dust from the playa, and on the salinity level due to reduced freshwater inflow resulting in concentrating salts. In addition, there are likely impacts on the water quality that remain only vaguely discussed. Water that flows into the Salton Sea from agriculture carries relatively high nutrient loads and this nutrient loading is for the most part currently unmitigated. The water conservation measures may impact water quality through changes in the nutrient concentration and composition of the water that does flow into the Salton Sea. Only the salinity and selenium concentration are assessed. This represents a major shortcoming. Increased and changed nutrient loading has the potential to change algal biomass production in the Salton Sea. Moreover, the impacts on water quality may extend past the three-year water conservation period.	The Salton Sea is a terminal inland lake that is continually increasing in salinity over time due to evaporation. The analysis in the EA is pursuant to DWR's modeling using SSAM. Pursuant to the modeling there would be an acceleration of the increase in salinity by 3 to 4 years and then would reach the same levels as identified in the QSA EIR/EIS. The MMRP will address the accelerated increase in salinity. The temporarily reduced flows under the Proposed Action will reduce nutrient loading into the Salton Sea compared with existing conditions.
51.	Commenting on the economic impact of the proposed action the Desert Sun article states that "And third-party vendors like tractor companies and pesticide and fertilizer vendors might feel a temporary pinch, but would likely make it up in extra work rehabilitating the fields once irrigation resumed.". This suggests that there is the potential for increased nutrient loading following the conservation period and should be assessed. Nutrient content has an impact on air quality through its effects on microalgae and anaerobic metabolisms.	The EA recognizes the potential for nutrient loading and that the temporarily reduced flows under the Proposed Action will reduce nutrient loading into the Salton Sea compared with existing conditions.
52.	<i>Greenhouse gasses</i> : There is the possibility that the proposed water conservation would contribute to greenhouse gas emissions. This should be discussed. In particular, the declining water levels and shifting nutrient	The EA notes on page 38 that the proposed project would not affect greenhouse gases. The Proposed Action involves fewer agricultural activities as a result of the conservation with implementation of the DIP and FUIFP. The OFECP involves the same level of agricultural

	Comment	Response
	concentration and composition leads to the possibility of increased anaerobic decay.	activities as the No Action Alternative. No new or additional greenhouse gases would be emitted as a result of the Proposed Action.
53.	This anaerobic decay will likely lead to increased greenhouse gas emissions. While hydrogen sulfide, a product of anaerobic decay, is noted, byproducts of denitrification are not noted. These include NO ₂ , N ₂ O, and N ₂ . N ₂ O is a potent greenhouse gas. N ₂ O sourced from the Salton Sea and the fields that are included in the conservation measures should be discussed.	Regarding the emissions from biological reactions in the Salton Sea, the EA concludes that the Proposed Action would not result in increased overall anaerobic decay, including emissions of hydrogen sulfide and nitrous oxides, compared with previously assessed conditions in the QSA EIR/EIS.
54.	<i>Hydrogen sulfide</i> : The consequences of hydrogen sulfide emissions are severely underestimated in this assessment. There is a preponderance of evidence that low level hydrogen sulfide emissions can have a substantial impact on health (Batterman et al. 2023). Moreover, exposure to malodors is an environmental justice issue (Quist and Johnston 2023). Any increase in hydrogen sulfide emissions should be taken very seriously as a community impact. The processes that result in hydrogen sulfide emissions from the Salton Sea are misrepresented in this report. Rather than arising solely due to monsoonal flow events, there is regular outgassing of hydrogen sulfide that is likely not captured with the existing sensor network.	Since 2013, SCAQMD has operated H ₂ S monitors at two locations in the eastern Coachella Valley: at the SCAQMD Mecca air monitoring station (Saul Martinez Elementary School) and at the station operated by IID (Salton Sea Near Shore, Lincoln Avenue and 73rd Avenue, Mecca). As stated on page 44, California has set a nuisance odor standard for H ₂ S at 30 ppb (0.3 part per million [ppm]); there is no federal standard (SCAQMD 2022a). The conditions described in the comment result in odiferous air quality due to the functions of the Salton Sea as a terminal water body. Hydrogen sulfide emissions would be similar to those estimated in the QSA EIR/EIS but may occur sooner.
55.	<i>Hazardous air pollutants</i> : Hazardous air pollutants that are specific to this location should be assessed. For example, given the large and persistent microalgal blooms (Reifel et al. 2007; Tiffany et al. 2007) algal particles should be assessed as a health hazard (May et al. 2018; Olson et al. 2020). Given the changing nutrient status that will result from the water conservation, these blooms and their health impacts should be assessed. These overlap with the broad category of VOCs but are not specifically monitored or assessed.	The EA recognizes the potential for nutrient loading and finds that the temporarily reduced flows under the Proposed Action will reduce nutrient loading into the Salton Sea compared with existing conditions.
56.	In addition, there is not mention of gypsum precipitation anywhere in the EA, which can be of concern because it may be linked to human health concerns.	Gypsum precipitation would be raised for the concern that it may potentially carry hazardous metals in airborne dust emissions. As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method

	Comment	Response
		detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The MMRP, including IID's SS AQMP, is implemented on an ongoing basis regardless and will address any impacts that occur despite anticipated timing.
57.	While the EA proposes funding schedules for compensating farms for the impact of implementing the SCIA, it does not propose to mitigate the economic and health impacts on communities. Alianza respectfully requests that under-resourced communities that rely on agricultural production for their livelihoods and communities in proximity to the Salton Sea be fully protected from impacts of water conservation efforts by directing 10% of the total federal payments to IID for the SCIA program to mitigation efforts for these communities to fund research into health impacts of the receding Sea, improve health care for community members that suffer health impacts from deteriorating air quality; and funding alternative employment opportunities. That would be a small amount in comparison to the hundreds of millions of dollars that are to be paid to a handful of large farmers.	The Proposed Action is approval of an SCIA under Reclamation's LC Conservation Program with funding allocated from the Inflation Reduction Act of 2022 to support the Near-Term Colorado River Operations evaluated in Reclamation's March 2024 Final SEIS. This is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate. Providing funding as requested would be outside Reclamation's authority.
58.	Funding Research to Measure Health Impacts, Close Research Gaps, and Create a Baseline Over the years, science done in collaboration with the community has shown there needs to be more air and water quality monitoring in and around the communities located nearest to the Salton Sea and adjacent to agricultural land. The community has asked for more air quality monitors to be placed near communities that would measure particulate matter, hydrogen sulfide, and other pollutants. These places include schools where the majority of farmworkers' children attend, community centers located in Salton Sea unincorporated areas frequented by residents, especially those that are classified as sensitive groups by the EPA, public libraries, and community parks. These monitors should be regulatory grade and used to assess the impacts of Salton Sea water policy. Communities have also asked that there be monitors placed in residential homes to measure impact of air quality on daily life and where people spend the majority of their time, especially during months of extreme heat.	Regulatory air quality monitors compliant with U.S. Environmental Protection Agency guidelines are operated by the Imperial County Air Pollution Control District and the South Coast Air Quality Management District are discussed on page 41 with data compiled from these monitoring stations summarized in Table 3-2 on page 42. This monitoring network is in addition to the air quality monitors operated by IID as part of the SS AQMP to detect, locate, assess and mitigate dust emissions from exposed Salton Sea playa as it occurs.

	Comment	Response
59.	More monitors and funding should assess the health impact of air pollutants in the valley, especially due to three pollutants currently not in attainment. The Coachella Valley is already in serious nonattainment area for PM10 under the federal clean air act (CAA) , severe nonattainment for PM2.5 as of July 19, 2024 and severe nonattainment for Ozone, and has serious issues with hydrogen sulfide outgassing, which is why the SCAQMD has a website specifically for when their regulatory grade monitors measure gas levels that are above the 30 ppb standard set by CARB and will alert people who are subscribed to the alerts.	The Proposed Action is approval of an SCIA under Reclamation's LC Conservation Program with funding allocated from the Inflation Reduction Act of 2022 to support the Near-Term Colorado River Operations evaluated in Reclamation's March 2024 Final SEIS. This is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate. Providing funding as requested would be outside Reclamation's authority.
60.	In addition to the criteria air pollutants already in nonattainment status, the valley requires increased research on hydrogen sulfide (H2S). Currently, only four H2S monitors exist in the northern Salton Sea region, with a notable absence of publicly accessible monitors in Imperial County. Data from existing monitors, including three land based monitors from the South Coast AQMD and one on a platform in the Salton Sea (Alianza), have shown alarming upward trends and exceedances above 100 ppb in recent months. Expanding H2S monitoring is crucial, as the receding shoreline and geothermal activity may contribute to ongoing H2S emissions.	Since 2013, SCAQMD has operated H2S monitors at two locations in the eastern Coachella Valley: at the SCAQMD Mecca air monitoring station (Saul Martinez Elementary School) and at the station operated by IID (Salton Sea Near Shore, Lincoln Avenue and 73rd Avenue, Mecca). As stated on page 44, California has set a nuisance odor standard for H2S at 30 ppb (0.3 part per million [ppm]); there is no federal standard (SCAQMD 2022a). The conditions described in the comment result in odiferous air quality due to the functions of the Salton Sea as a terminal water body. Hydrogen sulfide emissions would be similar to those estimated in the QSA EIR/EIS but may occur sooner. The Proposed Action would not result in increased overall emissions of hydrogen sulfide compared with previously assessed conditions in the QSA EIR/EIS.
61.	Funding should be available to prioritize public health by conducting comprehensive health studies . The declining water level at the Salton Sea poses multiple, evolving health threats to our communities. We must identify the populations most at risk and evaluate the specific impacts of particulate matter, harmful algal blooms, hydrogen sulfide emissions, and several other hazards from a declining water level. To effectively address these issues, we must integrate field measurements with actual health outcomes . This requires a coordinated effort to sample air quality in alignment with health responses. Attribution of health effects is difficult, but a lack of concurrent and collocated sampling further hinders our understanding.	The Proposed Action is approval of an SCIA under Reclamation's LC Conservation Program with funding allocated from the Inflation Reduction Act of 2022 to support the Near-Term Colorado River Operations evaluated in Reclamation's March 2024 Final SEIS. This is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate. Reclamation only has authority to disburse these funds to the public entity under contract and cannot direct how they are used after that disbursement. Additional information has been added to the Environmental Justice Section.

	Comment	Response
	We propose this funding is used for a focused longitudinal study that follows a cohort of individuals over an extended period. This would involve annual or biannual health assessments using self-reported respiratory public health questions during home visits. The assessment should enable comparisons to state-level indicators and estimate asthma prevalence, wheezing, allergies, and other related symptoms. While broader health concerns exist, focusing on respiratory symptoms would streamline the survey and address the community's most pressing concern.	
62.	Ways In Which to Improve Health Care for Community and Minimize Harm The community would benefit from a variety of measures to minimize or prevent harmful impacts of air quality resulting from exposed playa due to the receding sea and fallowed agricultural land. Efforts for improving health conditions for the community should include personal protective equipment for the prevention of harmful impacts of air quality to the most vulnerable, disadvantaged and economically burdened communities. Effective gas and N95 masks to prevent the inhalation of particulate matter (particularly PM 10), hydrogen sulfide and other harmful substances must be provided to impacted households. To minimize the impact on residential housing, the community made several suggestions. They range from providing families with in-home instruments to counter air pollution impacts to providing reinforcements in home buildings. One suggestion made was to provide families with air purifiers or filters, particularly in trailer homes where building integrity might not be as resilient to extreme climate or environmental impacts as other buildings. Partners included in this letter recommend a HEPA filter with activated charcoal for odor reduction as well as other benefits. Another suggestion made was to provide kits of natural cleaning products which can be expensive to economically burdened residents as well as provide weatherization for windows and doors, for energy reduction, more efficient cooling, protection against extreme heat and to protect inhabitants from harmful outside air. Additionally, many do not have the financial resources to fix their homes after extreme weather events such as dust or sand storms, heavy rain, and increasing extreme heat conditions, leading to many community leaders asking for an	The EA assesses air quality impacts that could affect disadvantaged communities in the entire Salton Sea Air Basin, including the communities listed. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing. CNRA is currently implementing the SSMP and the Reclamation's funding to CNRA under the Commitments Agreement is to support and expedite the SSMP projects.

	Comment	Response
	emergency extreme climate fund that would mitigate those effects. This leads to other community requests community leaders know would help their communities.	
63.	A community mitigation fund could go towards several efforts on a community level. For many communities, the energy power grids in the eastern Coachella Valley are susceptible to wind and extreme heat events. The community is asking for a community power generator or a community windmill farm for people that are particularly isolated or distanced (North Shore and Oasis) from emergency services and are far from grocery stores. Many also request an emergency alert system for extreme heat or wind in the same fashion that communities are alerted for flooding threats. These emergency alerts should transcend broadband challenges that communities in rural areas experience and therefore communication should be direct and reliable. To tackle the issue of bringing more resources into the affected areas, communities expressed their desire for more parks with shading and greening as nature-based solutions to the worsening air quality in the region. For public transit, many would like to see more shading at stops and to remove economic barriers, complimentary bus passes for residents to get to places such as doctor's appointments, school, and commercial businesses. These actions would improve the public health of under-resourced communities as well as access to more clinical services, particularly in more rural communities such as North Shore. Alianza requests these actions knowing that the affected communities would also suffer from socioeconomic impacts in terms of employment from the proposed action, which leads to a discussion of funding alternative employment opportunities.	The Proposed Action is approval of an SCIA under Reclamation's LC Conservation Program with funding allocated from the Inflation Reduction Act of 2022 to support the Near-Term Colorado River Operations evaluated in Reclamation's March 2024 Final SEIS. This is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate. Reclamation only has authority to disburse these funds to the public entity under contract and cannot direct how they are used after that disbursement. Additional information has been added to the Environmental Justice Section.
64.	Workforce Training and Alternative Employment Opportunities Implementing the Proposed Action will impact the socio-economic structure of Salton Sea communities, particularly affecting field workers. While the overall impact on employment will depend on the conversation actions chosen by farmers, the EA indicates that 80% or more of the conversation will be achieved through the Farm Unit Following Program and Deficit Irrigation Program (page 19). Both of these programs result in	The Proposed Action is approval of an SCIA under Reclamation's LC Conservation Program with funding allocated from the Inflation Reduction Act of 2022 to support the Near-Term Colorado River Operations evaluated in Reclamation's March 2024 Final SEIS. This is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate. Reclamation only has authority to disburse these funds to the public entity under contract and cannot direct how they are used after that disbursement.

	Comment	Response
	the direct and indirect loss of employment during the three-year agreement period. To mitigate the real-world effects of the agreement, it is imperative to provide training with stipends and alternative employment opportunities to impacted workers. The training programs should be aligned with key contract dates, include transportation to training facilities, and offer opportunities for upskilling to enable workers to advance in their current career paths or transition to other careers not as reliant on a diminishing resource. Alternative employment opportunities should be readily available to workers earning salaries below the federal poverty line. These jobs should provide experiences that lead to certified occupations, pre-apprenticeships, and apprenticeship opportunities. Construction is one potential alternative, and the High-Road Training Partnership, which is examining the workforce needs in Lithium Valley, projects that between 75% and 85% of potential high-road jobs in the Lithium Valley are likely to also be in apprenticeship occupations. Other areas of employment and training include entry-level technicians for the environmental monitoring envisioned in the Proposed Action. As the delivery of Colorado River water is reduced to accommodate other water users to the north, and given the potential ongoing drought conditions related to climate change, it is crucial to assist field workers and their communities in transitioning to the new circumstances. Establishing a fund for workforce training with stipends and alternative employment would be an effective and equitable strategy.	Additional information has been added to the Environmental Justice Section.

Comment 3: General Public

	Comment	Response
65.	I beseech you to avoid the increasing health hazard of the drying playa. Please add water to the Sea, e.g., ocean importation.	Thank you for your comment.

	Comment	Response
66.	I am a long time Salton City resident. I came here years ago because it was safer than the city for my children and grandchildren. It had a beautiful view of the sea, decent schools and relatively low crime. I'm also a retired Police Dispatcher, partially disabled and I'm in my forever home... with no plans to move. I found my little patch of paradise; I like it here. I take a walk every day for exercise but really it's to see the birds and the rabbits run around. Even the lizards can be fun to watch. The point is, there is so much life here, human and otherwise. PLEASE DON'T TAKE OUR PARADISE AWAY.... I support Emergency Habitat Creation and Community Health Support.	Thank you for your comment.
67.	We need to make an efforts to solve this critical environment situation for a future generation can live under normal circumstances!	Thank you for your comment.
68.	I'm a concerned citizen of Coachella Valley. In the case of the Salton Sea, there are many adverse effects, such as a shrinking lake, exposing more playa, more toxic fine dust which blows across the valley, increased salinity, loss of wildlife habitat, and danger to community health and amenities. These considerations need to be made, and emergency habitat created if more conservation is to take place.	Thank you for your comment.
69.	SOS: Save Our Sea ... NOW! Ignoring the Salton Sea has gone on for DECADES! There is NO BETTER TIME then to make the Sea a PRIORITY! HOLD the lithium craze ACCOUNTABLE! Don't let them POLLUTE the environment! Make sure WILDLIFE is included in the SOLUTION! Whatever it take ... SAVE OUR SEA!	Thank you for your comment.

	Comment	Response
70.	While we support water conservation efforts, the situation at Salton Sea presents significant challenges that may overshadow the benefits. State mitigation and habitat initiatives are severely delayed, resulting in the loss of millions of animals and exposing communities to harmful dust storms. The hay bales currently used are ineffective and cannot be considered a proper habitat solution. If this program proceeds, we urge immediate funding for habitat and mitigation projects near populated areas, such as West Shores. Additionally, we should better utilize the existing agricultural water flows to create beneficial environments through the use of berms and zigzags, which would also help prevent dust by keeping the ground wet. A pilot program involving local farmers and their equipment could expedite these efforts, as the state response has been insufficient thus far. The Salton Sea Habitat Conservation (SCH) project has only managed to flood less than 200 acres, far short of the 4,000 acres promised. Where is the accountability? Action is urgently needed to assist both the residents and the remaining wildlife. We strongly endorse the Desert Shores restoration project, the expansion of opportunities in West Shores, and the rapid development of North Lake, as well as the completion of Audubon and SCH projects. Furthermore, it seems the state and federal agencies have overlooked the impending water shortage crisis in the Southwest without new sources. We remind you of the 15 sustainable water import proposals and the 4,000 signatures that were submitted to the state: https://www.ecomediacompass.org/long-term-restoration. We are also aware of the substantial funds that will be available from conservation efforts. We urge you to allocate these resources to support the local communities, who have yet to see tangible benefits, despite holding the potential for significant improvements.	Reclamation is committed to working with all the parties at the Salton Sea and to meet the terms of the 2022 Commitments Agreement, including providing up to \$250 million to support ongoing restoration efforts.
71.	The following comments are based on my personal experiences and observations at the Salton Sea over three decades. The people residing in the Salton Sea region and beyond take the increasing water conservation demands by the Federal Government very seriously. The Draft EA grossly underestimates the devastating and cumulative effects of further reducing water deliveries to the Salton Sea region.	The Proposed Action is the result of a proposal submitted by IID to create conserved water for compensation pursuant to a SCIA under Reclamation's LC Conservation Program with funding allocated from the Inflation Reduction Act of 2022 to support the Near-Term Colorado River Operations evaluated in Reclamation's March 2024 Final SEIS. Participation in the LC Conservation Program is on a purely voluntary basis. The conservation programs to be implemented by IID under the Proposed Action will also be on a purely voluntary basis. The LC Conservation Program is a unique

	Comment	Response
	The failure of the State of California to preserve, protect and restore the ecosystem values at the Salton Sea in response to the Quantification Settlement Agreement water transfers has proven utterly detrimental to the health of the public and wildlife. Now the Federal Government is requiring yet even more conservation in order to protect the main Colorado River reservoirs. I find this to be an excessive and unreasonable ask. The real crisis on the Colorado River began when dams prevented the full flow of the River from reaching the Gulf of California in Mexico, eventually drying up millions of acres of delta wetland, estuarine and riparian habitat, followed by decades of inadequate management of the Colorado River system. The underserved communities of the Imperial Valley are in essence being asked to sacrifice the Salton Sea region to save Lake Mead - conserve more and more water or 14 million people who rely on the River will go without drinking water and power. Yet, it is not and must not be a responsibility of a disenfranchised region, already overburdened with social and environmental injustices, to fix the shortages on the Colorado River, while State and Federal agencies hide behind the argument of climate change and so-called temporary reductions. The Salton Sea is an invaluable resource for people and wildlife. In order to protect public, economic and environmental health, the lake must not be allowed to dry up from increased conservation measures. I urge the Federal Government not to place any further water reduction demands on the impoverished Salton Sea region.	program with limited funding for a short-term period until 2026, at which time the SCIA will terminate.

Comment 4: Kelly Morrison, The EcoMedia Compass

	Comment	Response
72.	We applaud the intention of water savings, but with Salton Sea; the adverse side effects could easily outweigh the benefits. State mitigation and habitat efforts are woefully behind schedule, and we have lost literally millions of animals as communities suffer from dust storms. The hay bale's do not work well and calling them habitat is ridiculous. If this program is to go through, we call for immediate funding, freed up for additional habitat and mitigation creation efforts near where people live. West Shores is a prime example. Also, we are not well taking advantage of the agricultural flows that will remain in place, moving water flows to spread over the player, creating berms and zigzags would be wonderful things for habitat; and wet ground doesn't blow. This can be done quite easily. You could do a pilot and pay farmers to use their tractors (the state obviously cannot act fast enough). SCH has only flooded less than 200 acres (NOT 4k). Where's the Arc? JUST DO SOMETHING TO QUICKLY HELP these people and remaining animals. We strongly support the Desert Shores, restoration project, additional opportunities in West Shores, as well as a rapid build out of North Lake, Audubon and SCH completion. Also, it seems like the state and feds forgot that they're going to run out of water either way without an additional source for the Southwest. Here's a reminder of the 15 or so sustainable water import proposals and 4k signatures that were presented to the state: https://www.ecomediacompass.org/long-term-restoration We are also sure you are aware of the incredible amount of money that will be freed up from this conservation. Please, please do something for those that live there. We haven't seen it yet, and you hold the key.	The Proposed Action is approval of an SCIA under Reclamation's LC Conservation Program with funding allocated from the Inflation Reduction Act of 2022 to support the Near-Term Colorado River Operations evaluated in Reclamation's March 2024 Final SEIS. This is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate. Reclamation only has authority to disburse these funds to the public entity under contract and cannot direct how they are used after that disbursement. However, Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA's SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea.

Comment 5: Eric Montoya Reyes, Los Amigos de la Comunidad, Inc.

	Comment	Response
73.	Comments and Concerns: Our organization, Los Amigos de la Comunidad, Inc. submit this public comment letter to oppose IID's Draft Environmental Assessment (Draft EA) and offer recommended changes to the "Proposed Action" based on the following points of contention: 1. Inadequate Environmental Review: • We believe the Draft EA is insufficient and flawed, failing to meet the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). • We request a comprehensive environmental review, rather than a short-term assessment, to ensure the protection of the predominantly Latino (85%) residents of our community, which is already disadvantaged, environmentally impacted and facing detrimental environmental and air quality issues.	The EA provides a comprehensive environmental analysis of the Proposed Action, including analysis of air quality (Section 3.3 starting on page 40), environmental justice (Section 3.6 starting on page 87) and human health (Section 3.7 starting on page 93).
74.	2. Impacts on Disadvantaged Communities: • The Draft EA fails to quantify the transfer of up to 900,000 acre-feet of water over the next three years (up to 300,000 acre feet per year) and its environmental impacts on disadvantaged communities. The 900,000 acre feet over the three years are new water transfers that would otherwise end up in the Salton Sea, on top of the existing 500,000 acre feet per year being transferred to various water districts already. This will surely accelerate the receding of the Salton Sea.	The EA acknowledges the playa exposure will be accelerated. Implementation of the SS AQMP is ongoing and is designed to be adaptive and proactively detect, locate, and assess potential dust emissions regardless of timing, rate, and extent of the playa exposure. Dust control measures are designed, installed, and monitored where needed pursuant to the SS AQMP. With the acceleration of exposed playa, the EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified and mitigated in the QSA EIR/EIS. Additional information has been added to the Environmental Justice Section.
75.	• The Draft EA does not adequately address the potential increase in air pollution from the drying Salton Sea shoreline nor the resulting health impacts on a community already suffering from high asthma rates and economic distress. The Draft EA does not offer any proper methods of quantifying this assumption, which is concerning because our local air basin is already out of compliance in Particulate Matter (PM) 10.5 and 2.5. • In the article Water, dust, and environmental justice: The case of agricultural water diversions Ryan Abman, Eric C. Edwards, Danae	Based on modeling conducted by DWR using SSAM for the implementation of the Salton Sea Management Plan (SSMP) included in Appendix HYDRO-3, the EA finds that the Proposed Action would accelerate the lowering elevation of the Salton Sea. Impacts resulting from lowering Sea elevation would include the same acreage as analyzed in the QSA EIR/EIS (as shown in Figure 9 referenced in the comment), but they would occur earlier, slowing down over time until reaching No Action Alternative conditions by

	Comment	Response
	Hernandez-Cortes First published: 29 May 2024 https://doi.org/10.1111/ajae.12472 in the American Journal of Agricultural Economics details the impacts of water diversions of saline lakes around the world where; “Exposed lakebed surfaces are major sources of dust emissions that may exacerbate existing environmental inequities. This paper studies the effects of water diversions and their impacts on particulate pollution arising from reduced inflows to the Salton Sea in California via a spatially explicit particle transport model and changing lakebed exposure. We demonstrate that lakebed dust emissions increased ambient PM10 and PM2.5 concentrations and worsened environmental inequalities, with historically disadvantaged communities receiving a disproportionate increase in pollution. Water diversion decisions are often determined by political processes; our findings demonstrate the need for distributional analysis of such decisions to ensure equitable compensation.” This is further proof of the inadequacy of the short environmental assessment for a major decision impacting a disadvantaged community.	2045. Implementation of the SS AQMP is ongoing and is designed to be adaptive and proactively detect, locate, and assess potential dust emissions regardless of timing, rate, and extent of the playa exposure. Dust control measures are designed, installed, and monitored where needed pursuant to the SS AQMP. With the acceleration of exposed playa, the EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified and mitigated in the QSA EIR/EIS.
76.	The Salton Sea offers a unique setting to study this question due to changes in playa exposure due to policies transferring water from the Imperial Irrigation District to San Diego County. As a result of the transfer program, dust-related air pollutants such as PM10 and PM2.5 increased, especially after key changes in the methods and amount of transfer starting in 2012 (Ge et al., 2023). Other studies have also found increases in pollution and health impacts linked to the Salton Sea (Jones et al., 2022; Jones & Fleck, 2020). The increase in dust pollution is similar to that resulting from water transfers and agricultural diversions in Owens Lake and Great Salt Lake, as well as Lake Urmia in Iran and the Aral Sea. Given the history of academic literature highlighting regional concerns about Salton Sea related air pollution driven by exposed playa and its environmental justice (EJ) consequences, community groups have sought to raise awareness of the issue and local and state officials have designed conservation programs to reduce impacts. With this journal publication the negative environmental declaration runs hollow to the disadvantaged community suffering the consequences of the continued assault on their community.	Appendix AQ-2 SS AQMP Overview was added to the EA, which summarizes the SS AQMP. The objective and structure of the SS AQMP is specifically designed to be adaptive and proactively detect, locate, assess and identify options to mitigate dust emissions from exposed Salton Sea playa as it occurs, regardless of timing, rate, and extent of playa exposure. As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The SS AQMP continuously considers scientific findings and actively characterizes the elemental composition of PM samples collected from playa surfaces as environmental settings evolve.

	Comment	Response
77.	3. Endangered Species and Habitat Protection: To further demonstrate the inadequacy of the Draft EA for this major decision, the assessment lays out safeguards for species protection in an extensive proposed monitoring of IID drain channels and habitat where the endangered desert pupfish and Yuma Ridgeway's rail bird have been documented. If levels of water approach zero or vegetation becomes too dry, emergency water would be trucked in, in coordination with state and federal wildlife agencies. Emergency measures such as trucking in water do not provide a sustainable solution for endangered species and their habitats and this is acknowledged as possibilities while declaring no negative environmental impacts.	Drain monitoring and vegetation monitoring would be ongoing during the three years of the Proposed Action. The existing drain flow is variable and dynamic, affected by the existing water conservation under the QSA, and ongoing farming practices and operations. The Monitoring Plan provides feasible and responsive actions for the three years of the Proposed Action. The impact avoidance measures are based on existing conditions and changes to those conditions requiring a response to ensure there will not be an adverse effect to species. The short-term impact avoidance measure is unlikely to be needed, but available if drain flows are reduced beyond existing conditions.
78.	4. Environmental Justice: The Draft EA's assertion that no major environmental justice impacts are anticipated is unsubstantiated, given the potential for increased air pollution and health disparities while stating in the same assessment the impacts will not be mitigated until 2045. This contradiction demands a full environmental review and assessment in the already damaged air basin.	As provided in the SEIS, by "avoiding higher levels of modeled shortage through increased system conservation, available water supply for irrigation use would be maintained in a manner that would reduce irrigation impacts for all entities who rely on the Lower Basin water supply for irrigation use, including those located in environmental justice counties in... California (Imperial and Riverside Counties)." Existing mitigation efforts under the MMRP, including the SS AQMP, is implemented on an ongoing basis and will address any impacts that occur despite the anticipated timing.
79.	The reliance on the Salton Sea Air Quality Management Plan (SSMP) to mitigate short-term exposure is misplaced, given the plan's poor track record in timely project completion. The SSMP is already 12 years behind agreed to timelines in the Quantification Settlement Agreement (QSA) which has further degraded the air basin in the interim.	The EA does not rely solely on the SSMP to mitigate impacts. The EA recognizes the Proposed Action may accelerate certain impacts already associated with the water conservation under the QSA. The MMRP, including SS AQMP, is implemented on an ongoing basis regardless and will address any impacts that occur despite anticipated timing.
80.	5. Financial and Environmental Costs: - The Draft EA financial allocation of \$250 million for restoration projects is inadequate compared to the estimated billions of dollars required for environmental mitigation of the Salton Sea and the decades of non-investment to mitigate the impacts already in place. - The long-term drought prognosis and continuous water demand from urban areas necessitate a more cautious and comprehensive approach that incorporates long term mitigation and modeling of	The funding for environmental mitigation impacts for the past decades is outside the scope of the Proposed Action and the analysis of the EA. The Proposed Action is approval of an SCIA under Reclamation's LC Conservation Program with funding allocated from the Inflation Reduction Act of 2022 to support the Near-Term Colorado River Operations evaluated in Reclamation's March 2024 Final SEIS. This is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate.

	Comment	Response
	impacts to ensure an equitable plan for the disadvantaged community in and around the Salton Sea reflective of the true cost of mitigation.	
81.	Recommendations: 1. Full Environmental Review: We urge the Bureau of Reclamation and the IID Board to commission a full environmental review that complies with NEPA and CEQA, ensuring all potential impacts are properly identified and mitigated.	The EA was prepared in compliance with NEPA and CEQA requirements.
82.	Additional due diligence by the USEPA is necessary for full disclosure of health and environmental impacts when considering the ongoing drought, the overdrafting of Colorado River water in the original compact of the seven basin states, and the ongoing negotiations for a new Colorado River Compact that will change distribution of the allotted water.	The ongoing drought, “overdrafting” of Colorado River water, and “ongoing negotiations for a new Colorado River Compact” are beyond the scope of the Proposed Action and analysis in the EA. There are no negotiations for a new “Colorado River Compact.” On June 16, 2023, Reclamation initiated the NEPA process for Post-2026 Operational Guidelines and Strategies for Lake Powell and Lake Mead. The post-2026 operational guidelines would replace the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead upon its expiration.
83.	2. Conservation Strategies: • The acceptance of fallowing as a conservation strategy is environmentally and economically detrimental. Alternative strategies such as system improvements and equipment investments should be prioritized over fallowing or taking land out of production and letting it sit idle. • If fallowing is absolutely necessary, minimal seasonal deficit fallowing should be employed, with a focus on sustainable practices without taking any land out of production for over 60 days maximum to minimize environmental and economic impacts.	The EA acknowledges on page 90 that work opportunities in participating fields would be temporarily interrupted, as a result of the Proposed Action. Participation in the DIP is only for alfalfa, bermuda grass, and klein grass crops, which are perennial crops grown year-round and would be in active agricultural production before and after participation in the DIP. The agricultural activities on a field are only interrupted for a short period of time (45 to 60 days out of 365 days). IID would prioritize the OFECP and DIP over the FUIFP. Implementation of the FUIFP is unlikely and may only be for a single year. The FUIFP would only be implemented if IID was unable to reach conservation targets under the Proposed Action through implementation of the OFECP and DIP. This is not anticipated to occur given current levels of participation in the OFECP under the QSA and interest among potential participants in the DIP. If the FUIFP were to be implemented, the conservation volume would be limited to the difference in the target volume and the volume of conservation from the OFECP and DIP, minimizing the impact from the FUIFP.

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84.	3. Financial Plan The water transfer revenue created by this proposed water deal must include a community benefit that is vetted publicly and grounded on making the community whole. Environmental and economic impacts must be mitigated from this revenue. Unlike the QSA, this revenue will be able to create mitigation projects to offset impacts as the QSA earmarked one third of the revenue for the community benefit of subsidizing the cost of acre feet of water to stay at \$20 per acre foot. This leaves one third of the revenue available for community benefits that address and mitigate the impacts from this deal. That is an estimated \$55 million per year depending on final price agreed to and volume created for conservation.	The Proposed Action is approval of an SCIA under Reclamation's LC Conservation Program with funding allocated from the Inflation Reduction Act of 2022 to support the Near-Term Colorado River Operations evaluated in Reclamation's March 2024 Final SEIS. This is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate. Reclamation only has authority to disburse these funds to the public entity under contract and cannot direct how they are used after that disbursement. However, Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA's SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea.

Comment 6: Justin Garewal, R.S. Garewal and Sons, Inc.

	Comment	Response
85.	In Section 3.6.2.2, paragraph 4, the Draft Environmental Assessment states, "Therefore, despite the DIP being a fallowing-based conservation program, the agricultural activities on a field are only interrupted for a short period of time and only during the temporary, short-term span of three years. Consequently, there would be negligible direct or indirect impacts to the businesses within the agricultural industry and no adverse effects on the environment of minority or low-income populations." In paragraph 6 of the same section, the document states, "...the Proposed Action would not disproportionately affect the minority and low-income populations in the area because the Proposed Action is not expected to significantly affect local socioeconomic conditions due to the short duration of the reduced farming activities." We believe both of these assessments to be demonstrably false. For the DIP, the target enrollment period of June, July, August and September accounts for nearly 75% of the annual hay harvest in the Imperial Valley. While a 60-day window may seem minimal, it accounts for no fewer than 2 harvests during this busiest time of the year. To local farm service providers, the loss of two harvests is a significant burden, but to our employees, who are primarily Hispanic and Latino, it is much more.	The EA acknowledges on page 90 that work opportunities in participating fields would be temporarily disrupted, as a result of the Proposed Action. Participation in the DIP is only for alfalfa, bermuda grass, and klein grass crops, which are perennial crops grown year-round and would be in active agricultural production before and after participation in the DIP. The agricultural activities on a field are only interrupted for a short period of time (45 to 60 days out of 365 days). Additional information has been added to the Environmental Justice Section.

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86.	Enrollment of 180,000 acres in DIP for 60 days will result in nearly \$30 million in direct gross losses to local farm service providers. This calculation takes into account an estimated breakdown of approximately 97,000 acres of alfalfa, 59,000 acres of bermuda grass and 23,000 acres of klein grass, based upon an estimated crop breakdown provided in a public meeting on July 16 by Imperial Irrigation District. The harvesting of each of these crops requires between 4 and 6 individual activities provided by either custom harvest companies contracted to harvest a grower's field, or by the grower's employees directly. The retail cost of providing these services ranges from approximately \$64 per acre for alfalfa, to \$118 per acre for klein grass. Of these costs, approximately 25% is paid directly to employees as wages. This means that for each harvest missed as a result of the Proposed Action, whether the harvest would have been conducted by a custom harvest company or directly by a grower's employees, between \$16 and \$30 per acre in direct income to a farmworker is lost. Multiplied by the proposed 180,000 acres and an anticipated 2 harvests for a 60-day enrollment, more than \$7 million in direct income to more than 500 farmworkers, most of whom are Hispanic or Latino, will be lost. The vast majority of these workers are employed by custom harvest companies who, as third-party service providers, will receive no benefit at all from the Proposed Action. This leaves us with very few options to continue employing our workers through this period. While these workers can apply for unemployment during this period, the loss in income during their highest-earning period will necessarily reduce their level of benefit eligibility, further reducing their overall income. This will equate to a loss of thousands of dollars in income to each worker, which will be directly attributable to the Proposed Action. In many cases, this will be the difference between comfortably supporting their families, and living below the poverty line. The wages they bring in during the summer harvest are crucial to their overall income. The impact of this program is potentially disastrous to these hardworking men and women. Keep in mind that the impact quantified here is based only on the direct impact to custom harvest companies and our employees, as that is my	Under the Proposed Action, Reclamation will fund conserved water that will remain in Lake Mead for the benefit of the Colorado River System, which benefits all water users within the basin. This is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate. Reclamation only has authority to disburse these funds to the public entity under contract and cannot direct how they are used after that disbursement, but anticipates the compensation for the conserved water will "offset to some degree the level of economic impacts associated with reduced agricultural production." Unemployment would be an additional offset. Additional information has been added to the Environmental Justice Section.

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	area of expertise. The overall direct and indirect impact will extend well beyond this industry, of course, as there are other services that are typically provided to these fields that will not be provided to fields enrolled in DIP. These services include irrigation, fertilizer application, pest management, hay processing and distribution, equipment maintenance, and many more products and services. While we agree that the Proposed Action is an important step toward alleviating a very challenging problem, we respectfully request that the Draft Environmental Assessment be revised to reflect this very real and very significant environmental impact due to its impact on local socioeconomic conditions, and identify a plan to mitigate this impact.	

Comment 7: Comit  Civico del Valle and the Lithium Valley Equity Technical Advisory Group

	Comment	Response
87.	Section 1.1 Proposed Federal Action: First, how appropriate is an environmental assessment (EA) for this action? A number of factors argue against an EA being appropriate as <i>“a proposed action is not likely to have significant effects”</i> (p 1). First, the Bureau notes the historic severity of drought conditions in section 1.2. This action could affect up to 180,000 acres of farmland that would not receive irrigation during the hottest time of the year if the program receives full participation, which could make wildlife in the region vulnerable	The EA provides a thorough assessment of the Proposed Action. The analysis of the reduction of drain flows resulting from the Proposed Action as compared to existing conditions begins on page 100. The EA concludes that the temporary period of reduced drain flows could result in some areas of the southern shoreline of the Salton Sea receiving less water from the drains than under existing conditions that could potentially affect habitats and sensitive species. The Monitoring Plan as part of the Proposed Action ensures that there would be no adverse effects to habitats and sensitive species.
88.	and aggravate air pollution conditions (p. 112).	The EA assesses air quality impacts that could affect disadvantaged communities in the entire Salton Sea Air Basin. Based on modeling conducted by DWR using SSAM for the implementation of the SSMP included in Appendix HYDRO-3, the EA finds that the Proposed Action would accelerate the lowering elevation of the Salton Sea by approximately 5 to 10 years. That is to say, impacts resulting from lowering Sea elevation would include the same acreage as analyzed in the QSA EIR/EIS, but they would occur earlier, slowing down over time until reaching No Action Alternative conditions by 2045. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing.

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89. 90.	Second, there is the premise built into this entire analysis that water use from the Colorado River is inter-connected throughout the Colorado Basin.	Comment noted.
91.	Third, issues of community equity are important, but have yet to be effectively addressed. The “ <i>proposed action would accelerate the exposure of the Salton Sea playa currently inundated</i> ” (p. 113) which will exacerbate a primary source of air pollution and environmental inequity in the area. Given these significant effects, an EA is inadequate and an EIS should be prepared.	The EA assesses air quality impacts that could affect disadvantaged communities in the entire Salton Sea Air Basin. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing. CNRA is currently implementing the SSMP and Reclamation’s funding to CNRA under the Commitments Agreement is to support and expedite the SSMP projects.
92.	Section 1.2: Reclamation Authority, Policy, and Resource Management: This section also operates under assumptions that need explanation. Why are entitlement holders and other existing Colorado River water users being paid for agreeing not to use water and why are they paid more for lengthier agreements? Through these sorts of actions, the Bureau continues to bestow benefits from the allocation system by reinforcing those who are existing beneficiaries and ignoring environmental justice concerns associated with water distribution. The Bureau should not simply rely upon similar past actions and ignore issues associated with allocation that perpetuate inequities.	The Proposed Action is approval of an SCIA under Reclamation’s LC Conservation Program, the purpose of which is explained on Reclamation’s website. Funding under the SCIA is from the Inflation Reduction Act of 2022 (Public Law No. 117-169), which can be found at https://www.congress.gov/117/plaws/publ169/PLAW-117-publ169.pdf , and provides certain parameters for the funding to support the Near-Term Colorado River Operations evaluated in Reclamation’s SEIS. This is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate.
93.	Section 1.3: Purpose and Need: Objectives focus mainly on ensuring that agricultural water users will not be negatively impacted. There is very little mention of the rest of the surrounding community or wildlife, and no attention to environmental health, in these objectives. Maintaining environmental health for the region and its residents should be an objective. According to the EA (page 4), “[p]articipation in the LC Conservation Program fulfills the following objectives for IID: • <i>Promotes voluntary participation of Imperial Valley agricultural water users, including landowners and tenants, so that on-farm efficiency conservation measures can be implemented.</i> • <i>Implements voluntary water conservation programs to benefit the Colorado River system, Imperial Valley’s sole water supply, without impairing or affecting IID’s historic senior-priority water rights in a manner consistent with state and federal law.</i> • <i>Maintains economic viability and vitality of Imperial Valley’s agricultural economy and the surrounding community.</i>”	The objectives reflect IID’s role as an irrigation district and the limited activity of the Proposed Action for the conservation of water for three years to remain in Lake Mead in response to Reclamation’s LC Conservation Program.

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94.	However, the EA fails to provide data or sufficient analysis of the Imperial Valley agricultural economy, including farmgate, number and profile of workers, supply chain, and direct and indirect economic impact of agriculture on the overall Imperial County economy. These data and analyses are needed to make a reasonable assessment and determination to ensure that: • The Proposed Action has no measurable impact on the agricultural economy and the surrounding community. • The LC Program, the principal mitigation to the impact of the Proposed Action, fulfills IID's objective of maintaining the economic viability and vitality of Imperial Valley's agricultural economy and surrounding community. • The impacts of the Proposed Action have been mitigated.	Section 3.6 Environmental Justice begins on page 87 and includes the socioeconomic analysis and available data.
95.	This assessment failed to obtain sufficient data, failed to consider certain impacts, and failed to fully consider the weight of the impacts reviewed on the Proposed Action's impact on workers and communities. It raises the following questions: Is the voluntariness of participation within IID more important than the <i>"economic viability and vitality of Imperial Valley's agricultural economy and the surrounding community"</i> that are being advanced by options designed to benefit a few influential landowners? How does <u>voluntary participation</u> in one of the three potential conservation programs that the Bureau has proposed help the majority of the population from communities of Imperial County? Community members who depend on farm work will be influenced by voluntary participation of land owners, which may negatively impact the <i>"economic viability and vitality"</i> of Valley residents working on the farms.	The EA acknowledges on page 90 that work opportunities in participating fields would be temporarily interrupted, as a result of the Proposed Action. Participation in the DIP is only for alfalfa, bermuda grass, and klein grass crops, which are perennial crops grown year-round and would be in active agricultural production before and after participation in the DIP. The agricultural activities on a field are only interrupted for a short period of time (45 to 60 days out of 365 days). IID would prioritize the OFECP and DIP over the FUIFP. Implementation of the FUIFP is unlikely and may only be for a single year. The FUIFP would only be implemented if IID was unable to reach conservation targets under the Proposed Action through implementation of the OFECP and DIP. This is not anticipated to occur given current levels of participation in the OFECP under the QSA and interest among potential participants in the DIP. If the FUIFP were to be implemented, the conservation volume would be limited to the difference in the target volume and the volume of conservation from the OFECP and DIP, minimizing the impact from the FUIFP. As stated in the SEIS, by "avoiding higher levels of modeled shortage through increased system conservation, available water supply for irrigation use would be maintained in a manner that would reduce irrigation impacts for all entities who rely on the Lower Basin water supply for irrigation use, including those located in environmental justice counties in... California (Imperial and Riverside Counties)."

	Comment	Response
96.	Section 1.4: Background: The EA also notes the significance of the agricultural industry to Imperial County. On page 5, it states that <i>“Irrigated agriculture is the primary economic enterprise within IID’s Contract Service Area...Approximately 96 to 97% of Colorado River water deliveries is used for agriculture purposes, and less than 4 percent is delivered to non-agricultural water users.”</i> However, there is no further follow-up with detailed economy-related data, analysis, or modeling, such as an industry profile, labor market analysis on the industry’s significant contribution to the regional economy, or projected impacts based on various Proposed Action implementation scenarios.	Section 3.6 Environmental Justice begins on page 87 and includes the socioeconomic analysis and available data.
97.	Why is the IID Contract Service Area taken as the Proposed Action Area without full consideration for Imperial County’s planning areas and other areas of significance for the state? This gap in planning may present challenges for other ongoing planning initiatives.	The EA focuses on the IID Contract Service Area because the conservation of Colorado River water under the Proposed Action will occur in this area. The EA recognizes the affected environment for each resource topic area may extend beyond the IID Contract Service Area and assesses potential environmental impacts that may result from the Proposed Action as appropriate for the resource topic. The scope of the affected environment depends on the resource being evaluated. For example, Section 3.3 Air Quality analyzes the entire Salton Sea region (e.g. Salton Sea Air Basin, page 40; Regional Air Quality, page 41; IID’s SS AQMP, State’s Salton Sea Management Program (SSMP) and Dust Suppression Action Plan (DSAP) projects, page 44; hydrogen sulfide and hazardous air pollutants monitoring, pages 44 and 45).
98.	Also, why are the figures for non-agricultural deliveries <i>“less than 4 percent”</i> (p. 5)? This figure is different from other figures used by IID as well as those figures used in county planning documents and other current analyses of water use distribution in the valley.	If 96-97% of Colorado River water deliveries are used for agricultural purposes, then 3-4% (100% - 96-97% = 3-4%) are used for non-agricultural purposes. The statement simplified this by saying less than 4%. This data is received from IID and cited to the <i>2022 Water and QSA Implementation Report</i> . Viewed online at: https://www.iid.com/home/showpublisheddocument/21639/638428311439700000 . Different data from other agencies is outside the scope of the EA.
99.	Section 1.5: Prior Environmental Analysis: The EA needs additional documentation to clarify and justify the extent to which it relies on prior environmental analysis (page 18). The 2002 certified Final Environmental Impact Report/Environmental Impact Statement (2002 EIR/EIS) assessed the IID Water Conservation and Transfer Project and Habitat	The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already

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	Conservation Plan, specifically addressing the conservation and transfer of up to 300,000 AFY of Colorado River water to the SDCWA for a designated period of up to 75 years. However, this analysis may have limited relevance to the Proposed Action without demonstrating the analytical approach taken to assess its current relevance and areas where supplemental data and research were required. Therefore, the EA needs to explicitly state the extent to which it relies on the 2002 EIR/EIS and the 2003 Addendum. Since 2002, the science behind and the measurable impacts of climate change, especially those related to severe weather patterns, have increased. For example, the occurrences and intensities of droughts, increased temperatures, and flash floods have increased and changed in ways that were not reasonably anticipated. In 2023, the Imperial Valley experienced its first tropical storm. In fact, due to cold sea surface temperatures and the typical track of most Pacific hurricanes, there has only been one recorded landfall of a tropical storm in California, a storm in 1939 that hit Los Angeles. If the main motivation behind this Proposed Action is to adapt to climate change, then more current research attuned to global warming needs to inform the environmental analysis.	addressed by the QSA EIR/EIS and the required mitigation is being implemented. The EA recognizes the Proposed Action may accelerate certain impacts already associated with the water conservation under the QSA and additional analysis is provided in the EA. Because the SEIS considers effects of potential reduced flows in the Lower Colorado River Basin resulting from system conservation agreements, the EA does not specifically analyze the potential effects on the mainstem of the Colorado River. The EA incorporates the SEIS by reference for purposes of demonstrating consistency with the near-term Colorado River operations.
100.	Section 1.6: Cumulative Project List: The cumulative project list includes several non-agricultural projects and plans underway, including the Lithium Valley Specific Plan (estimated to use approximately 100,000 AFY according to the county's initial study) and various lithium and geothermal developments. However, these are not mentioned throughout the rest of the document. It is unclear how the water reductions will impact the viability of these projects, if their water needs will be prioritized, and/or if additional water will be made available for future non-agricultural industrial projects. Other non-agricultural industrial projects, including geothermal energy development outside the Lithium Valley study area, should also be listed for cumulative impact analysis. Table 1.1 only lists projects that will potentially reduce water flows or have conservation potential. Cumulative projects should also include projects that have similar environmental impacts, such as fugitive dust emissions.	The Proposed Action is for a three-year period, after which the conservation under the Proposed Action will cease. There will not be long-term water reductions under the Proposed Action. Each impact analysis for each resource area includes an assessment of the "incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions" may collectively result in significant impacts. The cumulative analysis for each resource area takes into account the projects listed in Table 1-1 and finds that the increment of effect of the Proposed Action when added to those projects will not result in a substantial increase in environmental effects, including but not limited to effects resulting from reduced flows.
101.	Section 2.2.3: Farm Unit Fallowing Program (FUPP): The Bureau has noted the potential for dust emission from fallowed lands (p. 20), yet the impacts of its proposed conservation programs on hydrogeologic relationships have not been addressed. These programs will reduce	The EA assesses air quality impacts in the entire Salton Sea Air Basin, including the potential for increased dust emissions and hydrogen sulfide. Based on modeling conducted by DWR using SSAM for the implementation of the SSMP included in Appendix

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	recharge to groundwater as well as inflow to the Salton Sea. And relatedly, air quality associated with continued drying of the Salton Sea, especially increased dust (PM2.5 and PM10) and hydrogen sulfide, should be addressed in much greater detail. Without attention to the impact of conservation on relationships between groundwater and surface water, air quality may decline as playa dust, already a significant local environmental hazard, increases.	HYDRO-3, the EA finds that impacts resulting from lowering Sea elevation would include the same acreage as analyzed in the QSA EIR/EIS, but they would occur earlier, slowing down over time until reaching No Action Alternative conditions by 2045. With this acceleration, the EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified in the QSA EIR/EIS. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing.
102.	Section 2.2.4: IID Drain and Salton Sea Vegetation Monitoring and Reporting Plan: Impact avoidance measures are critical to the success of this Proposed Action. However, this section raises many questions, suggesting that there is a need for a more robust monitoring plan, clearer action triggers, and more coordination on restoration and dust suppression projects more generally. Why are no actual threshold levels established that would prompt immediate actions in terms of monitoring data for drains associated with the desert pupfish and Yuma Ridgway's rail? Similarly, why are no actual threshold levels established for sensitive vegetation areas? How is the zero-flow threshold derived? Is there not a more-than-zero flow rate that could still have adverse effects on the desert pupfish and other fauna and flora at drain sites? Decreased flows to the Salton Sea would be a problem even if that decrease was a result of no more than average zero-flow days in a certain period, but less-than average flows overall.	Drain monitoring and vegetation monitoring would be ongoing during the three years of the Proposed Action. The existing drain flow variability is explained and analyzed in Section 3.8 Hydrology/Water Quality, specifically beginning on page 100. The drain flow is dynamic, affected by the existing water conservation under the QSA, and ongoing farming practices and operations. Analysis regarding the drain flow variability and species such as the desert pupfish and Yuma Ridgway's rails is in Section 3.4 Biological Resources. The Monitoring Plan provides feasible and responsive actions for the three years of the Proposed Action. The impact avoidance measures are based on existing conditions and changes to those conditions requiring a response to ensure there will not be an adverse effect to species.
103.	Footnote 5 on page 35 notes that alerts caused by maintenance are not triggers for implementing impact avoidance measures because they are occurrences that exist under current conditions and not a result of the Proposed Action, but is it possible that the Proposed Action might create conditions that could lead to the need for repair? How can one be sure that the Proposed Action is or is not the cause? Implementation of impact avoidance measures is needed when a threshold is reached that would otherwise be designated as deserving a mitigation response.	The maintenance and repair of IID drains is currently underway pursuant to normal operations and maintenance practices. There would not be a situation under which the Proposed Action would trigger the need for maintenance and repair activities.

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104.	There is much discussion about the methods to use in collecting data and analyzing it, but the action triggers are “squishy,” weighted heavily for uncertainty, for both water flows and vegetation. Clear and meaningful action triggers are important. This is particularly important when there is little incentive for IID to deliver additional water via a truck, given the goal of conserving water through this program and the expenses involved.	The Monitoring Plan provides feasible and responsive actions for the three years of the Proposed Action. The impact avoidance measures are based on existing conditions and changes to those conditions requiring a response to ensure there will not be an adverse effect to species. Compliance with federal and state laws and IID permits and approvals, as well as ongoing coordination with Reclamation, USFWS, and CDFW to ensure compliance are sufficient reasons to ensure the Monitoring Plan will be implemented.
105.	Section 3.1: Resources Not Discussed in Detail: Several resources merit more detailed comparative analysis, including: Agriculture/Forestry Resources (agriculture is directly impacted); Energy (the Proposed Action may pose a new constraint to energy development at Lithium Valley); Geology/Soils (soil will be impacted with less water on fallowed land, especially if not covered); Utilities/Service Systems (water resources are directly impacted).	The EA notes the areas not discussed further on pages 38 and 39. Agricultural land use zoning or future use would not be changed as a result of the Proposed Action and, therefore, there are no direct impacts. Energy projects are included in the Cumulative Impacts analyses and there is no identifiable constraint to energy development given the three-year term of the Proposed Action. Soils will not be significantly impacted by the conservation programs, and the requirements to address dust emissions and comply with the Imperial County Air Pollution Control District regulations are part of the Proposed Action. Water resources and potential impacts of the Proposed Action are analyzed in Section 3.8 Hydrology/Water Quality and, therefore, another utility/service systems section would be redundant.
106.	Section 3.3.2: Air Quality: Environmental Consequences: More explanation is needed regarding best management practices for dust suppression from fallowed fields, as well as how this dust from fallowed fields may compound problems of increased dust pollution due to playa exposure from the receding Salton Sea.	The Best Management Practices (“BMPs”) recommended by the U.S. Department of Agriculture Natural Resources Conservation Service, including those listed on page 20, are self-explanatory. These would be implemented by participants of the DIP or FUIFP during any fallowing or deficit irrigation period. Additionally, regardless of the BMPs, agricultural land is subject to the Imperial County Air Pollution Control District regulations.
107.	The Deficit Irrigation Program (DIP), as described, involves fallowing crops for 45 to 60 days so that agricultural activity is only temporarily interrupted. While this reduces air quality impacts from fields, it still accelerates exposed Salton Sea acreage, specifically during the time period from 2025-2035 (Figure 3-1). The plan claims that because the Proposed Action eventually tapers off, this is inconsequential. However, 10 years of potentially increased dust emissions from exposed Salton	Based on modeling conducted by DWR using SSAM for the implementation of the Salton Sea Management Plan (SSMP) included in Appendix HYDRO-3, the EA finds that the Proposed Action would accelerate the lowering elevation of the Salton Sea. Impacts resulting from lowering Sea elevation would include the same acreage as analyzed in the QSA EIR/EIS (as shown in Figure 9 referenced in the comment), but they would occur earlier, slowing down over time until reaching No Action Alternative conditions by

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	Sea playa could be very consequential to those living in the area during that time period.	2045. Implementation of the SS AQMP is ongoing and is designed to be adaptive and proactively detect, locate, and assess potential dust emissions regardless of timing, rate and extent of the playa exposure. Dust control measures are designed, installed, and monitored where needed pursuant to the SS AQMP. With the acceleration of exposed playa, the EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified and mitigated in the QSA EIR/EIS.
108.	Furthermore, how does this projected tapering off of the Salton Sea level account for the prolonged drought accelerated by climate change that is expected to have significantly longer term impacts?	The modeling and analysis of the exposure of the Salton Sea shoreline are included in the EA, with the evidence and explanation of the modeling in Appendix HYDRO-3. The DWR modeling using SSAM is consistent with the modeling completed for the Long-Range Plan, which takes into a number of assumptions for inflows to the Salton Sea.
109.	It is stated here and multiple times throughout the document, that the Proposed Action simply will not increase dust emissions or that the exposure of the shoreline will still occur without the Proposed Action. The public is expected to take this claim as fact, but this assertion is not supported by evidence. Studies have shown that agricultural water diversions are exacerbating dust pollution with serious environmental health consequences.	The modeling and analysis of the exposure of the Salton Sea shoreline are included in the EA, with the evidence and explanation of the modeling in Appendix HYDRO-3. Unmitigated playa emissions account for less than 1% of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to consider in terms of

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		human health. The SS AQMP will continue to be adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure
110.	It is also unclear how the accelerated exposed playa might interact with Lithium Valley Specific Plan and other associated lithium and geothermal development plans. Assuming this high water-consuming development project occurs, how would it be possible for impacts to taper off again to baseline levels by 2045? Further analysis is required to support this claim in relation to the increased exposure of communities to dust pollution over time.	The modeling and analysis of the exposure of the Salton Sea shoreline are included in the EA, with the evidence and explanation of the modeling in Appendix HYDRO-3. The EA analyzes the Cumulative Impacts of the Proposed Action with the projects identified on the Cumulative Projects List in Table 1-1. However, this analysis can only use the data and information currently available and many projects, including the Lithium Valley Specific Plan, are still in the planning phase with limited or no information available regarding water consumption. The EA cannot use speculative or unknown information for its analysis.
111.	Furthermore, the EA states that the project “ <i>does not result in greater exposed playa over the long term</i> ” (EA at 94). However, exposure of playa will be greater in a 20-year time span up to 2045, which should still be considered a long-term significant impact that requires further analysis and mitigation in an EIS.	Implementation of the SS AQMP is ongoing and is designed to be adaptive and proactively detect, locate, and assess potential dust emissions regardless of timing, rate, and extent of the playa exposure. Dust control measures are designed, installed, and monitored where needed pursuant to the SS AQMP. With the acceleration of exposed playa, the EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified and mitigated in the QSA EIR/EIS.
112.	Section 3.4.2 Biological Resources: Environmental Consequences: This section requires further analysis of cumulative impacts in relation to other projects, including restoration and industrial uses. Again, how will it be possible for salinity or selenium levels affecting desert pupfish to taper off to baseline levels by 2045 with full consideration of cumulative impacts, including the Lithium Valley Specific Plan?	The Cumulative Impacts for Biological Resources are analyzed in Section 3.4.2.3 on page 78. This analysis includes consideration of the Cumulative Projects listed in Table 1-1 using currently available data and information for those projects. The EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified and mitigated in the QSA EIR/EIS.
113.	Section 3.5: Cultural Resources: This section is lacking significant detail. Here, the All American Canal is identified as a historic property, but this section ignores the Southeast Lake Cahuilla Active Volcanic Cultural District (SELCAVCD) despite the California Energy Commission’s recent confirmation that it should be considered a significant tribal cultural resource. How might the Proposed Action affect the viewshed of this sacred site? CEQA analysis requires going beyond archaeological sites to consider this broader cultural landscape.	The Proposed Action does not include any excavation or construction within viewsheds that would impact tribal resources. Therefore, there is no impact to the Lake Cahuilla Active Volcanic Cultural District.

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114.	Section 3.6: Environmental Justice: Again, here it is claimed several times that the Proposed Action will not adversely affect EJ communities, but without much to back up this claim, given that the Proposed Action accelerates exposed Salton Sea acreage as noted above. Economic impacts due to temporary fallowing would be negligible for whom? It may not affect farmers who receive incentives to fallow, but farmworkers stand to lose jobs and income without fair compensation. Note also that Bombay Beach is omitted from census data analysis despite its close proximity to the Salton Sea and well known concerns about playa exposure. Again, IID failed to obtain sufficient data, failed to consider certain impacts, and failed to fully consider the weight of the impacts reviewed on the Proposed Action's impact on workers and communities. Further data and analysis is clearly warranted based on the Climate and Economic Justice Screening Tool developed by the Council on Environmental Quality that found (page 86) that <i>"the majority of census tracts within the IID Contract Service Area, with the exception of two within the City of El Centro, are considered disadvantaged because they meet one or more burden threshold and the associated socioeconomic threshold."</i>	Additional information has been added to the Environmental Justice Section.
115.	Modeling is essential as the range of impacts varies considerably based on which water conservation measures farmers choose to reach the target goal of 250,000 AF, up to a maximum of 300,000 AF. While IID states that it intends to prioritize the On-Farm Efficiency Conservation Program (OFECF) and Deficit Irrigation Program (DIP) water conservation programs (page 89), the analysis is insufficient to demonstrate how this prioritization, possible scenario one, will impact the local economy and workers. Based on information on the application of the water conservation programs (page 19), the OFECF and Simplified OFECF measures are expected to meet a maximum of 50,000 acre-feet per year. This is only 16.6% to 20% of the water use reduction goal, meaning that 80% or more of the Proposed Action will be achieved through Farm Unit Fallowing Program (FUEP) and DIP. At least two scenarios should be provided, including model assumptions and disclosure of data, using different uptake of the FUEP and DIP due to the significant differences in impacts on employment and the overall economy.	The modeling and analysis of the exposure of the Salton Sea shoreline are included in the EA, with the evidence and explanation of the modeling in Appendix HYDRO-3. Two scenarios were analyzed in the hydrological modeling, but the results were similar and, therefore, the same analysis applies. The range of potential impacts are addressed in the EA.

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	The following conclusionary statements are insufficiently supported by data and analysis. Key data is also missing.	
116.	Environmental Consequences page 90 - <i>“Although some businesses may be directly affected by the reduced farming activity, economic impacts of the FUIFP implemented under the Proposed Action would be negligible given the longest possible period of fallowing would be a temporary, short-term period of two years.”</i> Further data, analysis, and documentation is necessary to understand what “businesses” were considered in this analysis. What metric and standard were used to establish a baseline and change over time to determine “negligible” impact?	Additional information has been added to the Environmental Justice Section.
117.	Environmental Justice Cumulative Impacts page 90 - <i>“The Proposed Action would temporarily reduce water deliveries to agricultural operations within the IID Contract Service Area for three years. The temporary, short-term water delivery reductions combined with other delivery reductions would not contribute to permanent reductions in agricultural practices of the region supporting the local economy, which includes a high rate of minority and low-income population households. The Proposed Action involves the implementation of temporary water conservation programs and would not disproportionately impact disadvantaged communities. Thus, the Proposed Action, when considered with relevant past, present, and reasonably foreseeable projects would not contribute to cumulative impacts related to environmental justice issues in the IID Contract Service Area.”</i> Further data, analysis, and documentation are necessary to understand the definitions, metrics, and standards used to develop the model to determine that there is no cumulative impact of the Proposed Action on the local economy and disadvantaged population in the IID Contract Service Area. Economic and employment data is readily available and could be used to analyze and determine the impact of the Proposed Action on the economy and workers in Imperial County. For example, the June 2024 unemployment rate for Imperial County is 16.4%, compared to an unadjusted unemployment rate of 5.3% for California and 4.3% for the nation during the same period.³ Data for unemployment, combined with labor participation rates, are an indicator of the capacity of displaced	Additional information has been added to the Environmental Justice Section.

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	workers to find other employment. Given that the annual average wage for on-farm work is \$30,000, even 45-60 days of unemployment could significantly impact households. In June 2024, there were 10,600 on-farm workers and 12,600 workers in the Trade, Transportation, and Utilities sector. Employment on farms in April 2024 was 9,100 as compared to 10,600 reported for June 2024. Other data available and modeling that should be included potential impacts on sales and other taxes paid by individuals and businesses, including field workers, farm suppliers, and retail impacted by a reduction in farm activity. These are the types of available data, but seemingly not used here, to make modeling assumptions and determinations about the impact of the Proposed Action.	
118.	The strong need and desire for jobs and economic development in Imperial Valley are clear, and mitigation measures for this project could alleviate rather than perpetuate burdens. Stronger mitigations for environmental justice impacts might include: • Impact fees tied explicitly to Proposed Action impacts, • Annual reviews through development agreements and Community Advisory Committees, and • Community Benefit Agreements to ensure promises of sustainability and public benefits are enforceable.	Reclamation only has authority to disburse these funds to the public entity under contract and cannot direct how they are used after that disbursement. The recommendations of the impact fees, development agreements, Community Advisory Committees, and Community Benefit Agreements are outside the scope of the Proposed Action and the analysis of this EA.
119.	<u>Money received from this program should not only subsidize programs for water conservation through fallowing, but also go toward mitigating impacts on farmworkers and environmental justice communities.</u>	Under the Proposed Action, Reclamation will fund conserved water that will remain in Lake Mead for the benefit of the Colorado River System, which benefits all water users within the basin. Reclamation only has authority to disburse these funds to the public entity under contract and cannot direct how they are used after that disbursement.
120.	Cumulative impacts to air quality and dust emissions should also be considered. The program will operate alongside the development and construction of many utility scale solar projects in the region and an analysis of fugitive emissions from dust during planned solar farm construction and the periods of fallowing would be appropriate to explore whether these impacts are significant or not. This would require updating the cumulative projects list in Table 1.1 with utility scale solar projects as mentioned above.	The EA includes analysis of the Cumulative Projects listed in Table 1-1 using currently available data and information for those projects. All known relevant past, present, and reasonably foreseeable projects are listed in Table 1-1 and considered in the cumulative impacts analyses throughout the EA.

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121.	Section 3.7 Human Health: It is asserted that the Proposed Action is consistent with California Natural Resource Agency (CNRA)'s Salton Sea Management Program (SSMP), but no evidence is provided to support this claim, and it remains unclear how reduced inflows to the Salton Sea would align with the SSMP's goals of dust suppression through increased vegetation. It appears that more coordination is needed to ensure that the SSMP's goals are not impeded by this Proposed Action.	The Proposed Action will not interfere with the SSMP projects and the Long-Range Plan. The language about this Proposed Action being consistent was removed and language related to Reclamation's commitment of \$250 million to assist in the implementation of the projects under the SSMP was added.
122.	Section 3.8 Hydrology/Water Quality: Regarding water quality, this section only reviews a few common parameters found in Colorado River water. It does not provide any mitigation strategies or suggest how to protect stakeholders, especially underrepresented communities, from the negative impacts of significant water quality deterioration resulting from long-term drought in the basin. If the Proposed Action is expected to conserve a maximum cumulative volume of 900,000 AF, then that is nearly the equivalent of one year's worth of runoff that would usually reach the Salton Sea (921,000 AFY) from the IID's drainage system. Again, it remains unclear how preventing nearly a year's supply of water from the Salton Sea would avoid significant impacts on air quality and human health due to dust pollution. Tapering off to baseline levels would seem to require just as much water for restoration, which flies in the face of accelerating drought due to climate change.	The water quality impacts and analysis are within the range assessed in the QSA EIR/EIS. Therefore, the EA concludes that the Proposed Action would not result in increased overall water quality impacts compared with previously assessed conditions in the QSA EIR/EIS and, therefore, are the same as the No Action Alternative.
123.	Section 4.2 Distribution List: There are several Tribes that are not included in this distribution list that should have been consulted, such as the Torres Martinez Desert Cahuilla Indian Tribe. It is also important to describe the distribution and engagement process in more detail, including requests for consultation and responses.	Section 4.1 Persons/Agencies Consulted has been updated. Reclamation representatives appeared before the Torres-Martinez Desert Cahuilla Indians Tribal Council to get their feedback on the Proposed Action on July 24, 2024. Reclamation continues to maintain dialogue with those Tribal partners who have expressed interest in the Proposed Action.

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124.	The Proposed Action Alternative will have profound and long-lasting impacts on the Salton Sea, the wildlife that depend on it, and the communities adjacent to it. By inappropriately limiting the impact area analyzed in any detail by the Draft EA to the irrigation water delivery area of the Imperial Irrigation District (IID), the Draft EA ignores some of the most environmentally significant impacts of the Proposed Action Alternative. The majority of the Salton Sea is outside the IID Contract Service Area, but the Salton Sea is deeply impacted by changes in IID drain water delivery to the Salton Sea through the New and Alamo River, the roughly 30 IID drains that until recently or still flow directly to the Salton Sea across the expanding lakebed. Inflows to the Salton Sea outside the IID Contract Service Area account for only about 20% of total inflow through the smaller number of Coachella Valley drains and stormwater channels and very limited stream flows from Salt Creek and several dry washes that only flow during heavy rain events. Reduced water inflow from the IID system will impact the entire Salton Sea and surrounding communities and wildlife habitat, yet the very limited actions proposed by the Draft EA to mitigate the broad impacts of reduced drain flows to the Salton Sea will have only limited benefits within the IID Contract Service Area with no mitigation whatsoever for profound impacts outside that area.	The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS, including the entirety of the Salton Sea, and the required mitigation is being implemented. The EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified in the QSA EIR/EIS. The implementation of the MMRP, including IID's SS AQMP is implemented on an ongoing basis regardless and will address any impacts that occur despite anticipated timing. The Monitoring Plan sets forth feasible and specific impact avoidance measures that will be implemented by IID in coordination with Reclamation, USFWS and CDFW during the three years of the Proposed Action.
125.	To illustrate some of the profound and long-lasting impacts on the Salton Sea that will be caused by the Proposed Action Alternative an independent Salton Sea hydrology and salinity analysis was made using the same originally Reclamation sourced Salton Sea Accounting Model that was used by Tetra Tech in late 2023 for the California Department of Water Resources to do the Salton Sea modelling presented in Appendix HYDRO-3 SSAM of the Draft EA. The calculation methods are similar, but not identical, for example the reduction in evaporation rate due to increased salinity in the Salton Sea is based on data from evaporating and concentrating Salton Sea water in place of a regression formula. Nonetheless the impact result numbers are similar to the Draft EA, but presented in a way that makes the impact easy to see on the charts produced in place of the obfuscated Salton Sea impacts illustrated on page 108 of the Draft EA. The Salton Sea inflows modelled in these	The explanation of the modeling completed by DWR, and used in the EA for analysis, is included in the Appendix HYDRO-3, which is the same modeling approach used for the SSMP and Long-Range Plan.

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comments are based on full implementation of the On-Farm Efficiency Conservation Program (OFECP) at 50,000 AFY plus full implementation of the Deficit Irrigation Program (DIP) at 226,000 AFY in the years 2025 and 2026 with half implementation in 2024 since half the year has passed. The same following impact of Salton Sea inflow/conservation of 0.357 is used as in the Draft EA and the 56,111 AF conservation in 2023 is included. The baseline data are The Salton Sea inflows if the QSA had not been implemented (in blue) and the past and future inflows under the QSA (in red) from 2010 through 2077, to the end of the current QSA agreement. The complete calculations and input data are attached as spreadsheets with the results shown here.	

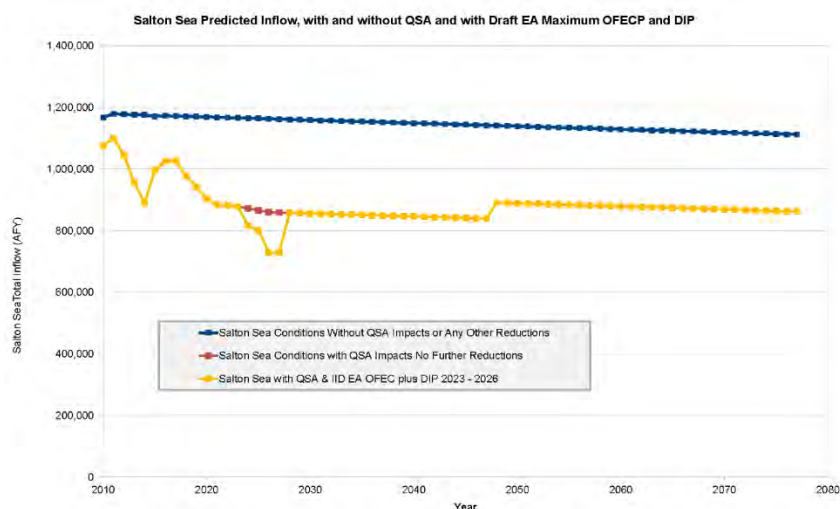
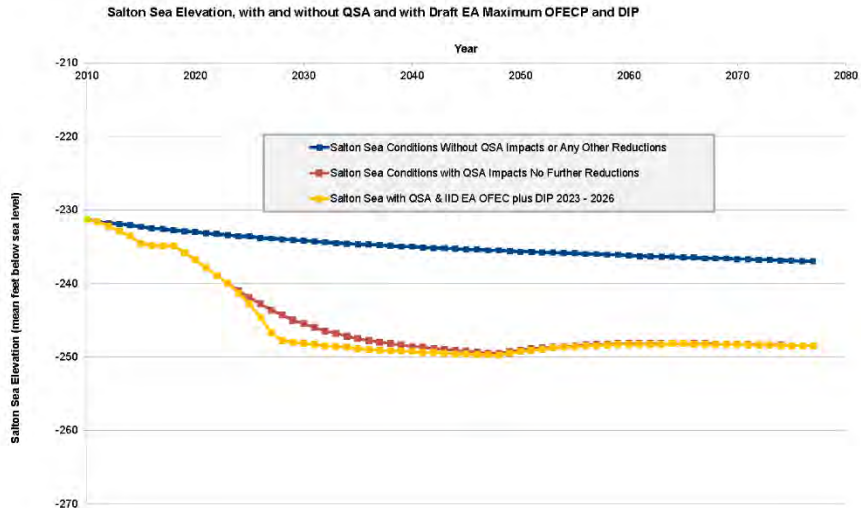
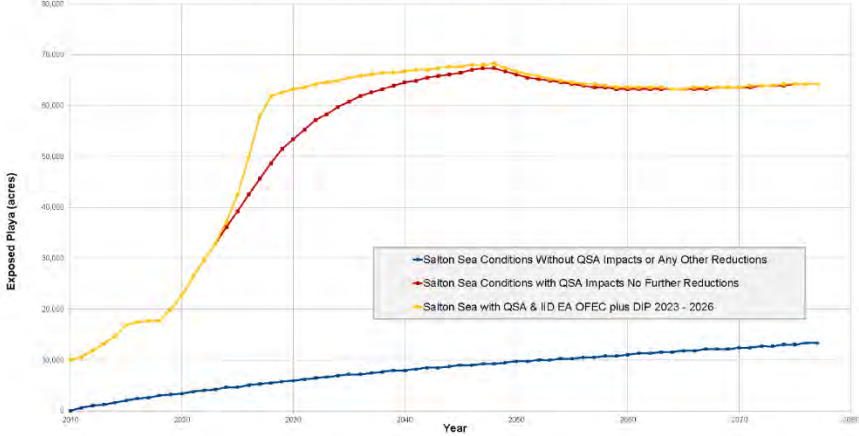
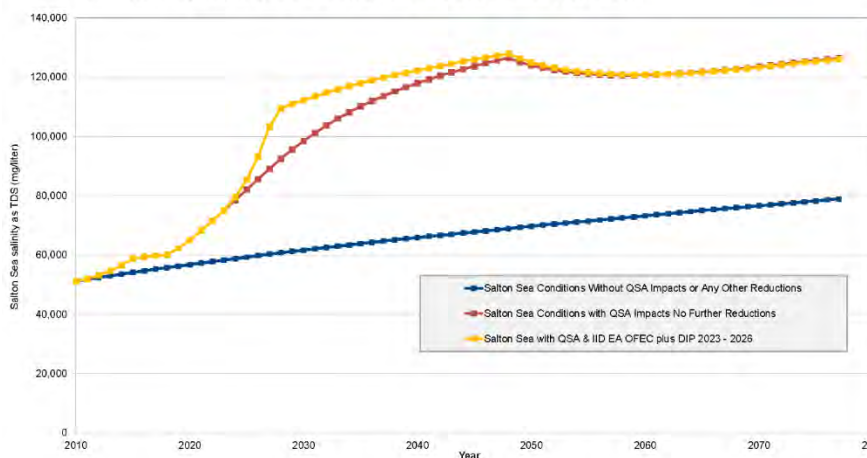


Figure 1. Salton Sea inflows absent QSA (blue), with QSA (red), and with Draft EA Proposed Action Alternative (yellow)

Figure 1 shows the inflows expected under the two baseline conditions and the Draft EA including full implementation of OFEC and DIP in 2025 and 2026 and lesser conservation in 2023 (by efficiency and QSA delivery modifications) and in 2024 (by half implementation of OFEC and DIP). Year-round fallowing is highly unpopular in the Imperial Valley farm community and not politically favored by the IID Board, therefore major

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contributions from the Farm Unit Fallowing Program (FUIP) are not included in the model. The impact of the Proposed Action Alternative versus the two baseline conditions is shown in Figure 2. An accelerated elevation drop of more than five feet in the surface of the Salton Sea is predicted through 2026. This reduced elevation will continue to decline more gradually over the next two decades.  <i>Figure 2. Salton Sea elevation absent QSA (blue), with QSA (red), and with Draft EA Proposed Action Alternative (yellow)</i>	

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	Salton Sea Playa Exposure, with and without QSA and with Draft EA Maximum OFECP and DIP  <i>Figure 3. Salton Sea playa exposure absent QSA (blue), with QSA (red), with Draft EA Proposed Action Alternative (yellow)</i>	
126.	One direct impact of reduced Salton Sea elevation is exposure of fine sediment lakebed (aka playa), a substantial portion of which is a likely source of PM10 dust emission and also holds deposits of various heavy metals, selenium, industrial organic chemicals, and legacy pesticides including DDT and harmful DDT breakdown products like DDE. Figure 3 shows the increased exposure of Salton Sea playa due to the Draft EA Proposed Action Alternative versus the baseline conditions. Roughly 13,000 acres will be exposed by 2026 in excess of the acres exposed by QSA impacts alone. High winds that prevail in the Spring and also occur from all directions in other months are likely to carry PM10 dust from the fine sediment of the exposed lakebed to the communities immediately adjacent to the Salton Sea including Oasis, North Shore, Bombay Beach, Salton City, Vista del Mar, Salton Sea Beach, and Desert Shores.	The EA assesses air quality impacts that could affect disadvantaged communities in the entire Salton Sea Air Basin, including the communities listed. Section 3.3 Air Quality analyzes the entire Salton Sea region. The human health analysis is based on the analysis in Section 3.3 Air Quality. Current and anticipated playa exposure is higher in the relatively larger, shallower southern end of the Sea. The analysis in the southern end and the most directly impacted communities from the acceleration of playa exposure is appropriate for Section 3.7 Human Health. The SS AQMP is implemented for the entire Salton Sea and will address any impacts that occur despite anticipated timing and location.

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	Salton Sea Salinity Prediction, with and without QSA and with Draft EA Maximum OFECP and DIP  <i>Figure 4. Salton Sea salinity absent QSA (blue), with QSA (red), with Draft EA Proposed Action Alternative (yellow)</i>	
127.	These shoreline communities have already seen the recession of their Salton Sea shoreline by hundreds to thousands of feet with concurrent loss of shoreline amenities including recreational areas, boat launches, beach clubs, tourist attractions, and loss of property value, business opportunities, and jobs for residents. All of these shoreline communities are defined by State standards as disadvantaged or severely disadvantaged and all will be impacted by the Draft EA Proposed Action Alternative in both economic impact, quality of life, and public health. Yet none of these shoreline communities are included in the Draft EA analysis of economic impacts nor public health impacts because they are all outside of the IID Contract Service Area. This is a profound deficiency in the Draft EA.	The EA finds that acceleration of the impacts to recreation at the Salton Sea would not be substantially different than already evaluated in the QSA EIR/EIS. The implementation of the QSA MMRP, including mitigation for recreation, will address any impacts that occur despite anticipated timing.
128.	Another highly significant impact of the Proposed Action Alternative in the Draft EA is the accelerated salinity rise in the Salton Sea illustrated in the hydrology and salinity modelling shown in Figure 4. By the end of 2026 the Salinity of the Salton Sea will rise from less than 90 g/Liter total dissolved solids (TDS) to roughly 110 g/Liter TDS.	The Salton Sea is a terminal inland lake that is continually increasing in salinity over time due to evaporation. The analysis in the EA is pursuant to DWR's modeling using SSAM. Pursuant to the modeling there would be an acceleration of the increase in salinity by 3 to 4 years and then would reach the same levels as identified in the QSA EIR/EIS and, therefore, the same as the No Action Alternative. The

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		MMRP will address the accelerated increase in salinity. The temporarily reduced flows under the Proposed Action will reduce nutrient loading into the Salton Sea compared with existing conditions.
129.	The Draft EA analysis repeatedly takes the position that the impacts of the Proposed Action Alternative including exposure of 13,000 acres of Salton Sea lakebed and the accelerated increase in Salton Sea salinity would not be a significant impact because around 2045 the QSA only impacts would become close to the same level. This presumes that more than 20 years of increased impact is insignificant. The family of a person living in a disadvantaged shoreline community who is exposed to high levels of PM10 dust 20 years earlier than would otherwise happen, contracts lung cancer at age 40 and dies at age 45, will be missed by family for all of the 20 years of earlier PM10 dust exposure. This may be seen as an insignificant impact to water agency officials, but the deprived family will not see it that way.	Unmitigated playa emissions account for less than 1% of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to consider in terms of human health. The SS AQMP will continue to be adaptive and proactively detect, locate, and assess potential dust emissions regardless of timing, rate, and extent of the playa exposure.
130.	Likewise a decision to drive up the salinity of the Salton Sea from under 90 g/Liter TDS to 110 g/Liter TDS 20 years ahead of when the QSA would accomplish the same damage and that results in the early extirpation of an endangered species like the desert pupfish from the Salton Sea before any significant amount of alternative habitat can be created seems like a highly irresponsible policy in light of the Endangered Species Act.	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. To ensure there are no ecological impacts, the Monitoring Plan will be implemented in addition to the MMRP.

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131.	This is significant because it will push the salinity of the Salton Sea above the maximum tolerance level of all fish that have used the Salton Sea as a habitat including the endangered desert pupfish. Until the last few years, the Salton Sea supported millions of fish that in turn supported thousands of piscivorous birds. Some fish remain although stressed due to rising salinity and oxygen deficiency. For example, the fish pictured in Figure 5 was a distressed member of a more healthy population of small fish living in a rocky area on the east shore of the Salton Sea several miles from the nearest drain or other inflow in October of 2023. The rest of the population would dart from rock to rock when there was no movement outside the water, apparently a behavior effective in avoiding predation by the egrets perched nearby.  <i>Figure 5. Salton Sea fish from eastern shore area October 2023 photo by (Tom Sephton)</i>	The Salton Sea is a terminal inland lake that is continually increasing in salinity over time due to evaporation. The analysis in the EA is pursuant to DWR's modeling using SSAM. Pursuant to the modeling there would be an acceleration of the increase in salinity by 3 to 4 years and then would reach the same levels as identified in the QSA EIR/EIS. The MMRP will address the accelerated increase in salinity. To ensure there are no ecological impacts, the Monitoring Plan will be implemented in addition to the MMRP.

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	The Proposed Action Alternative in the Draft EA will by 2026 push the salinity of the Salton Sea above the level where any fish can survive in the water. For example surveys of desert pupfish in shoreline pools of the Salton Sea found the maximum salinity tolerance level to be roughly 90 g/Liter TDS (Barlow, George, UCLA 1958, "Daily Movements of Desert Pupfish, <i>Cyprinodon Macularius</i>, in Shore Pools of the Salton Sea, California"). The euryhaline desert pupfish have long been known to use the shoreline areas of the Salton Sea to move between irrigation drains and other lower salinity habitat areas when predation by larger fish limited their use of the Salton Sea as primary habitat. Before the QSA impacts, the Salton Sea was well within the salinity tolerance of desert pupfish and larger tilapia and intentionally introduced marine species. Some pupfish would get trapped in shoreline pools formed by wind and waves, where evaporation would cause salinity in the pool to rise to the tolerance limit of desert pupfish. Desert pupfish populations surviving in drains use the near shore areas of the Salton Sea to move from drain to drain to breed. This maintains genetic diversity in the regional population of desert pupfish. That genetic diversity is now threatened by disconnection of drains to the Salton Sea as the Sea recedes rapidly and by salinity rise that will quickly make the Salton Sea passage deadly to even the highly salt tolerant desert pupfish if the Proposed Action Alternative in the Draft EA goes into effect in the next three years.	
132.	A drain interconnection plan for desert pupfish was part of a proposed Habitat Conservation Plan years ago, but it was never implemented.	The HCP has been deleted from the Cumulative Projects List in Table 1-1.
133.	The mitigation measures proposed by the Draft EA are not designed to benefit the wildlife living in the Salton Sea. These mitigation measures are only intended to benefit endangered species within the IID Contract Service Area and even there the benefits are questionable. For example, on Page 36 under the section "Impact Avoidance Measures" the Draft EA states: <i>"If there is no ponded water within or at the terminus of the drain that can be seen from the habitat monitoring location, within no more than 18 hours following the site visual check, IID staff will deliver water to the affected drain via water truck at a location that can be safely accessed by the water truck downstream of the last structure on the drain; and 4) IID will deliver water to the affected</i>	It will not take 8 days to implement impact avoidance measures on a drain that does not have an automatic sensor. While drain flow data is collected weekly by the hand-held current meters for drains in which conditions do not allow the installation of an automatic sensor, the impact avoidance measures are not triggered by the weekly data collection. Drains that do not have an automatic sensor will be monitored daily based on irrigation deliveries, which is described in Section 2.2.4.4 Action Triggers. The Monitoring Plan provides feasible and responsive actions for the three years of the Proposed Action. The impact avoidance measures are based on existing conditions and changes to those conditions requiring a response to ensure there will not be an adverse effect to species.

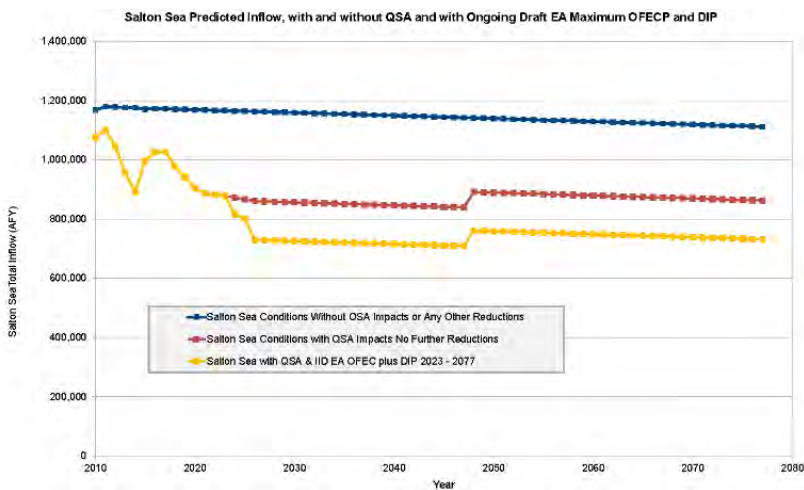
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	<i>drain via water truck each following day until the automatic sensor indicates flows have returned to the affected drain or irrigation deliveries have resumed to fields draining into the affected drain.”</i> In the case of a drain monitored once per week by an IID employee with a hand-held water current meter, the response to a dry drain could take as much as 8 days, enough time for a population of desert pupfish to be extirpated from the drain. More drains would have automatic monitoring with a faster response time. However, the benefit of the Impact Avoidance Measure is questionable because there is no requirement that normal low in the drain must be restored within any particular time period. Water delivery trucks in the region typically carry between 2,000 gallons and 4,000 gallons. This is nowhere close to the amount of water that flows through most IID drains in a day. If the water delivery were one truckload per day as might be implied by ambiguous text in the Draft EA as quoted above, then it could be months before anything close to normal flow in the drain is restored. That could have a devastating impact on wildlife using that drain. At a minimum, the Draft EA should be revised to guarantee restoration of normal minimum flow in any IID drain that supports critical habitat and runs dry due to the Proposed Action Alternative. It is not surprising that IID may be reluctant to commit to such mitigation at an adequate scale because delivery by water truck is hugely expensive and because it will draw from the same Colorado River water that is supposed to be conserved.	
134.	The Draft EA repeats over and over the contention that impacts made 20 years ahead of the QSA reaching the same level of impact are of no significance. For example, on page 50 the Draft EA states: <i>“The IID would continue to implement its SS AQMP, including the implementation of dust control measures pursuant to the annual PDCP, as required in the Mitigation, Monitoring and Reporting Program (MMRP) of the QSA EIR/EIS for the IID Water Conservation and Transfer Project (see Section 3.3.2.4 for a discussion of the SS AQMP). The SS AQMP would continue to be implemented, in the same manner as under existing conditions. Therefore, because the Proposed Action would not increase overall acreage of exposed playa compared with future baseline</i>	Unmitigated playa emissions account for less than 1% of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The current analyses

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	<i>projections, it also would not result in disproportionately high and adverse effects on air quality.”</i> The Draft EA's Proposed Action Alternative will increase the overall acreage of exposed playa by 13,000 acres in less than three years above and beyond playa exposure caused by the QSA twenty years ahead of when that additional playa exposure would otherwise occur. The combined efforts of the State's Salton Sea Management Program and IID are years behind meeting their playa dust mitigation acreage targets for QSA impact alone. Any expectation that either or both agencies will suddenly catch up and complete in less than three years what they have failed to keep up with in 20 years defies credulity. Pages 93 and 94 of the Draft EA repeat the same fantasy that accelerated impacts imposed 20 years ahead of when the QSA might cause similar impacts are of no significance to human health. Try to explain that to the families of those who die before their time due to those accelerated impacts and the 20 years of failure by the State and IID to adequately mitigate those impacts since implementation of the QSA began in 2003. <i>“The Proposed Action involves the conservation of water within the IID Contract Service Area, reducing water diversions from the Colorado River. Implementation of the Proposed Action would result in the acceleration of the lowering of elevation of the Salton Sea when compared to the No Action Alternative. As shown in Figure 3-1, Exposed Salton Sea Acreage, the Proposed Action would accelerate the anticipated exposure of the playa, but the acceleration would taper off to baseline projection levels by 2045 based on the trajectory predicted by hydrologic models developed by DWR. (See Appendix HYDRO-3.) As provided in Section 3.3 Air Quality, no net increase in the exposure of the playa results in no increase of overall potential dust emissions through 2045. The exposed Salton Sea acreage is anticipated to occur as a result of the QSA and would be addressed by the IID's SS AQMP. During the three-year period of the Proposed Action, the acceleration of the exposed playa may increase the potential for dust emissions. However, the implementation of the SS AQMP would address the potential dust emissions because implementation of the SS AQMP</i>	of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to consider in terms of human health. The SS AQMP will continue to be adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure.

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	<i>would be required for those same acres absent the Proposed Action. Further, given the many factors affecting respiratory conditions in children and adults, there is no data to indicate that the acceleration of the exposed playa could exacerbate those conditions. Data shows that dust emissions are occurring from other sources within and adjacent to Imperial County, including the desert region to the west of the IID Contract Service Area and Mexico to the south (see Section 3.3 Air Quality). Emissions inventories, assessments, dust control measures, and other activities under the SS AQMP would continue to be implemented, in the same manner as under existing conditions (see Section 3.3 Air Quality). Therefore, the Proposed Action would not increase adverse effects to human health."</i> The claim that the Salton Sea Air Quality Management Program (SS AQMP) can be accelerated over the next three years to mitigate playa exposure impacts that were expected 20 years from now is completely unsupported by the facts on the ground. At this time, thousands of acres of fine sediment on Salton Sea playa lie exposed by the QSA inflow reductions and are still unmitigated. Health complaints in shoreline communities, from nosebleeds in children to asthma and other respiratory inflammation, have increased in recent years. The causes of these health impacts are still under investigation. The SS AQMP has no plan to mitigate some of the newly observed health impacts. Any claim that: "...the Proposed Action would not increase adverse effects to human health...." is not backed up by evidence.	
135.	The southern shoreline of the Salton Sea is within the IID Contract Service Area, but the biological impacts on the part of that area within the Salton Sea itself are ignored. Page 74 of the Draft EA brushes off that issue: <i>"The QSA EIR/EIS identified 11 impacts (BR-41-51) to biological resources (see Appendix BIO-3) along the Salton Sea. Some of these impacts (BR-41-45 and BR-47-51) were identified as less than significant or as having no impact to biological resources. These include effects to adjacent wetland vegetation resulting from reduced rain flow and Salton Sea elevation, increased salinity and selenium concentrations, a reduction in invertebrate resources for</i>	The Salton Sea is a terminal inland lake that is continually increasing in salinity over time due to evaporation. The analysis in the EA is pursuant to DWR's modeling using SSAM. Pursuant to the modeling there would be an acceleration of the increase in salinity and selenium by 3 to 4 years and then would reach the same levels as identified in the QSA EIR/EIS. The MMRP will address the accelerated increase in salinity and selenium. To ensure there are no ecological impacts, the Monitoring Plan will be implemented in addition to the MMRP.

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	<i>shorebirds, effects to colonial nest/roost sites, a reduction in available mudflat and shallow water habitat, and an increase in avian disease outbreaks. QSA impacts requiring mitigation included effects to piscivorous birds due to reduced fish abundance and the isolation of desert pupfish populations from increased salinity.”</i> Not only do the QSA salinity impacts on piscivorous birds and on isolation of desert pupfish populations need to be mitigated, the accelerated salinity rise caused by the Draft EA Proposed Action Alternative will have 20 years of differential impact and also needs to be mitigated. Yet, the Draft EA proposes no mitigation whatsoever. On page 107 the Draft EA repeats the falsehood that impacts on salinity imposed 20 years earlier than when the QSA alone would impose those same impacts are of no significance. <i>“The SSAM model was used to estimate the impacts to salinity that may occur due to the Proposed Action. As shown in Figure 3-8, Comparison of Baseline Trends with Proposed Action Increment of Effect the Proposed Action may accelerate the salinity increase in the Sea for a period of 3 to 4 years. An accelerated increase in salinity over a period of 3 to 4 years would be within the bounds of what was anticipated and what is to be mitigated pursuant to the QSA EIR/EIS. Because of the temporary short-term period of three years for the Proposed Action, there is no effect over the long-term. Existing conditions resume upon the conclusion of the Proposed Action. Therefore, the Proposed Action would not increase overall salinity of the Sea. In addition, the Proposed Action would reduce loading of salts and metals into the Sea compared with existing conditions. Due to the temporary short-term nature of the proposed reductions, selenium concentrations would not increase substantially from the projected future baseline condition that could result in accumulated increases of selenium concentrations or increase the potential for hazardous conditions to ecosystems and the public.”</i> It is patently false to claim that: <i>“Because of the temporary short-term period of three years for the Proposed Action, there is no effect over the long-term.”</i> Figures 2 thorough 4 of these comments clearly show what	

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	the Tetra Tech charts drawn for DWR on page 108 of the Draft EA try to obfuscate with nearly the same numbers, that there are over 20 years of increased impact on salinity, lake elevation, and playa exposure. It is completely false to state that: “<i>Existing conditions resume upon the conclusion of the Proposed Action</i>”. The salinity of the Salton Sea stays high at a level well above what any fish in the region can tolerate and it continues to rise. Selenium concentrations will also stay elevated and rise in the Salton Sea after 2026. The experience of 20 years since the QSA EIR/EIS have shown that mitigation for QSA impacts have been completely inadequate and that mitigation for accelerated impacts are likely to also be inadequate.	
136.	The Colorado River system is challenged by long-term drought on top of a systemic supply demand imbalance dating back as far as the 1922 Colorado River Compact. The need to conserve water to sustain the system is not likely to go away in 2027. A new Colorado River management plan will take effect then, but the need for conservation is highly likely to continue. The assumption in the Draft EA that all demands for conservation in the IID system over and above QSA conservation will go away after 2026 is unlikely to be realistic. If demands for conservation by IID continue into 2027 and indefinitely at levels similar to the demands in the Draft EA, then the impacts on the Salton Sea will be devastating. The long-term impacts of ongoing water conservation in the IID system including 2027 through 2077 at the same amounts as modelled for the Draft EA conservation are estimated in Figures 6 through 8 below. A continuation of on-farm efficiency measures at the same (OFECF) level of 50,000 AFY is assumed, although it is likely that more conservation would be achieved by on-farm efficiency with a 1:1 impact on Salton Sea inflows, meaning even greater impact on the Salton Sea. A continuation of conservation by deficit irrigation similar to the DIP is also assumed with the same 226,000 AFY water saving and a 35.7% impact on Salton Sea inflows. The total reduction of inflows would be 130,682 AFY modelled for 55 years from 2027 through 2077. Salton Sea playa in excess of 100,000 acres would be exposed by 2045 with impacts to human health and wildlife habitat far greater than any mitigation plans currently envisioned by local, State, and Federal agencies can manage. The Salton Sea would recede from the current	A wide range of alternatives for the multi-year NEPA process for the post-2026 Colorado River operating guidelines are currently being considered and analyzed. Therefore, conservation volumes are speculative and not reasonably foreseeable. For this reason, post-2026 conservation volumes were not included in the Cumulative Projects list.

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shoreline by miles converting all present shoreline communities to dusty desert town if they survive at all. The Salinity of the Salton Sea would exceed 250 g/Liter TDS by 2040. The aquatic ecosystem would consist of halophytic bacteria and algae and possibly brine shrimp. Any and all fish and most other multicellular organisms would be indefinitely extirpated.  Figure 6. Salton Sea Inflow absent QSA (blue), with QSA (red), with Ongoing Draft EA Proposed Action Alternative (yellow)	

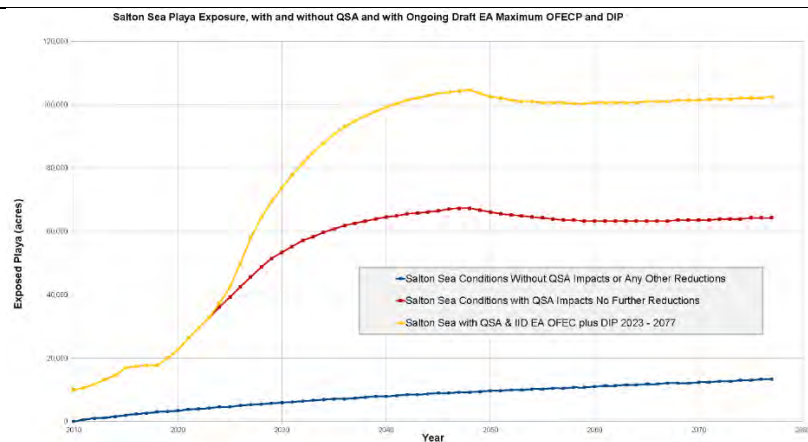


Figure 7. Salton Sea Playa Exposure absent QSA (blue), with QSA (red), with Ongoing Draft EA Proposed Action (yellow)

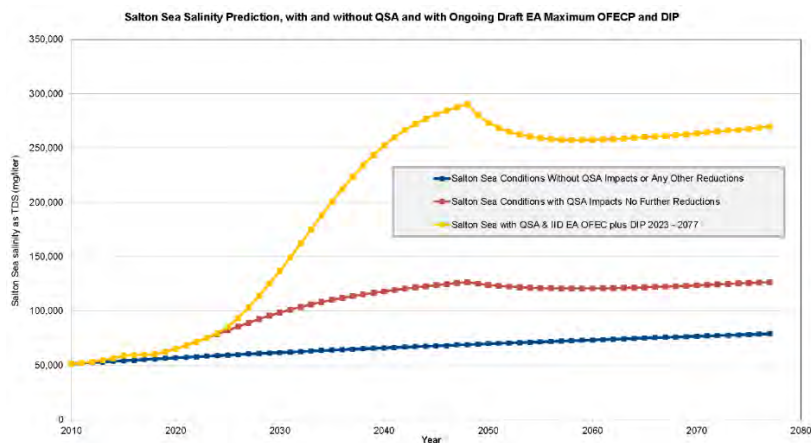


Figure 8. Salton Sea Salinity absent QSA (blue), with QSA (red), with Ongoing Draft EA Proposed Action (yellow)

With the Colorado River Management Plan for 2027 and beyond not yet public, the devastating impacts shown in Figures 6 through 8 are hypothetical, but the point is that water supply demands on an overallocated Colorado River will continue, therefore once conservation measures are implemented, there will be a call for them to continue with very significant long-term impacts on the Salton Sea.

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137.	Reclamation's proposed federal action (Proposed Action), will foreseeably result in significant harmful impacts on the Salton Sea, its ecosystem, ¹ fish and wildlife reliant on the Salton Sea ecosystem including but not limited to endangered and threatened species, the regional environment, the climate, and people throughout the surrounding area, including Tribes and other environmental justice communities. (When the foregoing impacts are hereinafter referred to collectively, the phrase "Salton Sea Impacts" will be used for brevity.)	The analysis in the EA addresses impacts to the Salton Sea, its ecosystem, fish and wildlife, or the regional environment and surrounding communities. The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented. The three-year period of the Proposed Action is significantly shorter in duration than the water conservation and reduction in diversions under the QSA. The EA recognizes the Proposed Action may accelerate certain impacts already associated with the water conservation under the QSA. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing.
138.	In addition, it is foreseeable that the proposed monitoring program and associated mitigation measures presented in the Draft EA will not be adequate to prevent or sufficiently ameliorate the injurious effects that the Proposed Action is likely to cause.	The analysis of the EA establishes that the Monitoring Plan and the ongoing mitigation from the MMRP, including the SS AQMP, will prevent adverse effects under the Proposed Action. The U.S. Fish and Wildlife Service has concurred with this determination.
139.	Furthermore, many of the adverse impacts that could result from the Proposed Action will be irreversible. Particularly given the context in which the Proposed Action would unfold—involving more than two decades of failures by responsible government agencies to restore the Salton Sea as statutorily mandated, or even to mitigate the harmful consequences of ongoing water transfers as also legally required—it is clear Reclamation should not implement the Proposed Action. Based on the information and analysis Reclamation has presented in the Draft EA, along with other pertinent facts and science, for the agency to proceed with the Proposed Action would be an abuse of discretion that would violate applicable law, endanger the health of more than half a million people, contravene environmental justice, damage the climate, and	The responsibility of government agencies to restore the Salton Sea is outside of the scope of the Proposed Action and the analysis of the EA. The EA identifies cumulative projects in Table 1-1. Each impact analysis for each resource area includes an assessment of the "incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions" that may collectively result in significant impacts. The cumulative analysis for each resource area takes into account the projects listed in Table 1-1 and finds that the increment of effect of the Proposed Action when added to those projects will not result in an overall increase in effects.

¹ The Salton Sea ecosystem includes the lake and its lakebed, tributary streams and agricultural drains, associated riparian areas and wetlands, and farm fields in the IID service area. (See California Fish & Game Code Section 2931(d).)

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	jeopardize the survival of fish and wildlife, including species that are already imperiled. ²	
140.	I suggest that a modified version of the Proposed Action could accomplish substantial water conservation to help sustain the Colorado River while not causing disproportionate and unreasonable negative effects, if— and only if—Reclamation ensures the water cutbacks are limited and carefully managed temporally and spatially, and their adverse impacts throughout the Salton Sea region are prudently minimized and entirely mitigated in a timely way.	A modified version of the Proposed Action would not meet the purpose and need of the Proposed Action outlined on page 4 of the EA. The EA does not include a second Action Alternative because no other methods of water conservation were within IID's proposal for participation in the LC Conservation Program. Only the conservation programs described in the EA are feasible to meet the objectives. The implementation of the MMRP, including the SS AQMP, is ongoing and will mitigate any impacts that may occur despite anticipated timing.
141.	Crucial context: The Salton Sea crisis and the failure to remedy it It is not possible to analyze appropriately the significance of the Proposed Action's environmental impacts, or the efficacy of suggested measures to mitigate those negative effects, without fully accounting for the context in which the Proposed Action will occur. Most importantly, a proper analysis of the Salton Sea Impacts that will result from the additional proposed water conservation measures must consider the nature and severity of the environmental, ecological, and public-health effects of previous and ongoing water reductions, the additive impacts of the new decreases, and the potential synergistically harmful interactions of the additional cutbacks with the existing ones. The Draft EA has not properly accounted for these issues, and therefore Reclamation's analysis of adverse impacts presented in the Draft EA is inadequate and, in many ways, misguided and insupportable.	The EA provides an overview of the existing conditions at the Salton Sea for each resource evaluated in Chapter 3. Each impact analysis for each resource area includes an assessment of the "incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions" may collectively result in significant impacts. The cumulative analysis for each resource area takes into account the projects listed in Table 1-1 and finds that the increment of effect of the Proposed Action when added to those projects will not result in a substantial increase in environmental effects, including but not limited to effects resulting from reduced flows.
142.	A fundamental misconception about the Salton Sea that insidiously affects much discussion of the lake's future is the widespread but erroneous belief that the lake is unnatural. This notion that the Salton	Comment noted.

² Three sets of public comments regarding the Colorado River and the Salton Sea that I previously submitted to Reclamation contain important information that is directly relevant to these comments concerning the Draft EA: https://www.academia.edu/102314523/Comments_on_the_Draft_SEIS_for_Near_Term_Colorado_River_Operations_Jenny_E_Ross, https://www.academia.edu/112641667/Comments_on_the_Revised_Draft_Supplemental_Environmental_Impact_Statement_for_Near_Term_Colorado_River_Operations, https://www.academia.edu/106768974/Comments_on_Development_of_Post_2026_Colorado_River_Management_Strategies.

To avoid redundancy in these comments, I incorporate by reference the entirety of those previous public comments. Please see those submissions for additional details concerning many of the key issues discussed herein.

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	Sea is a man-made body of water created accidentally at the beginning of the 20th century is both factually and scientifically wrong. Furthermore, the lake does not owe its existence to 20th-century Colorado River infrastructure, even though it is now dependent upon Colorado River wastewater. As I explained in a peer-reviewed scientific study published in 2020,³ when the Colorado River flooded into the Salton Basin in 1905-1907, enhancing the size of a lake containing Colorado River water that already existed there,⁴ the river was simply behaving in the same manner it had for millions of years. Geologic evidence establishes that the northern Salton Trough, containing the Salton Basin in which the Salton Sea lies, became a natural part of the Colorado River's hydrologic system about five million years ago when the river first arrived at the Gulf of California.⁵ As the river meandered throughout its delta region, which gradually became uniquely bifurcated into northern and southern lobes as the result of tectonic processes,⁶ its waters flowed into the Salton Basin and sustained vast estuarine, deltaic, lacustrine, and other wetland ecosystems. That important hydrologic connection between the Colorado River and the Salton Basin continued to exist for millions of years until the river was intentionally prevented from flowing into the Salton Basin anymore in the 20th century.	

³ Ross, J.E. (2020). Formation of California's Salton Sea in 1905-07 was not "accidental." In: Miller, D.M. (Ed.), *Proceedings of the 2020 Desert Research Symposium*, Desert Symposium, Inc., pp. 217-230. (Available online at: https://www.researchgate.net/publication/340038533_Formation_of_California's_Salton_Sea_in_1905-07_was_not_accidental.)

⁴ See, e.g., Bailey, G. E. (1902). *The Saline Deposits of California*. California State Mining Bureau Bulletin No. 24. 187 pages. The frontispiece relief map of this 1902 book depicts the large lake that was present in the Salton Basin prior to the 1905-1907 flooding. The text on pages 122-124 discusses that lake and the salt harvesting operations adjacent to it, and a photograph at the top of page 123 shows the lake in the distance and the salt deposits in the foreground. Note that the lake was already known as the "Salton Sea" prior to the 1905-1907 flooding. A large body of evidence (some of which is summarized in Ross, 2020 supra) contradicts the common but misguided notion that the 1905-1907 floodwaters flowed into a dry basin that had not held a lake since "ancient" times.

⁵ Crow, R.S. et al. (2021). Redefining the age of the lower Colorado River, southwestern United States. *Geology* 49(6):635- 640. <https://doi.org/10.1130/G48080.1>. See also: Dorsey, R.J., B. O'Connell, K. McDougall, and M.B. Homana (2018). Punctuated Sediment Discharge during Early Pliocene Birth of the Colorado River: Evidence from Regional Stratigraphy, Sedimentology, and Paleontology. *Sedimentary Geology* 363:1-33. <https://doi.org/10.1016/j.sedgeo.2017.09.018>.

⁶ Tectonic processes occurring at the boundary of the Pacific and North American plates, primarily manifested by movement along faults in the San Andreas fault system, caused the Colorado River's delta region to gradually transform from a typical fan shape into two hydrologically connected lobes that are now located to the north and south of the U.S.- Mexico border. The northern delta lobe in the northern Salton Trough contains the below-sea-level Salton Basin and Salton Sea, as well as the Imperial Valley; the southern delta lobe contains the Mexicali Valley and the subaerial delta region typically referred to as "the Colorado River delta," as well as the subaqueous delta at the head of the Gulf of California. See, e.g., Winker, C.D., and Kidwell, S.M., 1986. Paleocurrent evidence for lateral displacement of the Pliocene Colorado River delta by the San Andreas fault system, southeastern California. *Geology* 14:788-791.

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143.	The Colorado River's natural hydrologic regime across its delta region, and the rich aquatic ecosystems in the Salton Basin—including enormous lakes—that the river created and supported, were abruptly altered forever when the river's route into the northern Salton Trough was deliberately and permanently blocked. Preventing the Colorado River from flowing naturally into the Salton Basin as it had done for millions of years—and as it continued to do on an ongoing basis through the early 20th century—was a primary motivating factor for the Boulder Canyon Project Act and the construction of Hoover Dam and other key infrastructure on the river. ⁷ That 20th-century water-management infrastructure enabled the Colorado River Basin states to develop in the manner they have during the past one-hundred years. But fully controlling the Colorado River, permanently severing its natural connection with the Salton Basin, and exhaustively exploiting the river's water also sealed the fate of the Salton Sea; the demise of the lake and the collapse of its ecosystem were assured without additional human intervention.	Comment noted.
144.	Ever since full control of the Colorado River was attained using Reclamation's infrastructure, the Salton Sea and its essential ecosystem have been reliant on very large quantities of Colorado River wastewater flowing into the central Salton Basin as a result of the use of the river's water by the Imperial Irrigation District (IID or the District), the Coachella Valley Water District (CVWD), and Mexico. Because IID's Colorado River water entitlement is by far the largest as a result of the District's very senior water rights, IID's use of the river's water is crucial for sustaining the Salton Sea. Approximately 85% of the Salton Sea's inflow currently derives from IID's use of Colorado River water. ⁸	Comment noted.
145.	Despite banishment of the Colorado River from its natural course into the Salton Basin, ongoing inflow of Colorado River wastewater throughout the 20th century and during the first portion of the 21st century enabled the Salton Sea to continue supporting millions of migratory and resident birds and hundreds of millions of fish, including threatened and endangered species. The Salton Sea is situated in a critical location for avian migration, at the juncture of the Pacific Flyway and the	Comment noted.

⁷ See, e.g., LaRue, E.C. (1925). *Water, Power and Flood Control of Colorado River below Green River, Utah*. Washington: Government Printing Office. 171 pages.

⁸ California Natural Resources Agency (2024). Salton Sea Management Program 2024 Annual Report, p. 61.

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	Intermountain West. Accordingly, more than 400 species of birds rely on the Salton Sea ecosystem—many of them the same species that have used lakes and wetlands in the Salton Basin for millions of years, as the fossil record shows. Moreover, as inland aquatic ecosystems across the western United States have withered since the 19th century, and many have vanished, the Salton Sea has transitioned from being ecologically important to being indispensable for the continued survival of numerous species.	
146.	As relentlessly expanding development in the lower Colorado River basin states increasingly tightened water supplies by the turn of the 21st century, California was pushed to adopt the multiparty 2003 Quantification Settlement Agreement (QSA) to ensure that the Golden State would not exceed its total annual allotment of 4.4 million acre-feet of Colorado River water. Pursuant to the requirements of the QSA and related water transfer agreements, and in accordance with the 2007 Colorado River Interim Operating Guidelines, during the past two decades IID has conserved over 7.767 million acre-feet of Colorado River water that the District would otherwise have been legally entitled to use. ⁹ As mandated, IID will continue to transfer about 500,000 acre-feet of water annually to Southern California urban areas for decades to come. IID has implemented various permanent water conservation measures (including, but not limited to, concrete lining of canals), and approximately 70% of irrigated farmland in IID's service area is actively participating in the District's ongoing on-farm water-efficiency program designed to substantially decrease the amount of water applied to agricultural fields in Imperial County in order to conserve the volume required for the QSA water transfers. ¹⁰	Comment noted.
147.	As the amount of Colorado River wastewater flowing into the central Salton Basin shrinks, so does the Salton Sea. Thus, because of the major reductions in IID's use of Colorado River water mandated by the QSA, the Salton Sea is shriveling, its salinity is rapidly rising, the ecosystem is collapsing, and increasingly vast expanses of desiccated lakebed are polluting the air with hazardous dust containing toxic and carcinogenic components. Consequently, serious harm is occurring to	The existing conditions are described for each resource area analyzed in Chapter 3.

⁹ That figure is for the amount conserved through the end of 2023. <https://www.iid.com/water/water-conservation>.

¹⁰ Draft EA, pages 34 and 98.

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	fish and wildlife dependent on the Salton Sea ecosystem as crucial habitat, and the health of more than half a million people is in jeopardy throughout the region near the shrinking lake.	
148.	Since the QSA water transfers started in 2003 (and primarily since those transfers ramped up rapidly beginning in 2018), the area of the Salton Sea has shrunk by approximately 52 square miles (33,000 acres), and the elevation of the lake's surface has dropped by more than 12 feet.¹¹	The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented.
149.	Adverse impacts of freshwater deprivation on the Salton Sea, its tributaries, and associated wetlands and riparian areas are impairing a variety of key biological systems necessary for supporting hundreds of species that depend on the Salton Sea ecosystem for essential aspects of their lives, including feeding and breeding. In particular, degradation and loss of habitat in the Salton Sea ecosystem—especially in combination with the deterioration and disappearance of lakes and wetlands elsewhere—poses an existential threat to millions of migratory birds that have nowhere else to feed and recuperate in a vast arid region they must traverse twice-yearly during their journeys.	The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented.
150.	The salinity of the Salton Sea has risen so dramatically—to a level more than double the salinity of ocean water—that the hundreds of millions of fish previously living there have been decimated, and they are now almost completely extirpated from the lake. Ongoing increases in salinity also threaten invertebrate populations that provide essential food for fish and birds dependent on the Salton Sea ecosystem—including species that are already endangered, threatened, or of special conservation concern.	The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented.

¹¹ These numbers were current as of July 24, 2024. For newer figures, see the following webpage, which summarizes data from a variety of sources and is updated often: <https://pacinst.org/current-%20information-salton-sea/>.

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151.	Piscivorous (fish-eating) birds reliant on the Salton Sea—including Special Status Species such as the American white pelican (<i>Pelecanus erythrorhynchos</i>)—can no longer obtain the sustenance crucial for their survival because the fish population has crashed.	The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented.
152.	The desert pupfish (<i>Cyprinodon macularius macularius</i>), an endangered species under both state and federal law that depends on the Salton Sea ecosystem as one of its last major strongholds, is increasingly imperiled in the region as the QSA water transfers cause worsening habitat loss and degradation.¹²	The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented.
153.	Vast areas of lakebed left exposed as the Salton Sea shrinks are releasing dangerous particulates that contain toxic and carcinogenic components. These readily-inhalable airborne contaminants are dispersed throughout the surrounding region and are harming the health of people living and working adjacent to the lake, including Tribes and other environmental justice communities.	Unmitigated playa emissions account for less than 1% of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to consider in terms of human health. The SS AQMP will continue to be

¹² The U.S. Fish & Wildlife Service is conducting a 5-Year Status Review for the desert pupfish (87 FR 5834).

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		adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure.
154.	The exposed lakebed is also emitting large quantities of greenhouse gases, thereby threatening to undermine California's GHG emission-reduction goals and to worsen climate change.¹³	The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented.
155.	Blooms of toxic algae in the lake, its tributaries, along shorelines, and in associated wetlands are becoming more frequent and widespread as freshwater deprivation alters water chemistry and negatively impacts the ecosystem. These harmful algae blooms adversely affect fish and wildlife, and pose serious threats to the health of people via multiple exposure pathways.	The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented.
156.	Hydrogen sulfide irruptions in the Salton Sea are also worsening as the lake's ecosystem collapses. Those releases of dangerous fumes are polluting the air in adjacent communities, causing significant symptoms such as headaches and nausea, and damaging the already-impaired quality of life for disadvantaged people across the area.	The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented.
157.	Environmental justice communities throughout the Salton Sea region are suffering significant, disproportionate, and unremedied negative effects on their health and socioeconomic well-being because of the QSA water transfers, the resulting shrinkage of the Salton Sea, ongoing collapse of the lake's ecosystem, associated deterioration of water quality, pollution of the region's air by hazardous, toxic, and carcinogenic contaminants, and related impacts on the region's economy.	Additional information has been added to the Environmental Justice Section. The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented. Unmitigated playa emissions account for less than 1%

¹³ See the following peer-reviewed report and the references cited therein: Ross, J.E. (2022). Potential Major Greenhouse Gas Emissions from Proposed Salton Sea Long-Range Plans. Report submitted to the California Natural Resources Agency. January 27, 2022. 14 pages. <https://doi.org/10.13140/RG.2.2.36775.62884>. Also see that report's Supplementary Information, explaining the possible magnitude of the greenhouse gas emissions involved: <https://doi.org/10.13140/RG.2.2.10089.36964>.

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		of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to consider in terms of human health. The SS AQMP will continue to be adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure.
158.	Since the QSA was adopted in 2003, IID has complied with the many onerous requirements imposed by the terms of that agreement, and the residents of Imperial County have shouldered significant related burdens. In contrast, however, the State of California has flagrantly violated its associated legal obligations for more than two decades. Despite explicit statutory mandates and other legal requirements, the State has failed to restore the Salton Sea, has not undertaken measures necessary to mitigate the injurious effects of the QSA water transfers, and has not protected fish, wildlife, or people from entirely foreseen harm caused by decline of the Salton Sea and the deterioration of its ecosystem.	The actions of the State of California are outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA's SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects.
159.	At the time the QSA was finalized, it was widely understood that the QSA water transfers would be devastating for the Salton Sea and its ecosystem, and consequently would cause serious harm to fish, wildlife, and people. Therefore, associated legislation codified various specific requirements to avert the anticipated harm. In particular, a	The State of California legislation adopted to address the Salton Sea in relation to the QSA are outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to

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	legal obligation to restore the Salton Sea was imposed on the State of California: - o SB 277, which became law in September 2003, added Chapter 13 (commencing with Section 2930)—the Salton Sea Restoration Act—to the California Fish and Game Code. Section 2931 of that Chapter stated, “(a) It is the intent of the Legislature that the State of California undertake the restoration of the Salton Sea ecosystem and the permanent protection of the wildlife dependent on that ecosystem... (c) The preferred alternative shall provide the maximum feasible attainment of the following objectives: (1) Restoration of long-term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea. (2) Elimination of air quality impacts from the restoration projects. (3) Protection of water quality.” - o In addition, SB 654, which became law in September 2003, amended Chapter 617 of the Statutes of 2002 to explicitly provide in detail that the liability of IID and the other QSA parties for harm to the Salton Sea resulting from the water transfers was limited, and stated in Section 3(c), “Any future state actions to restore the Salton Sea will be the sole responsibility of the State of California.” - o Subsequently, in 2013, AB 71 added Fish and Game Code Section 2940, which specified numerous additional requirements for the State’s mandated restoration of the Salton Sea.	CNRA under the Commitments Agreement in support of the implementation of CNRA’s SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects.
160.	• It was also anticipated in 2003 that the impacts on the Salton Sea ecosystem from the QSA water transfers would cause the “take” (i.e., the injury or killing) of protected species (ones that are listed as endangered or threatened, or are candidates for listing as endangered or threatened). Therefore, in order to ensure the QSA would be adopted and the associated water transfers would move forward, the California Legislature added Section 2081.7 to the Fish and Game Code at that time, to allow the California Department of Fish and Wildlife to authorize the “take” of protected species in the Salton Sea ecosystem as a result of the QSA water transfers, <i>if</i> certain conditions were met. Crucially, the statute requires that “The impacts of the authorized take shall be minimized and fully mitigated.”	The State of California legislation adopted to address the Salton Sea in relation to the QSA are outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA’s SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects.

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161.	- During more than two decades following adoption of the QSA in 2003, IID has satisfied its obligations to conserve very large volumes of water and accomplish the QSA water transfers to Southern California urban areas, and is continuing to do so. IID has also been performing a variety of mitigation activities that federal and state wildlife agencies determined were necessary to lessen the negative effects of the QSA for certain species reliant on the Salton Sea ecosystem. For example, IID constructed and continues to operate a large “Managed Marsh Complex” designed to help support a variety of avian species that have lost wetland habitat in the Salton Sea ecosystem because of the QSA. Importantly, the mitigation activities were never intended to be a permanent solution for the Salton Sea crisis; rather, the State’s restoration of the Salton Sea, as mandated by statute in 2003, was intended to be the permanent solution for conserving fish and wildlife and protecting people. - State and federal agencies did not require IID to implement mitigation activities to address the impacts of the QSA on fish living in the Salton Sea or on piscivorous birds dependent on those fish. Instead, as part of IID’s mandatory program to mitigate the effects of the QSA, the District was required to provide large quantities of so-called “mitigation water” directly into the Salton Sea from 2003 through the end of 2017 to temporarily support the level of the lake, minimize salinity increases, and sustain habitat for fish and piscivorous birds, as well as other wildlife, while the State of California developed and implemented a full restoration plan for the Salton Sea as required by statute.	The State of California’s responsibility for the restoration of the Salton Sea is outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA’s SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects. The implementation of the MMRP, including the SS AQMP, is ongoing and will continue to be implemented by IID under the Proposed Action.
162.	But during the past two decades the State of California has never complied with the statutory mandate to restore the Salton Sea, and has failed to protect fish, wildlife, and people from serious harm caused by the QSA water transfers. In particular, the State did not prevent and has not mitigated the collapse of the Salton Sea fishery, has done nothing to conserve the fish-eating birds that have been deprived of their essential food supply, and has not ensured that the harmful impacts of the QSA on endangered and threatened species dependent on the Salton Sea ecosystem are “minimized and fully mitigated” as required by law. Furthermore, the State has failed to avert ongoing harm to people throughout the Salton Sea region being caused by hazardous, toxic, and carcinogenic substances being	The State of California’s responsibility for the restoration of the Salton Sea and any delays or schedules are outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA’s SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects.

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	emitted from the exposed Salton Sea lakebed and from the lake itself as its ecosystem deteriorates.	
163.	In 2014, because of the State's ongoing failure to satisfy its legal obligations, IID initiated a proceeding at the State Water Resources Control Board (Water Board) that had the potential to jeopardize the continuation of the QSA water transfers. Ultimately, as a result of that proceeding, the California Natural Resources Agency (CNRA) developed and agreed to expeditiously implement a "10-Year Plan" for interim mitigation of harm resulting from the QSA, by promptly constructing habitat areas and implementing dust mitigation measures on exposed lakebed. The CNRA also explicitly committed to promptly complete a long-term plan for Salton Sea restoration (as it was already required to do by the 2003 Salton Sea Restoration Act). In 2017, Water Board Order WR 2017-0134 (the Stipulated Order) set forth the relevant requirements,¹⁴ and incorporated those requirements as conditions of the ongoing QSA water transfers. In particular, the Stipulated Order mandated that the CNRA achieve specific annual acreage milestones for habitat creation and dust suppression on the exposed lakebed during 2018-2028, and required the CNRA to "complete a long-term plan" for Salton Sea restoration "no later than December 31, 2022." The CNRA agreed to all these requirements and has been legally bound by them since 2017.	Comment noted.
164.	Nonetheless, the CNRA has continuously violated the requirements of the Stipulated Order since 2017. The CNRA did not "complete a long-term plan" for Salton Sea restoration by December 31, 2022; instead the agency's Salton Sea Management Program (SSMP) prepared a deeply flawed and scientifically unsound report¹⁵ that is essentially just a rehashed presentation of suggested <i>options</i> for restoration that have been discussed but not acted upon for decades.¹⁶ In addition, in every year since 2017 the CNRA has failed to comply with the mandatory	The State of California's responsibility for the restoration of the Salton Sea and any delays or schedules are outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA's SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of

¹⁴ The specific requirements are set forth in Exhibit A of the Stipulated Order.

¹⁵ My public comments on the CNRA's draft long-range plan are available online: https://www.academia.edu/100170699/Comments_on_the_CNRA_SSMP_Draft_Long_Range_Plan_for_Salton_Sea_Restoration_Jenny_E_Ross

¹⁶ The U.S. Army Corps of Engineers has since taken over the task of evaluating those potential restoration approaches and other options to achieve long-term Salton Sea restoration. To accomplish that task, the Corps is conducting a major, multi-year feasibility study that is now underway.

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	acreage requirements for habitat creation and dust suppression at the Salton Sea imposed by the Water Board. - o At the end of 2023, based on the CNRA's own records, the SSMP had created a total of less than 3% of the fish and wildlife habitat that was mandated to be completed by the end of 2023.¹⁷ The CNRA claims the SSMP has created 167 acres of habitat, but 5750 acres of habitat were required to have been created by now. Moreover, the 167 acres of habitat for which the SSMP claims credit are all within the footprint of a planned project (the Species Conservation Habitat (SCH) project) that is explicitly excluded from the Stipulated Order's acreage requirements and should therefore not be counted toward fulfillment of the agency's obligations under that Water Board Order.¹⁸ Thus, the SSMP has not created even a single acre of the 5750 acres of functioning habitat that were required to have been created by the agency from 2018 through the end of 2023 pursuant to the Stipulated Order. - o At the end of 2023, based on the CNRA's own records, the agency had implemented dust mitigation measures on a total of only 40% of the acreage required to have dust control measures on it by the end of 2023. The CNRA claims the SSMP has implemented 2303 acres of dust mitigation,¹⁹ but 5750 acres were required to have been completed by now. In addition, the CNRA has not published peer-reviewed scientific evidence demonstrating the efficacy of the agency's dust mitigation measures to suppress emissions of hazardous particulates and protect public health.	California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects.
165.	• The CNRA is so far behind in complying with its annual habitat-creation and dust-mitigation obligations at the Salton Sea that there is no reasonable hope the agency will satisfy the legally mandated acreage requirements during 2024-2026. Moreover, based on the CNRA's testimony at the 2024 annual Water Board Workshop on the	The State of California's responsibility for the restoration of the Salton Sea and any delays or schedules are outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250

¹⁷ California Natural Resources Agency (2024). Salton Sea Management Program 2024 Annual Report, p. 54.

¹⁸ The 160 acres of habitat the SSMP is counting are all within the Species Conservation Habitat (SCH), a project that has been in planning, permitting, and construction stages for nearly a decade and is still not operational. Because initiation of that project preceded imposition of Water Board Order WR 2017-0134, the annual acreage requirements for habitat and dust mitigation in that Stipulated Order explicitly excluded the acreage of the SCH. Nonetheless, the SSMP continues improperly to count SCH acreage toward fulfillment of its acreage obligations under the Stipulated Order.

¹⁹ California Natural Resources Agency (2024). Salton Sea Management Program 2024 Annual Report, p. 51.

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	status of the SSMP, ²⁰ as well as written statements in the 2024 SSMP Annual Report, ²¹ the agency's plans for the next several years do not include operating the SCH project, a habitat area on a portion of the Salton Sea's exposed lakebed that has been pending for nearly a decade, is partially constructed but is not filled with water, and isn't functioning. Instead of completing and operating that project to provide desperately-needed habitat—particularly for fish-eating birds that have been deprived of their essential food supply at the Salton Sea—the SSMP intends to use its available funds for starting construction of an additional project on the increasingly exposed lakebed. It therefore appears exceedingly unlikely that either the original SCH project or the additional project will actually be operational during the next several years.	million to CNRA under the Commitments Agreement in support of the implementation of CNRA's SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects.
166.	While the CNRA continues its failure to comply with crucial legal mandates, the harmful impacts of the QSA water transfers are ongoing and worsening. The Salton Sea continues to shrink from water-deprivation and the lake's salinity continues to rise, exposed lakebed continues to emit hazardous dust and greenhouse gases, fish and wildlife dependent on the Salton Sea ecosystem are increasingly in jeopardy, and people across the surrounding region are being subjected to serious and potentially irreversible harm. And now Reclamation proposes to deprive the Salton Sea ecosystem of even more water, and to exacerbate the significant harm to fish and wildlife, the environment, the climate, and disadvantaged communities that is already ongoing because of the QSA water transfers. This is death by a thousand cuts, and Reclamation is wielding the knife.	The State of California's responsibility for the restoration of the Salton Sea is outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA's SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects. The implementation of the MMRP, including the SS AQMP, is ongoing and will continue to be implemented by IID under the Proposed Action.
167.	The Proposed Action Backdrop for the Proposed Action As all Colorado River stakeholders understand, a chronic and major imbalance between water supply and demand exists on the river, and the situation is unsustainable. Although favorable hydrology during 2022-	Comment noted.

²⁰ A recording of the May 22, 2024 State Water Resources Control Board Workshop on the status of the Salton Sea Management Program can be viewed online here: <https://www.youtube.com/watch?v=2vXxwWMwHZY>.

²¹ The 2024 SSMP Annual Report is available online at: <https://saltonsea.ca.gov/wp-content/uploads/2024/03/2024-Annual-Report-Mar-25.pdf>

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	2023 temporarily relieved some pressure to implement the immediate and enormous reductions in water use that Reclamation and the Colorado River basin states feared might be urgently required, there remains an undeniable need for substantial cuts in water consumption both now and in the future as climate change causes worsening declines in the Colorado River's streamflow. In May 2023, the three U.S. states in the Colorado River's Lower Basin—Arizona, California, and Nevada—submitted a joint proposal (the Lower Division Proposal) to Reclamation for addressing the river's ongoing water-supply deficit during 2024-2026, until a new management regime for the river (currently under development) is implemented beginning in 2027. As part of the Lower Division Proposal, the three Lower Basin states committed to conserve a grand total of 3 million acre-feet of water through the end of 2026 to protect the Colorado River system from the impacts of extended drought during that period. In the Final Supplemental Environmental Impact Statement and Record of Decision for Near-Term Colorado River Operations during 2024-2026, Reclamation adopted the Lower Division Proposal.	
168.	To assist with propping up Lake Mead in advance of the 2024-2026 period, IID entered a 2023 System Conservation Implementation Agreement (the 2023 SCIA) with Reclamation, committing to voluntarily conserve up to 100,000 acre-feet of Colorado River water in 2023. Ultimately, pursuant to the 2023 SCIA, IID left in Lake Mead a total of 106,111 acre-feet of Colorado River water, increasing the level of the reservoir by approximately 1.5 feet but reducing Salton Sea inflows by 56,111 acre-feet.²²	The 2023 SCIA between Reclamation and IID is outside the scope of the Proposed Action and the analysis of the EA.
169.	Signing of the 2023 SCIA triggered the release of \$70 million from Reclamation to the California Natural Resources Agency. That money represented a portion of \$250 million in federal funding that was	Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the

²² 50,000 acre-feet of the 106,111 acre-feet was not water that had been newly conserved for the 2023 SCIA; rather, it was already conserved pursuant to IID's QSA-related On-Farm Efficiency Conservation Program and had been designated for transfer to the San Diego County Water Authority (SDCWA) based on the requirements of the QSA. However, because the SDCWA determined it did not need that water and was willing to forego receiving it in 2023, IID purchased the water back from SDCWA and then left the water in Lake Mead in order to increase the level of that key reservoir during 2023. Thus, 56,111 acre-feet was the total quantity of *additional* water cutbacks that IID implemented in order to reduce the District's withdrawals from Lake Mead by a grand total of 106,111 acre-feet for the 2023 SCIA. Because 56,111 acre-feet was conserved using IID's On-Farm Efficiency Conservation Program, and there is a 1:1 ratio between such efficiency-related water cutbacks and the resulting reductions in Salton Sea inflow, it can be assumed that inflow to the lake was reduced by a total of 56,111 acre-feet specifically because of the 2023 SCIA.

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	earmarked by Reclamation for the SSMP's environmental projects at the Salton Sea <i>contingent on</i> IID's pledged water conservation during 2023 and 2024-2026. If the current Proposed Action for IID's additional water conservation during 2024-2026 is finalized, the balance of the \$250 million will be released to the CNRA for use by the SSMP. The \$70 million paid to the CNRA by Reclamation has not been used by the SSMP to undertake additional mitigation activities at the Salton Sea to address the environmental impacts of the 2023 SCIA and to protect fish, wildlife, and people from the consequences of those extra inflow reductions. Rather, the funds were used to backfill existing deficiencies in the SSMP's budget for previously planned work. Moreover, a similar situation exists concerning the balance of the \$250 million in funding to be released by Reclamation to the CNRA if IID commits to additional water cutbacks in 2024-2026 pursuant to the Proposed Action. That additional funding will not be used by the SSMP to mitigate the environmental impacts of the Proposed Action. Instead the CNRA has indicated that the additional federal money will be used to fund 10-Year-Plan activities that have thus far not been performed by the agency as legally required. Furthermore, the 10-Year Plan components will not be operational for many years (if ever), and may not function as intended even if they are constructed and operated. It is important to keep in mind that the 10-Year-Plan activities to be subsidized in part by Reclamation's recent funding constitute mitigation for the <i>existing</i> harmful effects of the QSA—mitigation that is necessary because the CNRA has failed for two decades to restore the Salton Sea as statutorily required. Thus, the SSMP activities to be partially funded by the \$250 million in federal money will not serve in any way to address the <i>additional</i> environmental and public-health impacts of the 2023 SCIA and the Proposed Action for 2024-2026.	Commitments Agreement in support of the implementation of CNRA's SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those SSMP projects.
170.	Key details of the Proposed Action Pursuant to the Proposed Action, in order to continue supporting sustainability of the Colorado River system, IID will commit to conserve a maximum of 900,000 acre-feet of Colorado River water during 2024-2026 that the District would otherwise be legally entitled to use. This very large quantity of conserved water will be in addition to the huge volume IID already conserves and transfers annually pursuant to the QSA, which is	Comment noted.

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	approximately 500,000 acre-feet every year. It will also be in addition to the water IID left in Lake Mead pursuant to the 2023 SCIA. The Proposed Action caps the annual amount of additional water to be conserved by IID during 2024-2026 at a maximum of 300,000 acre-feet per year. The Draft EA states: Pursuant to the Proposed Action, IID would agree to conserve a target volume of 250,000 AF, up to a maximum of 300,000 AF, of Colorado River water each year from 2024 through 2026, targeting a cumulative total of 800,000 AF, but no more than a cumulative maximum total of 900,000 AF, of water between 2024 and 2026, which will remain in Lake Mead to benefit the Colorado River System.²³ In order to accomplish the pledged water conservation, IID intends to use one or more of the following on- farm programs that the District has planned for this purpose: • On-Farm Efficiency Conservation Program (OFECP) – - o The Draft EA explains that the OFECP involves “the implementation of one or more conservation measures on a crop and field to reduce the consumptive use of the crop and/or reduce delivery of irrigation water to the field while simultaneously maintaining crop production.”²⁴ Examples of OFECP methods include, but are not limited to, implementation of drip irrigation and tailwater return systems.²⁵ - o The OFECP for 2024-2026 would be in addition to the existing QSA-related on-farm efficiency program, in which about 70% of Imperial County’s irrigated acreage is already participating.²⁶ The existing program would continue to operate in order to conserve the water necessary for the annual QSA water transfers. - o According to the Draft EA, a maximum of 50,000 acre-feet per year could be conserved by the new OFECP if there is full participation of	

²³ Draft EA, p. 17

²⁴ Id., p. 19

²⁵ Ibid.

²⁶ Draft EA, pages 34 and 98.

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	65,000 acres of farmland in the program every year.²⁷ Therefore, the maximum amount of water this program could conserve during 2024-2026 is a grand total of 150,000 acre-feet. - o For each 1 acre-foot conserved by the OFECP, Salton Sea inflow is reduced by 1 acre- foot.²⁸ Therefore, full participation in this program during 2024-2026 would reduce Salton Sea inflow by a grand total of 150,000 acre-feet. • Deficit Irrigation Program (DIP) – - o The Draft EA explains that the DIP involves “a 45- to 60-day period in the summer during which no irrigation water is applied to alfalfa, bermuda grass, or klein grass crops, or seed crops of any of those three crops.”²⁹ The DIP only operates during June, July, August, and September. Participating farmers can choose the particular 45- to 60-day period during those months when they will completely withhold irrigation water from each acre enrolled. - o According to the Draft EA, a maximum of 226,000 acre-feet per year could be conserved by the DIP if there is full participation of 180,000 acres of farmland in the program each year.³⁰ Therefore, the maximum amount of water this program could conserve during 2024-2026 is a grand total of 678,000 acre-feet.³¹	

²⁷ The Draft EA indicates that maximum participation in, and maximum conservation by, the new OFECP will not be achieved if that is not the only new program in which farmers end up participating. This is because approximately 70% of Imperial County farmland is already participating in the on-farm efficiency program associated with the QSA, and because a given acre cannot participate in more than one efficiency program simultaneously and also cannot participate in both an efficiency program and the DIP or the FUIFP. Nonetheless, the Draft EA presents and relies on modeling that assumes maximum conservation of 50,000 AFY from the new OFECP plus 250,000 AFY from following programs (the DIP+FUIFP) to achieve a total maximum conservation amount of 300,000 AFY each year during 2024-2026 (for a grand total conservation amount of 900,000 AF). Therefore, in my comments I am constrained by and must respond to what the Draft EA actually models.

²⁸ See, e.g., Draft EA, Appendix HYDRO-3, Table 1.

²⁹ Draft EA, p. 18.

³⁰ Id, p. 19.

³¹ The Draft EA indicates that maximum participation in, and maximum conservation by, any one of the new conservation programs cannot be achieved if multiple new water conservation programs end up operating. Nonetheless, the Draft EA presents and relies on a modeling scenario that assumes maximum conservation of 50,000 AFY from the new OFECP plus 250,000 AFY from following programs (the DIP+FUIFP) to achieve a total maximum conservation amount of 300,000 AFY each year during 2024-2026 (for a grand total maximum conservation amount of 900,000 AF), in addition to the current water conservation from the existing on-farm efficiency program related to the QSA. Therefore, in my comments I am constrained by and must respond to what the Draft EA actually models.

	Comment	Response
	- o For each 1 acre-foot conserved by the DIP, Salton Sea inflow is reduced by 0.357 acre- foot.³² Therefore, full participation in this program during 2024-2026 would reduce Salton Sea inflow by a grand total of 242,046 acre-feet, and that entire reduction would occur during the months of June, July, August, and September. • Farm Unit Fallowing Program (FUDP) – - o The Draft EA explains that the FUDP involves withholding all irrigation water from each participating farm field for a term of 6 months to one year. - o The Draft EA states, “The maximum acreage potentially participating in the FUDP is 34,450 acres resulting in up to a maximum of 172,250 acre-feet of conserved water for a one-year period.”³³ Because half of 2024 has already passed, the Draft EA states that the FUDP could only be implemented for a maximum total of two and a half years. Therefore, the theoretical maximum amount of water this program could conserve during 2024-2026 would be a grand total of 344,500 acre-feet. - o For each 1 acre-foot conserved by the FUDP, Salton Sea inflow is reduced by 0.357 acre- foot.³⁴ Therefore, full participation in this program during 2024-2026 would reduce Salton Sea inflow by a grand total of about 122,987 acre-feet.	
171.	• Fallowing of the type that the FUDP entails would have harmful economic effects on the Imperial Valley agricultural community as well as broader negative impacts on Imperial County overall. Therefore, IID has stated in the Draft EA that the District intends to prioritize the OFECP and the DIP.³⁵ In practical terms, this appears to mean that IID will use the FUDP only if that is necessary to achieve the total amount of water conservation that IID has committed to accomplish in the Proposed Action, and only if the elected IID Board of Directors approves that limited use of the FUDP.³⁶ Thus, it seems likely that if	This is accurate based on the EA and statements by IID’s board members.

³² Draft EA, Appendix HYDRO-3, Table 1.

³³ Draft EA, p. 20.

³⁴ Draft EA, Appendix HYDRO-3, Table 1.

³⁵ Draft EA, p. 18.

³⁶ Statements by members of the IID Board of Directors during public meetings in 2023 and 2024.

	Comment	Response
	there is strong participation in the OFECP and the DIP, the FUIFP will be minimally utilized, if it is used at all. ³⁷	
172.	The amount of Imperial County agricultural acreage that will participate in each of the foregoing water conservation programs each year during 2024-2026 is not currently known; therefore, the precise volume of IID's water cutbacks for those years is also currently unknown. Because of those uncertainties, it is also not possible to determine definitively the total reduction in Salton Sea inflows that will actually occur from 2024 through 2026 as a result of the Proposed Action. For these reasons, in order to perform the Draft EA's analysis of the Proposed Action's environmental impacts, Reclamation properly utilized the potential maximum amount of water to be conserved during 2024-2026 (i.e., 900,000 acre-feet total, at a maximum rate of 300,000 acre-feet per year), as well as the volume of reductions in Salton Sea inflow associated with that maximum amount of water conservation depending on the methods used to conserve the water. The Draft EA relies on modeling in Appendix HYDRO-3 that calculates Salton Sea inflow reductions attributable to two possible water-conservation scenarios, both of which would achieve total water conservation of 900,000 acre-feet during 2024-2026: (1) implementation of only "fallowing" (i.e., the DIP and/or the FUIFP) as the means of conserving water; or (2) implementation of both "efficiency" (i.e., the OFECP) and "fallowing" (i.e., the DIP and/or the FUIFP). Because IID has stated unequivocally that the District intends to prioritize use of the OFECP and the DIP, it appears that the modeled fallowing-only scenario is off the table. Therefore, I will assume for purposes of these comments that the second modeled scenario—labeled "Efficiency & Fallowing" in the Draft EA's Appendix HYDRO-3—is the one that will actually be implemented pursuant to the Proposed Action.	Comment noted.

³⁷ Nonetheless, as noted in footnotes 29 and 33, in my comments I am constrained by and must respond to what the Draft EA actually models. Although I will disregard the modeling scenario that relies solely on "fallowing," I must respond to the other modeling scenario presented and relied on in the Draft EA that assumes maximum conservation of 50,000 AFY from the new OFECP plus 250,000 AFY from fallowing (the DIP+FUIFP) to achieve a total maximum conservation amount of 300,000 AFY each year during 2024-2026 (for a cumulative total conservation amount of 900,000 AF).

	Comment	Response
173.	Assuming the Proposed Action entails implementing 50,000 acre-feet per year of OFECP water conservation along with a total of 250,000 acre-feet per year of DIP-plus-FUFP cutbacks to achieve a cumulative total of 900,000 acre-feet of water conservation during 2024-2026, the Draft EA's Appendix HYDRO-3 shows that Salton Sea inflows would be reduced by a total of 417,750 acre-feet during 2024- 2026. ³⁸ Utilizing a revised version of the Salton Sea Accounting Model initially developed by Reclamation in 2000 for analyzing the impacts of the QSA and subsequently modified by Tetra Tech, Inc., the Draft EA then determines the amount of Salton Sea lakebed that will be exposed in the coming years because of the Proposed Action, and the amount by which the lake's salinity will be increased. The Draft EA compares those consequences with the lakebed exposure and salinity changes that would otherwise occur because of the QSA alone. ³⁹	Comment noted.
174.	Based on the modeling presented in the Draft EA, and assuming for the moment that the modeling and its underlying assumptions are valid (notwithstanding the notable shortcomings that are discussed below), the Proposed Action's reductions in Salton Sea inflow during 2024-2026 would abruptly cause the exposure of 13,384 acres (nearly 21 square miles) of additional Salton Sea lakebed by 2027. In addition, significantly more lakebed than would otherwise be exposed due to the QSA would continue to become exposed as a result of the Proposed Action for two more decades. ⁴⁰ The Draft EA's modeling shows that increased exposure of Salton Sea lakebed due to the impacts of the 2024-2026 Proposed Action would not taper off to match the effects of the QSA until 2045. ⁴¹	Appendix HYDRO-3 provides a detailed summary of assumptions made in the modeling. Assumptions for water inflows include agricultural usage, dust suppression uses, and evaporation estimates. These assumptions provide the best estimate of future conditions, including accounting for future climate change that may exacerbate the evaporation rates. The EA acknowledges that the increased exposed lakebed acreage and salinity concentrations would occur earlier than under the No Action Alternative. That is to say, impacts resulting from lowering Sea elevation would include the same acreage as analyzed in the QSA EIR/EIS, but they would occur earlier, slowing down over time until reaching No Action Alternative conditions by 2045. The EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified in the QSA EIR/EIS. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing.

³⁸ Draft EA, Appendix HYDRO-3, Table 1 and Figure 8.

³⁹ Id., Figures 9-12.

⁴⁰ Id., Figure 9.

⁴¹ Ibid.

	Comment	Response
175.	It is noteworthy that Reclamation's 2024 Final SEIS for Near-Term Colorado River Operations (2024 Final SEIS) specifies a figure for the amount of Salton Sea lakebed that would be exposed through the end of 2026 as a result of additional water cutbacks that is much larger than the amount presented in the Draft EA. On pages 3-146 to 3-147 of the 2024 Final SEIS, Reclamation states: Based on modeling identifying the extent of the Salton Sea lakebed that could be exposed through management of water use from the Colorado River, including the application of drought-reduction and conservation measures, up to 40,224 acres of lakebed could be exposed through 2026 (Tetra Tech 2023). [Emphasis added.] The cited reference, "Tetra Tech 2023," is identified in the 2024 Final SEIS's list of references only as: "Updating the US Bureau of Reclamation's Salton Sea Spreadsheet Model (SSAM) for Future Inflow Scenarios," without any additional details. In the absence of further information, this citation appears to refer to the same modeling by Tetra Tech that Reclamation relies upon in the Draft EA, which is also dated in 2023. Thus it is unclear why two substantially different figures for the modeled amount of exposed lakebed are being used by Reclamation, and it is puzzling why the modeled amount of additional exposed lakebed specified in the Draft EA is only one-third of the amount Reclamation identified in the 2024 Final SEIS. This major discrepancy regarding a key adverse impact of the Proposed Action is concerning and requires an explanation.	The modeling done by DWR using SSAM for the EA was consistent with the modeling using SSAM for the SEIS. The cited statement is relevant for playa exposure through 2026, but the EA recognizes the acceleration of exposed playa slows down over time until reaching No Action Alternative conditions by 2045. The EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified in the QSA EIR/EIS. Similarly, the March 2024 Final SEIS states in pertinent part in Section 3.7 Water Deliveries, Section 3.7.2 Environmental Consequences, under Issue 6, page 3-84: "Therefore, the Proposed Action could result in expedited (but not additional) lakebed exposure compared with the No Action Alternative, due to less possible available agricultural runoff."
176.	With regard to increased salinity—and again assuming for the moment that the Draft EA's modeling and its underlying assumptions are sound—the modeling presented in Appendix HYDRO-3 shows that the Proposed Action's reductions in Salton Sea inflow during 2024-2026 would cause the Salton Sea's salinity to spike from 85 ppt. to 101 ppt. by 2027.⁴² In addition, for the subsequent two decades the lake's salinity would continue to rise significantly higher than it otherwise would have increased solely as a result of the QSA.⁴³ As is the case for exposed lakebed, the modeling shows that the impacts of	Projected increases in salinity would be accelerated by 3 to 4 years when compared to baseline future projections (2045), based on the trajectory predicted by the hydrologic modeling developed by DWR. However, based on the modeling, the temporary impacts associated with the Proposed Action would taper off to projected future baseline levels by the year 2045.

⁴² Id., Figure 11.

⁴³ Ibid.

	Comment	Response
	the 2024-2026 Proposed Action on salinity would not taper off to match the effects of the QSA until 2045 . ⁴⁴	
177.	Moreover, there are defects in the Draft EA's modeling that, if remedied, would likely lead to the conclusion that the Proposed Action will result in significantly more exposed lakebed and higher salinity than the current modeling shows, and that the harmful consequences of the Proposed Action for the Salton Sea, its fish and wildlife, and the region's people will be more severe and will persist even longer than the Draft EA indicates. The deficiencies and inaccuracies in the modeling include, but are not limited to, the following: • The "Total Water Volume needed to meet dust suppression obligations" is reportedly deducted from Salton Sea inflows in the modeling, but no further details whatsoever concerning that issue are provided, and the pertinent reductions actually used when performing the modeling are not disclosed. If those reductions underestimate the amount of water required for dust mitigation during the decades-long period pertinent to the modeling, then the modeled amounts of exposed lakebed and increased salinity pursuant to the Proposed Action are also underestimated. • The "Total Water Volume needed to satisfy evaporation demands of fixed-size conservation projects [for fish and wildlife]" is reportedly deducted from Salton Sea inflows in the modeling "when applicable," but no further details whatsoever concerning that issue are provided, and the pertinent reductions actually used when performing the modeling are not disclosed. If those reductions underestimate the amount of water required for the noted evaporation demands during the decades-long period pertinent to the modeling, then the modeled amounts of exposed lakebed and increased salinity pursuant to the Proposed Action are also underestimated. • The modeling used a baseline amount (before a salinity-related adjustment) for evaporation from the surface of the Salton Sea that is "a calibrated average value from historical data from 2004 to 2021," and that average value was used in the modeling for all future years in the coming decades. This means that the modeling ignores the	Appendix HYDRO-3 provides a detailed summary of assumptions made in the modeling. Assumptions for water inflows include agricultural usage, dust suppression uses, and evaporation estimates. These assumptions provide the best estimate of future conditions, including accounting for future climate change that may exacerbate the evaporation rates.

⁴⁴ Ibid.

	Comment	Response
	potential major impacts of climate warming on evaporation from the lake from 2024 onward. I suggest this means that the modeled amounts of exposed lakebed and increased salinity pursuant to the Proposed Action are underestimated. • The modeling explicitly excludes all water use by dust mitigation and habitat projects in the 10-Year Plan, and all water use by the SCH, despite the fact that such volumes of water are potentially very large. Depending on the actual amounts of those water uses, the modeled amounts of exposed lakebed and increased salinity pursuant to the Proposed Action may be significantly underestimated. • The modeling omits anticipated water cutbacks by CVWD and Mexico during 2024-2026 (and in subsequent years), which will also contribute to causing additional exposed lakebed and increases in salinity. • The modeling does not account for the fact that all of the agricultural drains previously serving as direct tributaries to the Salton Sea will eventually be completely cut off from the lake as the shoreline recedes toward the central basin. All continuing drain flows will discharge only onto the exposed lakebed, and will no longer reach the Salton Sea. Without that additional freshwater input, more lakebed will be exposed than the modeling anticipates, and the lake's salinity will increase more quickly and rise higher than modeled.	
178.	• The modeling assumes that IID's water conservation measures pursuant to the Proposed Action will abruptly cease at the end of 2026, and that no water-use reductions other than those associated with the QSA will occur from 2027 onward. This assumption defies credibility. To sustain the Colorado River and prevent crucial reservoirs from crashing as climate change takes an increasing toll on streamflow, a significant amount of water conservation, particularly by the Lower Basin states, must continue long-term. Both Reclamation and the states reliant on the river understand this issue. As discussed in Part III.C below, it is not reasonable to assume, as the Draft EA's modeling does, that IID will be entirely exempt from the need to implement ongoing water conservation from 2027 onward. The amount of the water conservation that IID will be obliged to continue, and the methods for accomplishing it, have not yet been determined. But it is clear that if even a portion of the water cutbacks in the Proposed	A wide range of alternatives for the multi-year NEPA process for the post-2026 Colorado River operating guidelines are currently being considered and analyzed. Therefore, conservation volumes are speculative and not reasonably foreseeable. For this reason, post-2026 conservation volumes were not included in the Cumulative Projects list. The Proposed Action is approval of an SCIA under Reclamation's LC Conservation Program with funding allocated from the Inflation Reduction Act of 2022 (Public Law No. 117-169) to support the Near-Term Colorado River Operations evaluated in Reclamation's March 2024 Final SEIS. This is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate.

	Comment	Response
	Action are assumed to persist beyond 2026, which is reasonably foreseeable, the impacts on the Salton Sea will be far worse than those shown in the Draft EA's modeling.	
179.	All of the above defects in Reclamation's modeling are pertinent to, and directly affect, the agency's evaluation of reasonably foreseeable and significant adverse impacts on people, fish, wildlife, and the environment that could occur as a result of the Proposed Action. I suggest that the foregoing deficiencies, and Reclamation's failure to discuss them and to provide additional pertinent details, contravene the agency's legal responsibilities.	Appendix HYDRO-3 provides a detailed summary of assumptions made in the modeling. Assumptions for water inflows include agricultural usage, dust suppression uses, and evaporation estimates. These assumptions provide the best estimate of future conditions, including accounting for future climate change that may exacerbate the evaporation rates.
180.	Reclamation's discussion of Salton Sea Impacts is flawed, unjustified, and unreasonable The Proposed Action will foreseeably result in significant direct, indirect, cumulative, and disproportionate negative impacts on the Salton Sea and its tributaries, associated wetlands and riparian areas, fish and wildlife dependent on Salton Sea ecosystem, air quality, the climate, and hundreds of thousands of people throughout the region adjacent to the lake, including Tribes and other environmental justice communities. But in the Draft EA, Reclamation does not adequately evaluate or even properly acknowledge the harmful effects of the Proposed Action that can reasonably be expected to occur. Some foreseeable and significant negative impacts required to be evaluated are not mentioned at all, and others are insufficiently and/or inappropriately assessed. Many conclusions drawn in the Draft EA regarding Salton Sea Impacts are unsupported, inaccurate, and/or improper. Reclamation's discussion of the Proposed Action's harmful consequences is inconsistent with the requirements of the National Environmental Policy Act (NEPA),⁴⁵ the NEPA implementing regulations,⁴⁶ other applicable statutes, regulations, and policies, and pertinent case law. Furthermore, as discussed in Part IV below, the monitoring and mitigation measures suggested for addressing the Proposed Action's potential negative effects are inadequate and foreseeably will be ineffective, and they do not satisfy Reclamation's legal obligations.	The analysis in the EA addresses impacts to the Salton Sea, its tributaries, associated wetlands and riparian areas, fish, and wildlife dependent on Salton Sea ecosystem, air quality, the climate and surrounding communities. The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented. The three-year period of the Proposed Action is significantly shorter in duration than the water conservation and reduction in diversions under the QSA. The EA recognizes the Proposed Action may accelerate certain impacts already associated with the water conservation under the QSA. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing.

⁴⁵ Pub. L. 91–190, 42 U.S.C. 4321 et seq. (hereinafter “NEPA”).

⁴⁶ National Environmental Policy Act Implementing Regulations (May 20, 2022). 40 CFR Parts 1500-1508.

	Comment	Response
181.	It was not appropriate for Reclamation to prepare an Environmental Assessment instead of an Environmental Impact Statement (EIS) for the Proposed Action. NEPA requires preparation of an EIS if a proposed federal action would have a “reasonably foreseeable significant effect on the quality of the human environment.” ⁴⁷ Similarly, the NEPA implementing regulations make clear that an EA is appropriate only “for a proposed action that is not likely to have significant effects or when the significance of the effects is unknown unless the agency finds that a categorical exclusion is applicable...” ⁴⁸ Even if Reclamation was somehow genuinely unaware of the fact that large water cutbacks by IID would result in significant environmental impacts as “significance” is defined by applicable law, ⁴⁹ my detailed public comments on Reclamation’s Draft SEIS for Near-Term Colorado River Operations in May 2023 and on the agency’s Revised Draft SEIS for Near-Term Colorado River Operations in December 2023 provided clear notice to the agency that the water cutbacks by IID that Reclamation was contemplating would indeed cause significant adverse impacts and would require an EIS. Public comments by others also provided such notice to Reclamation.	The EA provides a thorough assessment of the Proposed Action, which is a component of the conservation goals outlined in the 2024 Final SEIS and Record of Decision.
182.	Pursuant to NEPA, the federal government has a responsibility “...to use all practicable means, consistent with other essential considerations of national policy, to... attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences... ” ⁵⁰ Similarly, the NEPA implementing regulations state, “ Federal agencies shall to the fullest extent possible... Use all practicable means , consistent with the requirements of the Act and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions	The EA analyzes the potential effects of the Proposed Action on human health in Section 3.7 beginning on page 92. This analysis is based on the analysis in Section 3.3 Air Quality. The EA assesses air quality impacts that could affect disadvantaged communities in the entire Salton Sea Air Basin. Based on modeling conducted by DWR using SSAM for the implementation of the SSMP included in Appendix HYDRO-3, the EA finds that the Proposed Action would accelerate the lowering elevation of the Salton Sea by approximately 5 to 10 years. That is to say, impacts resulting from lowering Sea elevation would include the same acreage as analyzed in the QSA EIR/EIS, but they would occur earlier, slowing down over time until

⁴⁷ NEPA, Section 106(b)(1).

⁴⁸ 40 CFR Part 1501.5. Notably, at 115 pages long, the text of the Draft EA far exceeds the page limit of “75 pages, not including any citations or appendices” for an EA. (40 CFR Part 1501.5(g).) Apparently Reclamation felt the need to use many more pages because of the complexity of the issues; however, Reclamation should have instead perceived the need to prepare an EIS.

⁴⁹ The pertinent applicable law includes, but is not limited to, 40 CFR Part 1501.3(d).

⁵⁰ NEPA, Section 101(b), emphasis added.

	Comment	Response
	upon the quality of the human environment. ⁵¹ For Reclamation to proceed with the Proposed Action as currently formulated would be to violate these most fundamental federal responsibilities.	reaching No Action Alternative conditions by 2045. The EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified in the QSA EIR/EIS. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing and location.
183.	The “affected environment” evaluated by the Draft EA is too narrowly constrained Reclamation’s analysis of adverse impacts that may result from the Proposed Action is inappropriately constrained geographically to an “affected environment” ⁵² that encompasses only the IID Contract Service Area. Although the water conservation measures that are part of the Proposed Action will occur specifically within the IID Contract Service Area, the foreseeable harmful effects of the Proposed Action will not be limited to that region.	The EA focuses on the IID Contract Service Area because the conservation of Colorado River water under the Proposed Action will occur in this area. The EA recognizes the affected environment for each resource topic area may extend beyond the IID Contract Service Area and assesses potential environmental impacts that may result from the Proposed Action as appropriate for the resource topic. The scope of the affected environment depends on the resource being evaluated. For example, Section 3.3 Air Quality analyzes the entire Salton Sea region (e.g. Salton Sea Air Basin, page 40; Regional Air Quality, page 41; IID’s SS AQMP, State’s Salton Sea Management Program (SSMP) and Dust Suppression Action Plan (DSAP) projects, page 44; hydrogen sulfide and hazardous air pollutants monitoring, pages 44 and 45).
184.	The Proposed Action will cause negative impacts on the entirety of the Salton Sea itself; along all portions of the lake’s shoreline, and on adjoining areas of already-exposed and to-be- exposed lakebed; on wetland areas adjoining and adjacent to the lake and its exposed lakebed; on wetland and riparian areas along tributaries and where tributaries meet the exposed lakebed and the Salton Sea; on all tributaries themselves, including ones that will not be directly affected by the Proposed Action’s streamflow reductions but whose flow may become permanently cut off from the Salton Sea as the lake’s shoreline recedes farther toward the central basin due to the Proposed Action; on plants, including but not limited to Sensitive Natural Communities, in various locations; on fish and wildlife dependent on the Salton Sea ecosystem, including migratory birds that rely on the ecosystem a portion of the year; on invertebrates that provide essential food to sustain fish and wildlife; on air quality across a large geographic area surrounding	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action.

⁵¹ 40 CFR Part 1500.2, emphasis added.

⁵² 40 CFR Part 1502.15.

	Comment	Response
	the lake; and on the health and socioeconomic well-being of people throughout the Salton Sea region. Because the Draft EA's analysis of potential adverse impacts is much too narrowly constrained, it fails to consider an array of foreseeable and significant harmful consequences of the Proposed Action that are required to be evaluated pursuant to applicable law.	
185.	The claim that harmful impacts will not be cumulative or significant is unfounded Throughout the Draft EA's analysis of environmental impacts, Reclamation asserts that the Proposed Action will not result in cumulative or significant harm beyond the current and future impacts of the QSA,⁵³ because the Proposed Action is "temporary" and its effects on the Salton Sea "would taper off to baseline projection levels by the year 2045."⁵⁴ This claim is unjustified and unreasonable, and it is inconsistent with applicable law. The NEPA implementing regulations define 'cumulative impacts' of a proposed federal action as: "...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."⁵⁵ Reclamation acknowledged the nature of cumulative impacts in the 2024 Final SEIS: ...cumulative impacts refer to two or more individual impacts that, when considered together, are significant or that compound or increase other environmental impacts. Cumulative impacts can be	The EA identifies cumulative projects in Table 1-1. Each impact analysis for each resource area includes an assessment of the "incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions" may collectively result in significant impacts. The cumulative analysis for each resource area takes into account the projects listed in Table 1-1 and finds that the increment of effect of the Proposed Action when added to those projects will not result in an overall increase in effects. The DWR modeling using SSAM includes these projects in its assumptions and, therefore, accounts for reduced flows.

⁵³ This unwarranted claim was also made numerous times in Reclamation's 2024 Final SEIS, although I critiqued it fully in my public comments on the draft and revised draft of that document. Reclamation repeats the indefensible assertion now.

⁵⁴ The identical statement is made in many places throughout the Draft EA, including on pages 49, 93, and 113.

⁵⁵ 40 CFR 1508.7, emphasis added.

	Comment	Response
	categorized as additive and interactive. An additive impact results from additions from one kind of source through either time or space. An interactive impact results from more than one kind of source. ⁵⁶	
186.	In addition to evaluating whether the harmful effects of the Proposed Action are cumulative, Reclamation was required by law to analyze whether the negative effects will be significant. The NEPA implementing regulations state: “In considering whether an adverse effect of the proposed action is significant, agencies shall examine both the <i>context</i> of the action and the <i>intensity</i> of the effect.”⁵⁷ For the analysis of “context,” agencies are directed to consider “the characteristics of the geographic area, such as proximity to unique or sensitive resources or communities with environmental justice concerns,”⁵⁸ and also “the potential global, national, regional, and local contexts as well as the duration, including short-and long-term effects.”⁵⁹ For the analysis of “intensity,” the NEPA implementing regulations state in part:⁶⁰ ...Agencies shall analyze the intensity of effects considering the following factors, as applicable to the proposed action and in relationship to one another: (i) The degree to which the action may adversely affect public health and safety. (ii) The degree to which the action may adversely affect unique characteristics of the geographic area such as...ecologically critical areas.	The EA was prepared in compliance with NEPA and provides a thorough assessment of the Proposed Action. Both the QSA EIR/EIS and the 2024 SEIS were also incorporated by reference.

⁵⁶ 2024 Final SEIS, page 3-10.

⁵⁷ 40 CFR 1501.3(d), emphasis and italics added.

⁵⁸ 40 CFR 1501.3(d)(1), emphasis added.

⁵⁹ Ibid., emphasis added.

⁶⁰ 40 CFR 1501.3(d)(2), emphasis added.

	Comment	Response
	(iii) Whether the action may violate relevant Federal, State, Tribal, or local laws or other requirements or be inconsistent with Federal, State, Tribal, or local policies designed for the protection of the environment. (vi) The degree to which the action may adversely affect an endangered or threatened species or its habitat, including habitat that has been determined to be critical under the Endangered Species Act of 1973. (vii) The degree to which the action may adversely affect communities with environmental justice concerns. (viii) The degree to which the action may adversely affect rights of Tribal Nations that have been reserved through treaties, statutes, or Executive Orders.	
187.	In evaluating the significance of the reasonably foreseeable adverse impacts of the Proposed Action, Reclamation was required in part to consider various key aspects of the context in which the Proposed Action will occur. Critical to the Proposed Action's context is the comprehensive, two-decade-long failure by the State of California to comply with legal mandates to restore the Salton Sea and to minimize and fully mitigate the harmful effects of the QSA water transfers on fish, wildlife, the environment, and people. This ongoing violation of legal requirements has had and continues to have significant and harmful Salton Sea Impacts. Moreover, the extent of those impacts was not anticipated in the EIR/EIS for the QSA because no one expected that the State of California would violate its legal obligations throughout the past two decades.⁶¹ Reclamation should have considered that crucial context in the Draft EA, but did not.	The State of California's responsibility for the restoration of the Salton Sea and any delays or schedules are outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA's SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects.

⁶¹ In light of the State of California's egregious and ongoing violation of its legal obligations for more than twenty years, and considering the significant harm that has been occurring as a result of that unexpected and chronic violation of law, a Supplemental EIS process concerning the QSA water transfers should have been initiated previously pursuant to 40 CFR Part 1502.9(d)(1)(ii).

	Comment	Response
188.	Concerning the “intensity” of effects foreseeably resulting from Reclamation’s Proposed Action, there is no reasonable doubt that it will cause a variety of significant cumulative impacts as defined by NEPA, including ones explicitly enumerated in the NEPA implementing regulations as factors affecting the intensity of an agency’s contemplated action, as quoted above. It is also clear that the consequences of the Proposed Action will interact with and compound the environmental and human-health impacts of the QSA water transfers, including the unmitigated adverse impacts resulting from the State of California’s failure to comply with its legal obligations relating to the Salton Sea for more than twenty years.	The EA identifies cumulative projects in Table 1-1. Each impact analysis for each resource area includes an assessment of the “incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions” that may collectively result in significant impacts. The cumulative analysis for each resource area takes into account the projects listed in Table 1-1 and finds that the increment of effect of the Proposed Action when added to those projects will not result in a substantial increase in effects. The DWR modeling using SSAM includes these projects in its assumptions and, therefore, accounts for reduced flows.
189.	By alleging that the Proposed Action will not result in additional or cumulative harm beyond the consequences that the QSA will cause, Reclamation is essentially saying that the ongoing QSA water transfers will eventually destroy the Salton Sea, expose most of its lakebed, and cause devastating harm to fish, wildlife, and people anyhow, so overall it doesn’t matter that the Proposed Action will expedite the demise of the lake and its ecosystem, significantly increase the amount of exposed lakebed emitting toxic and carcinogenic dust for the next two decades, cause dreadful impacts on people, and jeopardize the survival of an endangered fish, an endangered bird, and hundreds of other wildlife species—including Special Status Species—during that lengthy period of time. That is an insupportable claim, both legally and morally. If Mr. X were to strangle Mr. Y to death and then declare that his action caused no additional harm to Mr. Y because Mr. Y would have died eventually anyhow (as we all will), that assertion would obviously be ludicrous and legally indefensible. The similar assertion in the Draft EA is no less ludicrous and indefensible. ⁶²	The analysis of the EA is not that there will be no impacts because impacts will happen anyway. The EA analysis acknowledges that certain impacts occur on an accelerated timing, but also recognizes that despite the timing, the existing mitigation will address those impacts. The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented. The three-year period of the Proposed Action is significantly shorter in duration than the water conservation and reduction in diversions under the QSA. The EA recognizes the Proposed Action may accelerate certain impacts already associated with the water conservation under the QSA. The MMRP, including IID’s SS AQMP, is implemented on an ongoing basis regardless and will address any impacts that occur despite anticipated timing.
190.	The Draft EA’s modeling shows that the Proposed Action’s reduction of Salton Sea inflows by 417,750 acre- feet—in addition to the very large amount by which inflows are already reduced because of the QSA water	Unmitigated playa emissions account for less than 1% of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust

⁶² I explained these issues previously to Reclamation in my public comments on USBR’s 2024 Revised Draft SEIS for Near-Term Colorado River Operations, but Reclamation made the same insupportable claim repeatedly in the 2024 Final SEIS, and now makes it again in the Draft EA.

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	transfers—will rapidly expose at least 21 square miles of lakebed.⁶³ Furthermore, large additional expanses of lakebed—beyond those projected to be exposed because of the QSA—will continue to become desiccated through 2045 as a result of the Proposed Action. It is foreseeable that the additional areas of exposed lakebed will emit dangerous particulates containing toxic and carcinogenic constituents into the region's air, and the readily-inhalable pollutants will have serious harmful effects on public health in the adjacent environmental justice communities, compounding the injurious impacts of the twenty-year failure by government officials to remedy the consequences of the QSA. Thus, it is foreseeable that the Proposed Action will cause people across the Salton Sea region—including Tribes and other environmental justice communities—to suffer substantially worsened morbidity and mortality related to increased hazardous, toxic, and carcinogenic dust emissions from the exposed lakebed from 2024 through at least 2045. Is that serious and irreversible harm, occurring during a very lengthy period, somehow rendered inconsequential because the QSA water transfers might ultimately cause the same impacts decades from now? No.	and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to consider in terms of human health. The SS AQMP will continue to be adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure.
191.	The Proposed Action will also reduce the quantities of water in Salton Sea tributaries and associated wetlands and riparian areas, increase the lake's salinity, and have other adverse impacts on water quality, thereby jeopardizing the survival of fish and wildlife dependent on the Salton Sea ecosystem. If fish and birds—including ones that are already endangered and threatened, as well as other Special Status Species—are killed, or even extirpated, as a result of substantial reductions in freshwater inflows pursuant to the Proposed Action, is that major harm somehow rendered inconsequential because the QSA water transfers could eventually cause the Salton Sea ecosystem to collapse fully and all the fish and wildlife reliant on it to disappear someday anyhow? No.	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action.

⁶³ As noted earlier, I suggest that the modeling in the Draft EA has defects and underestimates the amount of lakebed that will actually be exposed as a result of the Proposed Action. In addition, as also explained earlier, Reclamation used a much larger figure for the amount of exposed lakebed in the 2024 Final SEIS than the agency does in the Draft EA.

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192.	The claim Reclamation makes in the Draft EA that the harm to be caused by the Proposed Action is not cumulative because it will happen eventually anyhow is specious for another reason as well: The allegedly inevitable long-term harm will not actually occur if government officials comply with their legal obligations. As explained earlier, restoration of the Salton Sea is legally required by statute, and that 2003 legislation was specifically intended to prevent significant future harm to fish, wildlife, and people resulting from the QSA water transfers. The Salton Sea Restoration Act⁶⁴ mandates action to restore the habitats necessary for permanently supporting the numbers and variety of fish, birds, and other wildlife originally reliant on the Salton Sea ecosystem, and to protect people from various types of injurious consequences that will result if the lake continues to shrivel from freshwater deprivation, more of its lakebed is exposed, and its ecosystem collapses. If government officials fully satisfy their legal responsibilities, serious future harm to fish, wildlife, and people that would otherwise ultimately occur in the coming decades because of the QSA will actually not materialize.	The analysis of the EA is not that there will be no impacts because impacts will happen anyway. The EA analysis acknowledges that certain impacts occur on an accelerated timing, but also recognizes that despite the timing, the existing mitigation will address those impacts. The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented. The three-year period of the Proposed Action is significantly shorter in duration than the water conservation and reduction in diversions under the QSA. The EA recognizes the Proposed Action may accelerate certain impacts already associated with the water conservation under the QSA. The MMRP, including IID's SS AQMP, is implemented on an ongoing basis regardless and will address any impacts that occur despite anticipated timing. The State of California's responsibility for the restoration of the Salton Sea is outside the scope of the Proposed Action and the analysis in the EA.
193.	The Proposed Action will cause cumulative and significant harm to fish, wildlife, and people long before full long-term restoration of the Salton Sea can feasibly be implemented, and also before the State completes and operates the interim projects necessary to satisfy its shirked legal obligations to properly mitigate harm resulting from the QSA water transfers. Moreover, some of the harmful consequences of the Proposed Action will be irreversible even if comprehensive long-term restoration of the Salton Sea ultimately occurs in the future. Many foreseeable negative effects of the Proposed Action—including major emissions of hazardous particulates and greenhouse gases from exposed lakebed, die-offs of fish and birds, and human morbidity and mortality—constitute irremediable harm that cannot be retroactively cured by subsequent restoration actions. For Reclamation to assert, in essence, that none of this harm matters is blatantly unreasonable and contrary to applicable law.	The State of California's responsibility for the restoration of the Salton Sea is outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA's SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects. The implementation of the MMRP, including the SS AQMP, is ongoing and will continue to be implemented by IID under the Proposed Action.

⁶⁴ California Fish and Game Code Chapter 13, Sections 2930 et seq. As noted earlier, the Salton Sea Restoration Act was originally passed in 2003, and was strengthened by the addition of further detailed requirements in 2013.

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194.	The assertion that water cutbacks will cease at the end of 2026 is unjustified Throughout the Draft EA, Reclamation's assertion that the Proposed Action's water-use reductions and associated negative environmental and public-health impacts are not significant is repeatedly buttressed by the claim that the water cutbacks are "temporary" and only "short-term,"⁶⁵ and that they will cease completely at the end of 2026. For example, Reclamation states early in the Draft EA: The water conservation programs implemented pursuant to the Proposed Action would temporarily further reduce IID deliveries [beyond the reductions required by the QSA]...for three years from 2024 through 2026. Colorado River water deliveries to IID would return to pre-Proposed Action volumes beginning in 2027 upon the expiration of the SCIA and conclusion of the water conservation programs provided for by the SCIA.⁶⁶ This is an unjustified and implausible claim, and it is unreasonable for Reclamation to use it as support for the allegation that the Proposed Action's impacts are insignificant. While it is technically correct that the water cutbacks in the Proposed Action are specifically defined as applicable to the period 2024-2026, it is exceedingly unrealistic—if not disingenuous—for Reclamation to suggest that additional water conservation measures beyond those required by the QSA will simply cease at the end of 2026, that IID's water use will revert to prior levels, and that the harmful impacts of the Proposed Action's water cutbacks will therefore be insignificant. There is no factual support for such a claim, and indeed the available facts lead to the contrary conclusion—i.e., that IID will be obliged to continue similar, or even more onerous, water conservation measures beyond 2026 for the long-term, and that the ongoing and worsening injurious consequences will be disastrous for fish, wildlife, the environment, and more than half a million people.	A wide range of alternatives for the multi-year NEPA process for the post-2026 Colorado River operating guidelines are currently being considered and analyzed. Therefore, conservation volumes are speculative and not reasonably foreseeable. For this reason, post-2026 conservation volumes were not included in the Cumulative Projects list. The Proposed Action is approval of an SCIA under Reclamation's LC Conservation Program with funding allocated from the Inflation Reduction Act of 2022 (Public Law No. 117-169) to support the Near-Term Colorado River Operations evaluated in Reclamation's March 2024 Final SEIS. This is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate.

⁶⁵ See, e.g., Draft EA, section 3.3.2.2., page 47.

⁶⁶ Draft EA, page 18, emphasis added.

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195.	A new long-term Colorado River management regime is currently being developed by Reclamation and will be implemented beginning in January 2027. In March 2024 the Lower Basin states submitted a proposal for post-2026 management of the river that includes, among other details, an annual reduction in water use by the Lower Basin of 1.5 million acre-feet per year, as well as additional water cutbacks up to a total of 3.9 million acre-feet to be shared between the Upper and Lower Basin states and Mexico in the event that conditions in the Colorado River system deteriorate further due to drought and the impacts of climate change. Reclamation has not yet announced a proposed action regarding long-term management of the river's water beginning in 2027, but it is certainly foreseeable that the agency will—at a minimum—choose to move forward with Lower Basin water-use reductions matching the amounts presented in the Lower Basin proposal. Although it is not yet clear what volume of additional water conservation IID will be responsible for achieving annually beginning in 2027, beyond the cutbacks already required by the QSA, I suggest it is certainly not reasonable to assume that the additional amount will be zero.	A wide range of alternatives for the multi-year NEPA process for the post-2026 Colorado River operating guidelines are currently being considered and analyzed. Therefore, conservation volumes are speculative and not reasonably foreseeable. For this reason, post-2026 conservation volumes were not included in the Cumulative Projects list. The Proposed Action is approval of an SCIA under Reclamation's LC Conservation Program with funding allocated from the Inflation Reduction Act of 2022 (Public Law No. 117-169) to support the Near-Term Colorado River Operations evaluated in Reclamation's March 2024 Final SEIS. This is a unique program with limited funding for a short-term period until 2026, at which time the SCIA will terminate.
196.	If Reclamation moves forward with the Proposed Action and IID proceeds with implementing measures to reduce water use by an additional amount as high as 300,000 acre-feet per year during 2024-2026, despite the harmful Salton Sea Impacts, I suggest it is extremely likely that Reclamation and water agencies throughout the Colorado River Basin will expect IID to continue the 2024-2026 water cutbacks, or to implement even more burdensome and harmful reductions in the District's water use, beginning in 2027 and continuing for the long term. Not only is IID very likely to face enormous pressure to continue the Proposed Action voluntarily from 2027 onward, but it is foreseeable that the District could be required to do so involuntarily. If severe drought conditions recur, and if scientific projections regarding the future impacts of climate change on Colorado River streamflow prove correct,⁶⁷ all Colorado River stakeholders including IID will face substantial long-term cuts in their water allocations.	A wide range of alternatives for the multi-year NEPA process for the post-2026 Colorado River operating guidelines are currently being considered and analyzed. Therefore, conservation volumes are speculative and not reasonably foreseeable. For this reason, post-2026 conservation volumes were not included in the Cumulative Projects list.

⁶⁷ For example, a 2020 study found that by mid-century (2036-2065) Colorado River streamflow could decrease more than 30% in relation to the 1913-2017 mean, and potentially by as much as 40%. (Milly, P.C.D. and Dunne, K.A. (2020). Colorado River flow dwindles as warming-driven loss of reflective snow energizes evaporation.

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197.	Thus, it is unjustified and unreasonable for Reclamation to allege that the Proposed Action's water reductions and adverse impacts are not significant based on the assumption that the cutbacks will abruptly cease permanently on December 31, 2026. Instead, Reclamation's post-2026 Colorado River water management program should have been included on the Draft EA's "Cumulative Projects List"; and, in conducting the analysis for the Draft EA, Reclamation should have considered ongoing water reductions from 2027 onward to be a reasonably foreseeable future action that would substantially affect evaluation of the current Proposed Action's harmful effects. Even though the volume of IID's additional future water cutbacks from 2027 onward is not known, Reclamation certainly knows the amount will not be zero. If substantial long-term post-2026 water cutbacks by IID follow on the heels of the Proposed Action—in the context of government agencies' failure to restore the Salton Sea or even to properly mitigate the injurious impacts of the QSA and the additional adverse effects of more water reductions from 2023 through 2026—the consequences will be catastrophic. The Salton Sea and its ecosystem will be completely destroyed, scores if not hundreds of species will be extirpated, some species already endangered or threatened may be pushed to extinction, and more than half a million people will be exposed to unconscionable risks of severe harm.	A wide range of alternatives for the multi-year NEPA process for the post-2026 Colorado River operating guidelines are currently being considered and analyzed. Therefore, conservation volumes are speculative and not reasonably foreseeable. For this reason, post-2026 conservation volumes were not included in the Cumulative Projects list.
198.	It appears that the QSA water transfers and the failure of government agencies to remedy their damaging impacts for more than two decades have served to normalize, at least in the minds of key government officials, the ecological and public health crisis that is ongoing at the Salton Sea. That normalization has occurred to such an extent that Reclamation deems the Proposed Action's additional water reductions and additional harmful consequences to be insignificant when they clearly are not. If the Proposed Action moves forward, it will serve to shift the Overton window even more, making the imposition of further injurious water cutbacks in the Salton Sea region from 2027 onward appear to be	The Proposed Action is the result of a proposal submitted by IID to create conserved water for compensation pursuant to a SCIA under Reclamation's LC Conservation Program with funding allocated from the Inflation Reduction Act of 2022 to support the Near-Term Colorado River Operations evaluated in Reclamation's March 2024 Final SEIS. Participation in the LC Conservation Program is on a purely voluntary basis. The conservation programs to be implemented by IID under the Proposed Action will also be on a purely voluntary basis. The LC Conservation Program is a unique

Science 367(6483), 1252-1255, <https://doi.org/10.1126/science.aay918>.) Another recent study found that, estimated conservatively, Colorado River streamflow will shrink at least 20% more by mid-century than it has already, and 35% more by the end of the century; and potentially the river's flow could suffer additional declines of more than 30% by mid-century and 55% by later in the century. (Udall, B. and Overpeck, J. (2017). The twenty-first century Colorado River hot drought and implications for the future. *Water Resources Research* 53, 2404–2418, <https://doi.org/10.1002/2016WR019638>.)

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	an appropriate policy choice, despite the devastating and irreversible harm that will result.	program with limited funding for a short-term period until 2026, at which time the SCIA will terminate.
199.	It is insupportable for Reclamation to characterize the Proposed Action as a “temporary” and de minimis stressor that will only exist for a brief time before conditions revert to an acceptable baseline. Reclamation’s reliance on this untenable characterization in the Draft EA either indicates a surprising degree of ignorance regarding the issues involved, or reflects a calculated and unreasonable agency decision to willfully disregard the harmful reality confronting fish, wildlife, and environmental justice communities in the Salton Sea region. Either way, Reclamation has violated the agency’s legal obligations pursuant to NEPA.	The EA provides a thorough assessment of the Proposed Action, which supports the conservation goals outlined in the 2024 Final SEIS.
200.	The evaluation of air quality and public health impacts is inadequate, and related conclusions are unwarranted Based on the Draft EA’s modeling, within just a few years the Proposed Action will increase the area of exposed Salton Sea lakebed by more than 40%. It is foreseeable that such a large increase in the area of dry lakebed will substantially worsen emissions of dangerous particulates that contain hazardous, toxic, and carcinogenic constituents, and will therefore cause significant additional harmful effects on air quality and public health in the surrounding region. Reclamation’s evaluation of these issues in the Draft EA is inadequate, and the related conclusions the agency draws are unwarranted.	The modeling and analysis of the exposure of the Salton Sea shoreline are included in the EA, with the evidence and explanation of the modeling in Appendix HYDRO-3. Unmitigated playa emissions account for less than 1% of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to consider in terms of human health. The SS AQMP will continue to be adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure.

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201.	In the Draft EA Reclamation acknowledges the Proposed Action will greatly enlarge the areas of exposed Salton Sea lakebed that foreseeably will emit dangerous fugitive dust and hazardous air pollutants. In addition, Reclamation admits that deterioration of the Salton Sea's ecosystem will result in the emission of noxious fumes, including potentially unsafe levels of hydrogen sulfide (H₂S), and foul odors. But the Draft EA again reiterates the untenable claim that these harmful effects of the Proposed Action are not significant because they are "temporary" and will "taper off to baseline projection levels by the year 2045." Reclamation states: "While the Proposed Action would accelerate the exposure of areas of shoreline that are currently inundated, the acceleration would taper off to baseline projection levels by the year 2045. Because the Proposed Action would accelerate the exposure of playa at the Salton Sea, there would be an increase of the potential for fugitive dust emissions and related HAP [Hazardous Air Pollutant] emissions and exposure to communities surrounding the Salton Sea earlier than would otherwise occur. The acceleration of the reduction of the Salton Sea may also cause an earlier increase of anaerobic organic decay with increasing concentration of sulfates and other compounds present in the saline Sea, which would lead to an earlier increase in H₂S emissions. Odors could also occur earlier from increasing concentrations of nutrient levels and fish, algal, bird and plant, algae and phytoplankton die-offs... The temporary acceleration of the lowering of the Salton Sea level would taper off to projected future baseline levels by the year 2045."⁶⁸ The Proposed Action will foreseeably cause elevated quantities of hazardous, toxic, and carcinogenic contaminants and noxious fumes to pollute the air across the Salton Sea region for more than two decades, causing injurious and even potentially lethal impacts on people. It is unjustifiable for Reclamation to claim that the harmful effects the Proposed Action will have on air quality and public health from 2024 through at least 2045 are insignificant because the QSA water transfers might cause the same effects decades from now. That claim defies	The modeling and analysis of the exposure of the Salton Sea shoreline are included in the EA, with the evidence and explanation of the modeling in Appendix HYDRO-3. Unmitigated playa emissions account for less than 1% of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to consider in terms of human health. The SS AQMP will continue to be adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure.

⁶⁸ Draft EA, page 49.

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	common sense, is grossly immoral, and is not consistent with applicable law.	
202.	The Proposed Action's adverse impacts on air quality foreseeably will worsen Imperial County's federal nonattainment status for PM _{2.5} and state nonattainment status for PM ₁₀ , and Riverside County's federal nonattainment status for PM ₁₀ and state nonattainment status for PM _{2.5} , and will also jeopardize Imperial County's federal attainment status for PM ₁₀ and Riverside County's federal attainment status for PM _{2.5} . In so doing, the Proposed Action will likely violate the Clean Air Act's General Conformity requirement ⁶⁹ by causing or contributing to new violations, and/or increasing the frequency or severity of existing violations, and/or delaying timely attainment of federal ambient air quality standards for PM _{2.5} and PM ₁₀ in Imperial and Riverside Counties, in a manner that does not confirm to the State Implementation Plan for air quality.	Until the playa is exposed, the location, frequency and magnitude of future emissions are unknown. There is no data to indicate that the Proposed Action would cause or contribute to new violations of the Clean Air Act. Data shows that dust emissions are occurring from other sources within and adjacent to Imperial County, including primarily the desert region to the west of the IID Contract Service Area and Mexico to the south. Unmitigated playa emissions account for less than 1% of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. Approximately 20% of the playa is responsible for nearly 73% of playa emissions.
203.	In addition, dust emissions resulting from the Proposed Action foreseeably will pollute inhabited areas with substances identified and regulated under federal and state law as hazardous, toxic, and carcinogenic. The inhalable pollutants will pose significant additional health threats to people in environmental justice communities adjacent to the Salton Sea, compounding the harm already being caused by the exposure of 52 square miles of lakebed as a result of the ongoing QSA water transfers. ⁷⁰	As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to consider in terms of human health. The SS AQMP will continue to be adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure.

⁶⁹ 42 U.S.C. § 7506(c).

⁷⁰ The figure of 52 square miles of exposed lakebed was current as of July 24, 2024. For updated information, see: <https://pacinst.org/current-%20information-salton-sea/>.

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204.	As defined by the U.S. Environmental Protection Agency, “Hazardous air pollutants, also known as toxic air pollutants or air toxics, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects.”⁷¹ 188 substances qualifying as HAPs are listed pursuant to section 7412 of Title 42 of the U.S. Code and regulated by the U.S. Environmental Protection Agency.⁷² In addition, Section 39655 of the California Health and Safety Code states that a toxic air contaminant (TAC) is “an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health.” The California Air Resources Board has formally identified 200 substances that qualify as TACs, including but not limited to all federally-identified HAPs.⁷³ Numerous contaminants that are present in Salton Sea sediments and that are likely to be constituents of the dust emitted from the exposed lakebed into the air breathed by people throughout the surrounding region are listed and regulated as hazardous air pollutants (HAPs) under federal law and as toxic air contaminants (TACs) under California law. Those harmful contaminants in lakebed sediments include, but are not limited to, arsenic compounds, selenium compounds, PCBs, and residues of numerous legacy pesticides (e.g., DDT) that have been banned or severely restricted but previously accumulated in the Salton Sea’s lakebed while they were in use in the U.S. and/or in Mexico.⁷⁴	As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to consider in terms of human health. The SS AQMP will continue to be adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure.
205.	The harmful health effects of acute and chronic inhalation of the tiny airborne particulates known as PM10 and PM2.5 are well established scientifically, and include respiratory symptoms, asthma attacks, acute and chronic bronchitis, worsening of chronic obstructive pulmonary disease (COPD), restricted activity days, increased emergency room visits and hospitalizations for pulmonary and cardiac causes, and premature mortality. Moreover, PM10 and PM2.5 emitted from the exposed Salton Sea lakebed pose even greater risks of harm because	As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is

⁷¹ <https://www.epa.gov/haps/about-hazardous-air-pollutants>.

⁷² The current HAP list is available at: <https://www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications>.

⁷³ Substances listed as federal hazardous air pollutants (HAPs) are TACs under California law pursuant to Section 39657(b) of the California Health and Safety Code.

⁷⁴ The current TAC list is online at: <https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants>.

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	they contain a variety of toxic and carcinogenic components designated as HAPs and TACs, as well as other dangerous substances such as microcystins from toxic algae blooms and Coccidioides fungal spores that cause the serious and potentially lethal disease known as Valley Fever. Dust emitted from the Salton Sea lakebed is uniquely hazardous—far more so than typical desert dust. ⁷⁵ People in communities near the Salton Sea are already suffering significant and disproportionate pulmonary illness associated with chronic inhalation of dangerous particulates being emitted from exposed Salton Sea lakebed because of the QSA water transfers. For example, a recent study found that the childhood asthma rate for the portion of Imperial County closest to the Salton Sea's exposed lakebed was 22.4% in comparison to a nationwide prevalence of 8.4%. ⁷⁶ The same study determined that chronic pulmonary symptoms in children not diagnosed with asthma are also unusually high in the Salton Sea region. Notably, emergency room visits for children ages 5-17 years with asthma in Imperial County are more than double the California statewide average. ⁷⁷	exceptionally high in toxic metals is not supported by the current body of research. The current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to consider in terms of human health. The SS AQMP will continue to be adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure.
206.	Because the Proposed Action's water cutbacks will greatly increase the exposure and desiccation of Salton Sea lakebed and foreseeably will cause large additional emissions of hazardous dust, they will thereby significantly compound the injurious consequences for public health that are already occurring. A recent study determined that "each one-foot drop in lake elevation creates, on average, \$151.5 million in respiratory mortality costs in the Salton Sea counties..." ⁷⁸ The proximity of environmental justice communities to the Salton Sea ensures they will be subjected to worsening harm as the Proposed Action causes accelerated decline of the lake, exacerbates ecosystem deterioration, and substantially increases the emission of dangerous pollutants from the exposed lakebed into the region's air.	This analysis in Section 3.7 Human Health is based on the analysis in Section 3.3 Air Quality. The EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified in the QSA EIR/EIS. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing and location.

⁷⁵ For example, recent research concluded that dust from exposed Salton Sea lakebed causes lung inflammation that is distinct from the pulmonary effects of exposure to typical desert dust. (Biddle, T.A. et al. (2023). Aerosolized aqueous dust extracts collected near a drying lake trigger acute neutrophilic pulmonary inflammation reminiscent of microbial innate immune ligands. *Science of the Total Environment* 858(3):159882. <https://doi.org/10.1016/j.scitotenv.2022.159882>.)

⁷⁶ Farzan, S.F. et al. (2019). Assessment of Respiratory Health Symptoms and Asthma in Children near a Drying Saline Lake. *Int. J. Env. Res. Public Health*, 16(20):3828. <https://doi.org/10.3390/ijerph16203828>.

⁷⁷ <https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHIB/CPE/Pages/CaliforniaBreathingCountyAsthmaProfiles.aspx>.

⁷⁸ Jones, B.A. and Fleck, J. (2020). Shrinking lakes, air pollution, and human health: Evidence from California's Salton Sea. *Science of the Total Environment* 712(22):136490. <http://dx.doi.org/10.1016/j.scitotenv.2019.136490>.

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207.	The Proposed Action's adverse impacts on air quality will also cause negative socioeconomic effects across the Salton Sea region that will be cumulative and significant, as well as foreseeably unmitigated. Poor air quality is associated with increased medical expenses, increased loss of work days due to illness, decreased property values, decreased tourism and visitor satisfaction, and related decreases in visitor spending levels and economic impacts on businesses.⁷⁹	Section 3.6 Environmental Justice begins on page 87 and includes the socioeconomic analysis and available data. Costs associated with air quality are dependent upon the analysis of potential air quality impacts. The EA assesses air quality impacts that could affect disadvantaged communities in the entire Salton Sea Air Basin. Based on modeling conducted by DWR using SSAM for the implementation of the SSMP included in Appendix HYDRO-3, the EA finds that the Proposed Action would accelerate the lowering elevation of the Salton Sea by approximately 5 to 10 years. That is to say, impacts resulting from lowering Sea elevation would include the same acreage as analyzed in the QSA EIR/EIS, but they would occur earlier, slowing down over time until reaching No Action Alternative conditions by 2045. The EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified in the QSA EIR/EIS. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing or location.
208.	The evaluation of environmental justice issues is inappropriately limited, and reaches untenable conclusions Environmental justice communities throughout the Salton Sea region—including, but not limited to, Tribes—are suffering significant, disproportionate, and unremedied negative effects on their health and socioeconomic well-being because of the QSA water transfers, the resulting shrinkage of the Salton Sea, associated deterioration of water quality, ongoing collapse of the lake's ecosystem, harmful algae blooms, die-offs of fish and birds, pollution of the region's air by hazardous particulates blowing off of the exposed lakebed and noxious fumes emitted from the deteriorating lake, related economic impacts, and other historical and ongoing patterns of exposure to environmental degradation and health hazards, as well as chronic marginalization of their communities. The two-decade-long failure of responsible government agencies to restore the Salton Sea, or even to properly mitigate the adverse impacts of the QSA, has perpetuated and worsened this	The existing conditions are described for each resource area analyzed in Chapter 3. The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented. The three-year period of the Proposed Action is significantly shorter in duration than the water conservation and reduction in diversions under the QSA. The EA recognizes the Proposed Action may accelerate certain impacts already associated with the water conservation under the QSA. The MMRP, including IID's SS AQMP, is implemented on an ongoing basis regardless and will address any impacts that occur despite anticipated timing or location.

⁷⁹ See, e.g., Tourism Economics. 2014. The Potential Economic Impact of the Salton Sea on the Greater Palm Springs Tourism Industry. https://assets.simpleviewinc.com/simpleview/image/upload/v1/clients/palmsprings/salton_sea_eis_ff17089f-eed9-4619-a89f-df859da583dc.pdf.

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	injurious situation. Now Reclamation's Proposed Action will foreseeably and significantly accelerate and exacerbate the ongoing harm.	
209.	In the Draft EA Reclamation admits that applicable law "requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the U.S." ⁸⁰ The Draft EA also acknowledges that this requirement is applicable to the Proposed Action. But Reclamation improperly constrains the Draft EA's analysis of environmental justice issues both geographically and substantively by limiting the assessment to IID's Contract Service Area and to potential negative economic effects related to reduced farming activities.	The EA focuses on the IID Contract Service Area because the conservation of Colorado River water under the Proposed Action will occur in this area. The EA recognizes the affected environment for each resource topic area may extend beyond the IID Contract Service Area and assesses potential environmental impacts that may result from the Proposed Action as appropriate for the resource topic. The scope of the affected environment depends on the resource being evaluated. For example, Section 3.3 Air Quality analyzes the entire Salton Sea region (e.g. Salton Sea Air Basin, page 43; Regional Air Quality, page 44; IID's SS AQMP, State's Salton Sea Management Program (SSMP) and Dust Suppression Action Plan (DSAP) projects, page 46; hydrogen sulfide and hazardous air pollutants monitoring, page 47). The human health analysis is based on the analysis in Section 3.3 Air Quality. The economic effects raised are a result of human health impacts. Current and anticipated playa exposure is higher in the relatively larger, shallower southern end of the Sea. The analysis in the southern end and the most directly impacted communities from the acceleration of playa exposure is appropriate for Section 3.7 Human Health. The SS AQMP is implemented for the entire Salton Sea and will address any impacts that occur despite anticipated timing and location.
210.	In addition, Reclamation's evaluation unjustifiably relies on the groundless presumption that no further water cutbacks will occur after 2026.	A wide range of alternatives for the multi-year NEPA process for the post-2026 Colorado River operating guidelines are currently being considered and analyzed. Therefore, conservation volumes are speculative and not reasonably foreseeable. For this reason, post-2026 conservation volumes were not included in the Cumulative Projects list.
211.	Consequently, the Draft EA reaches the unwarranted conclusions that the Proposed Action:	Additional information has been added to the Environmental Justice Section. The EA focuses on the IID Contract Service Area because the conservation of Colorado River water under the Proposed Action will occur in this area. The EA recognizes the affected environment for each resource topic area may extend beyond the IID Contract

⁸⁰ Draft EA. Page 86.

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	• "...would not contribute to cumulative impacts related to environmental justice issues in the IID Contract Service Area."⁸¹ • "...would not disproportionately affect the minority and low-income populations in the area because the Proposed Action is not expected to significantly affect local socioeconomic conditions due to the short duration of the reduced farming activities."⁸² The Draft EA presents an inadequate and inaccurate assessment of environmental justice impacts under applicable law. Reclamation wrongly failed to consider all the environmental justice communities throughout the Salton Sea region, including but not limited to Tribes, that foreseeably will experience significant harmful consequences because of the Proposed Action. Reclamation also improperly did not consider and address a wide variety of injurious impacts on environmental justice that the Proposed Action will foreseeably inflict, including harm to air quality and public health, other degradation of the regional environment, and associated negative economic effects.	Service Area and assesses potential environmental impacts that may result from the Proposed Action as appropriate for the resource topic. The scope of the affected environment depends on the resource being evaluated. For example, Section 3.3 Air Quality analyzes the entire Salton Sea region (e.g. Salton Sea Air Basin, page 40; Regional Air Quality, page 41; IID's SS AQMP, State's Salton Sea Management Program (SSMP) and Dust Suppression Action Plan (DSAP) projects, page 44; hydrogen sulfide and hazardous air pollutants monitoring, pages 44 and 45). Additionally, the human health analysis is based on the analysis in Section 3.3 Air Quality. The economic effects raised are a result of human health impacts. Current and anticipated playa exposure is higher in the relatively larger, shallower southern end of the Sea. The analysis in the southern end and the most directly impacted communities from the acceleration of playa exposure is appropriate for Section 3.7 Human Health. The SS AQMP is implemented for the entire Salton Sea and will address any impacts that occur despite anticipated timing and location.
212.	As defined in Executive Order 14096, "Revitalizing Our Nation's Commitment to Environmental Justice for All,"⁸³ the phrase <i>environmental justice</i> means: ...the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment so that people: (i) are fully protected from disproportionate and adverse human health and environmental effects (including risks) and hazards, including those related to climate change, the cumulative impacts of environmental and other burdens, and the legacy of racism or other structural or systemic barriers; and	Section 3.6 Environmental Justice begins on page 87 and includes the socioeconomic analysis and available data. Additional information has been added to the Environmental Justice Section. Costs associated with air quality are dependent upon the analysis of potential air quality impacts. The EA assesses air quality impacts that could affect disadvantaged communities in the entire Salton Sea Air Basin. Based on modeling conducted by DWR using SSAM for the implementation of the SSMP included in Appendix HYDRO-3, the EA finds that the Proposed Action would accelerate the lowering elevation of the Salton Sea by approximately 5 to 10 years. That is to say, impacts resulting from lowering Sea elevation would include the same acreage as analyzed in the QSA EIR/EIS, but they would occur earlier, slowing down over time until reaching No Action Alternative conditions by 2045. The EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be

⁸¹ Ibid.

⁸² Draft EA, page 90.

⁸³ Exec. Order No. 14096, 88 Fed. Reg. 25251 (April 21, 2023). Emphasis added.

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	(ii) have equitable access to a healthy, sustainable, and resilient environment in which to live, play, work, learn, grow, worship, and engage in cultural and subsistence practices. The Salton Sea region, including the entirety of Imperial County and much of eastern Riverside County, consists of <i>disadvantaged communities</i> as that phrase is defined by the federal government for purposes of evaluating environmental justice issues.⁸⁴ The disadvantaged communities throughout the Salton Sea region include Federally Recognized Tribes,⁸⁵ and other under-resourced, low-income, and minority populations subjected to historical discrimination and/or bearing disparate pollution and public health burdens related to the locations where they live and/or their employment (for example, employment as farmworkers). These environmental justice communities will foreseeably suffer disproportionately high and adverse environmental, health, social, and economic consequences as a result of the Proposed Action. These disadvantaged populations are already experiencing significant negative impacts due to the consequences of the QSA water transfers, and because of other historical and ongoing patterns of exposure to environmental hazards, as well as chronic marginalization of their communities.	those previously identified in the QSA EIR/EIS. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing or location.
213.	The U.S. government has long recognized that federal agencies must consider environmental justice issues when developing, selecting, and implementing programs, policies, and activities, including under NEPA. For example: Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," provides	Comment noted.

⁸⁴ The Council on Environmental Quality's Climate and Environmental Justice Screening Tool (CEJST), available online at <https://screeningtool.geoplatform.gov/en/#8/33.045/-115.98>, identifies the locations and extent of disadvantaged communities, and shows that the entire the Salton Sea region consists of such populations. CEQ developed the CEJST as required by Executive Order 14008. It is a geospatial mapping tool that federal agencies are directed to use "to identify disadvantaged communities. These communities have been marginalized by society, overburdened by pollution, and underserved by infrastructure and other basic services. The CEJST uses publicly- available, nationally-consistent datasets [that] are indicators of burdens that disadvantaged communities face. These burdens are related to climate change, the environment, health, and economic opportunity." (Instructions to Federal Agencies on Using the Climate and Environmental Justice Screening Tool," CEQ, Executive Office of the President of the United States, January 2023, page 2.) A [memorandum from the Executive Office of the President to the heads of federal executive departments and agencies dated January 27, 2023](#) stated that federal agencies should immediately start using the CEJST to identify geographically defined disadvantaged communities for purposes of analyzing environmental justice issues.

⁸⁵ The CEQ definition of disadvantaged communities explicitly includes "Federally Recognized Tribes."

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	that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”⁸⁶ • Executive Order 14088 states in part: “Agencies shall make achieving environmental justice part of their missions by developing programs, policies, and activities to <i>address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts.</i>”⁸⁷ • Executive Order 14096 provides for a “Government-Wide Approach to Environmental Justice” and requires in part that federal agencies shall:⁸⁸ (i) identify, analyze, and address disproportionate and adverse human health and environmental effects (including risks) and hazards of Federal activities, including those related to climate change and cumulative impacts of environmental and other burdens on communities with environmental justice concerns; (ii) evaluate relevant legal authorities and, as available and appropriate, take steps to address disproportionate and adverse human health and environmental effects (including risks) and hazards <i>unrelated to Federal activities</i>, including those related to climate change and cumulative impacts of environmental and other burdens on communities with environmental justice concerns;... (vi) evaluate relevant legal authorities and, where available and appropriate, consider adopting or requiring measures to avoid, minimize, or mitigate disproportionate and adverse human health and environmental effects (including risks) and hazards of Federal activities on communities with	

⁸⁶ Exec. Order No. 12898, 59 Fed. Reg. 7629 (1994), Section 1-101. Emphasis added.

⁸⁷ Exec. Order No. 14088, 86 Fed. Reg. 7619 (January 27, 2021), Section 219. Emphasis added.

⁸⁸ Exec. Order No. 14096, 88 Fed. Reg. 25251 (April 21, 2023), Section 3. Emphasis and italics added.

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	environmental justice concerns, <i>to the maximum extent practicable</i>, and to address <i>any contribution</i> of such Federal activities to adverse effects — including cumulative impacts of environmental and other burdens — already experienced by such communities;... (ix) carry out environmental reviews under the National Environmental Policy Act (NEPA), 42 U.S.C.4321 <i>et seq.</i>, consistent with the statute and its implementing regulations and through the exercise of the agency's expertise and technical judgment, in a manner that: (A) analyzes direct, indirect, and cumulative effects of Federal actions on communities with environmental justice concerns; (B) considers best available science and information on any disparate health effects (including risks) arising from exposure to pollution and other environmental hazards... • The CEQ guidance document entitled “Environmental Justice Guidance Under the National Environmental Policy Act”⁸⁹ provides in part: - o “Environmental justice issues may arise at any step of the NEPA process and agencies should consider these issues at each and every step of the process, as appropriate. Environmental justice issues encompass a broad range of impacts covered by NEPA, including impacts on the natural or physical environment and interrelated social, cultural and economic effects. In preparing an EIS or an EA, agencies must consider both impacts on the natural or physical environment and related social, cultural, and economic impacts. Environmental justice concerns may arise from impacts on the natural and physical environment, such as human health or ecological impacts on minority populations, low-income populations, and Indian tribes, or from related social or economic impacts...”⁹⁰	

⁸⁹ Environmental Justice Guidance under the National Environmental Policy Act (1997). Council on Environmental Quality, Executive Office of the President, December 10, 1997.

⁹⁰ Id., Part III.B. Emphasis added.

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	- o “Agencies should consider relevant public health data and industry data concerning the potential for multiple or cumulative exposure to human health or environmental hazards in the affected population and historical patterns of exposure to environmental hazards, to the extent such information is reasonably available... Agencies should consider these multiple, or cumulative effects, even if certain effects are not within the control or subject to the discretion of the agency proposing the action.”⁹¹ - o “Under NEPA, the identification of a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe... should heighten agency attention to alternatives..., mitigation strategies, monitoring needs, and preferences expressed by the affected community or population.”⁹² - o Throughout the NEPA process, “agencies should elicit the views of the affected populations on measures to mitigate a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe and should carefully consider community views in developing and implementing mitigation strategies.”⁹³	
214.	• The report on environmental justice methodologies in NEPA reviews issued by the Federal Interagency Working Group on Environmental Justice and the NEPA Committee⁹⁴ provides in part: - o “Potential direct, indirect, and cumulative impacts on minority populations and low- income populations in the affected environment include both human health and environmental impacts from an agency’s programs, policies, or activities. Potential environmental impacts encompass both the natural and physical environment and can include ecological, aesthetic, historic, cultural, economic, social, or health impacts	Comment noted.

⁹¹ Ibid. Emphasis added.

⁹² Id., Part III.B.2. Emphasis added.

⁹³ Id., Part III.B.7. Emphasis added.

⁹⁴ Federal Interagency Working Group on Environmental Justice & NEPA Committee (2016). Promising Practices for EJ Methodologies in NEPA Reviews, March 2016.

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	to minority populations and low-income populations in the affected environment.”⁹⁵ o “Agencies may wish to consider how impacts from the proposed action could potentially amplify climate change-related hazards ...in minority populations and low- income populations in the affected environment...”⁹⁶ o “Factors that can potentially amplify an impact to minority populations and low-income populations in the affected environment include, but are not limited to, the following: - Proximity and exposure to chemical and other adverse stressors...; - Vulnerable populations, e.g., minority and low-income children, pregnant women, elderly, or groups with high asthma rates; - Unique exposure pathways...; - Multiple or cumulative impacts, e.g., exposure to several sources of pollutions or pollutants from single or multiple sources; - Ability to participate in the decision-making process, e.g., lack of education or language barriers in minority and low-income populations; - Physical infrastructure, e.g., inadequate housing, roads, or water supplies in communities; - Non-chemical stressors, e.g., chronic stress related to environmental or socio- economic impacts.” o “Identifying mitigation is an important component of NEPA and Executive Order 12898... The unique characteristics and conditions of minority populations and low-income populations in the affected environment may require adaptive and innovative mitigation measures to sufficiently address the specific circumstances and impacts presented by the proposed action. This includes mitigation of identified disproportionately high and adverse impacts, whenever feasible.”⁹⁷	

⁹⁵ Id., Section VII.

⁹⁶ Ibid. Emphasis added.

⁹⁷ Federal Interagency Working Group on Environmental Justice & NEPA Committee (2016). op. cit. Section IX. Emphasis added.

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	o "...agencies should identify and analyze mitigation measures for impacts to minority populations and low-income populations in the affected environment..."⁹⁸ Agencies are directed to consider specific types of "mitigation methods for each potential impact identified," including, but not limited to: "(a) Avoiding an impact by not taking a certain action or parts of an action. (b) Minimizing an impact by limiting the degree or magnitude of the action and its implementation. (c) Rectifying an impact by repairing, rehabilitating, or restoring the affected environment..."⁹⁹ o "Consistent with applicable requirements, agencies should state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted."¹⁰⁰	
215.	Reclamation improperly ignored the foregoing directives, including mandatory ones, all of which are pertinent to the Proposed Action. The agency violated applicable law by unjustifiably failing to properly address numerous major environmental justice issues in the Draft EA.	The EA was prepared in compliance with NEPA requirements and provides a thorough assessment of the Proposed Action.
216.	As a result of the QSA water transfers—the consequences of which will be expedited and significantly exacerbated by the Proposed Action—residents of environmental justice communities in the Salton Sea region live and work near a shriveling and dying lake littered with the corpses of birds and fish, and covered with expanses of harmful algae blooms; they breathe dangerous airborne dust released from the exposed lakebed and noxious fumes emanating from the residual deteriorating lake; and they are chronically exposed to hazardous, toxic, and carcinogenic contaminants that endanger their health. They also suffer associated socioeconomic consequences including, but not limited to, increased medical expenses, lost work days, jeopardized employment, and decreased property values. If the Proposed Action proceeds without Reclamation's acknowledgment of the additional and significant associated harm that will foreseeably occur, and without Reclamation ensuring implementation of concurrent measures to avoid or effectively	The EA assesses air quality impacts that could affect disadvantaged communities in the entire Salton Sea Air Basin, including the communities listed. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing. CNRA is currently implementing the SSMP and the Reclamation's funding to CNRA under the Commitments Agreement is to support and expedite the SSMP projects. Section 3.6 Environmental Justice begins on page 87 and includes the socioeconomic analysis and available data. Costs associated with air quality are dependent upon the analysis of potential air quality impacts. The EA assesses air quality impacts that could affect disadvantaged communities in the entire Salton Sea Air Basin. Based on modeling conducted by DWR using SSAM for the implementation of the SSMP included in Appendix HYDRO-3, the EA finds that the Proposed Action would accelerate the lowering

⁹⁸ Ibid. Emphasis added.

⁹⁹ Ibid. Emphasis added.

¹⁰⁰ Ibid. Emphasis added.

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	minimize all adverse impacts of the Proposed Action to the greatest feasible extent, community members' physically and psychologically harmful experience of this gross environmental injustice will also be worsened by the knowledge that the responsible government officials willfully persist in failing to take necessary actions to address the known, severe, and disproportionate injurious consequences affecting them.	elevation of the Salton Sea by approximately 5 to 10 years. That is to say, impacts resulting from lowering Sea elevation would include the same acreage as analyzed in the QSA EIR/EIS, but they would occur earlier, slowing down over time until reaching No Action Alternative conditions by 2045. The EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified in the QSA EIR/EIS. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing or location.
217.	The assessment of potential adverse impacts on fish and wildlife is faulty, and the conclusion that no significant harm will occur is unsupported and unreasonable The Proposed Action's large additional reductions in Colorado River water use by IID, beyond the cutbacks already occurring because of the QSA and particularly during the hottest months of the year, will worsen the dreadful consequences for fish and wildlife that are already ongoing at the Salton Sea due to the QSA water transfers, and that have been inadequately addressed for many years by the responsible government agencies. Reclamation did not properly evaluate the issues involved, and the agency's conclusion in the Draft EA that no significant adverse impacts will occur for fish and wildlife or their habitat is unjustified and unreasonable.¹⁰¹	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. The Monitoring Plan as part of the Proposed Action ensures that there would be no adverse effects to habitats and sensitive species.
218.	The analysis of adverse impacts on fish, wildlife, and habitat is inadequate and flawed NEPA explicitly requires agencies to consider foreseeable adverse impacts of a proposed federal action on species listed as endangered or threatened under the U.S. Endangered Species Act, and on their habitat. Applicable law also requires agencies to consider harmful effects on other species, including but not limited to ones protected under the	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. The Monitoring Plan as part of the Proposed Action ensures that there would be no adverse effects to habitats and sensitive species.

¹⁰¹ The Proposed Action will also cause foreseeable, significant, and unmitigated adverse impacts on recreation, cultural resources including but not limited to Tribal cultural resources, visual resources, paleontological resources, and socioeconomics. Please see my discussion of those issues in my public comments on the 2024 Draft SEIS. Those comments remain applicable to the Proposed Action and the Draft EA, and I incorporate them by reference. There is a hyperlink to the comments in footnote 4 above.

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	Migratory Bird Treaty Act ¹⁰² and various provisions of state law, in particular when the proposed action's affected environment includes "ecologically critical areas." ¹⁰³ The Draft EA presents an inadequate and flawed evaluation of pertinent issues.	
219.	The Salton Sea is a globally significant Important Bird Area (IBA) that has served as a crucial feeding, nesting, wintering, and stopover site for millions of birds of approximately 400 species. For countless birds, including ones that face known threats to their survival, there is no other location that can substitute for their habitat in the Salton Sea ecosystem. It is foreseeable that the Proposed Action's water-use reductions will cause negative effects on aquatic, wetland, and riparian habitat, and will result in significant injurious impacts on many, if not all, Special Status Species that depend on such habitat and are known to be present within IID's Contract Service Area, along the All-American Canal, at the Salton Sea and around its perimeter, and/or in other locations within the Salton Sea ecosystem. The Proposed Action will also foreseeably cause significant harm to migratory bird species covered by the protections of the Migratory Bird Treaty Act, as well as other wildlife reliant on the Salton Sea ecosystem as "ecologically critical" habitat.¹⁰⁴ Therefore, not only should Reclamation have carefully considered the Proposed Action's potential adverse effects on all species present in or likely utilizing the Salton Sea ecosystem that are listed as endangered or threatened under federal law, the agency should also have evaluated the foreseeable and significant negative impacts on numerous additional Special Status Species, migratory birds, and many other wildlife species dependent on the Salton Sea ecosystem as crucial habitat. Reclamation did not properly conduct the required analysis.	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. The Monitoring Plan as part of the Proposed Action ensures that there would be no adverse effects to habitats and sensitive species. Reclamation completed Section 7 consultation with USFWS in July 2024.
220.	<i>The scope of the Draft EA's assessment regarding adverse impacts on fish and wildlife is inadequate</i> As explained in Part III.A above, Reclamation's impact analysis in the Draft EA depends on the misguided assumption that the agency's	The intent of Appendix BIO-2 is to provide an inventory of special status species. More common species that may be present but covered in the Migratory Bird Treaty Act (MBTA) may not be included in the Appendix. The EA identifies on page 111 that the Pacific Flyway is supported by the Salton Sea and that migratory birds that

¹⁰² 16 U.S.C. § 703-712. The list of birds protected pursuant to the MBTA is available at 50 CFR 10.13. The list was recently updated, effective August 1, 2023 (88 FR 49310).

¹⁰³ 40 CFR 1501.3(d)(2)(ii).

¹⁰⁴ Ibid.

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	assessment of the Proposed Action's negative impacts can be limited geographically to IID's Contract Service Area. By incorrectly constraining the impact analysis in this way, Reclamation improperly eliminates from consideration many significant harmful consequences of the Proposed Action for fish and wildlife that the agency is required to consider.	use the area are protected by the MBTA. Figure 3-4 identifies the known occurrences of special status species, based on data provided and reviewed by the wildlife agencies. Figure 3-4 provides the most up to date occurrence data available.
221.	In addition, the Draft EA's Appendix BIO-2: Special Status Species with Potential to Occur, which purportedly forms the basis for Reclamation's evaluation of the Proposed Action's potential adverse impacts on fish and wildlife, is deficient in a number of key respects. Appendix BIO-2 identifies a total of 45 fish and wildlife species categorized as Special Status Species that have a moderate or high potential to occur or are actually known to be present in IID's Contract Service Area, along the All-American Canal, and/or at the Salton Sea, including but not limited to species listed under federal and/or state law as endangered or threatened, and ones designated as Species of Special Concern in California. Of that total, 32 Special Status Species listed on Appendix BIO-2 actually occur within and primarily depend on aquatic, wetland, and/or riparian habitat in the Salton Sea ecosystem, and foreseeably may be most adversely affected by the Proposed Action's water reductions. But there are important inadequacies in Appendix BIO-2. For example: • Appendix BIO-2 does not accurately identify all locations where Special Status Species occur in the Salton Sea ecosystem. For example, regarding the endangered desert pupfish, Appendix BIO-2 omits essential habitat in the Salton Sea area, including federally-designated critical habitat, where the species is present. The appendix fails to mention that pupfish live in San Felipe Creek, San Sebastian Marsh, Salt Creek, and an unnamed creek that flows onto exposed Salton Sea lakebed south of Bombay Beach; and they may also be present outside the IID Contract Service Area in agricultural drains that are Salton Sea tributaries, as well as in wetlands and small pools sustained by discharge from those drains onto exposed Salton Sea lakebed.	The intent of Appendix BIO-2 is to provide an inventory of special status species. More common species that may be present but covered in the Migratory Bird Treaty Act (MBTA) may not be included in the Appendix. However, the EA identifies on page 111 that the Pacific Flyway is supported by the Salton Sea and that migratory birds that use the area are protected by the MBTA. Figure 3-4 identifies the known occurrences of special status species, based on data provided and reviewed by the wildlife agencies. Figure 3-4 provides the most up to date occurrence data available.
222.	• In addition, Appendix BIO-2 does not accurately characterize whether some Special Status Species identified on the appendix are present in the Proposed Action's affected environment. For example, the entry for the least bittern (<i>Ixobrychus exilis</i>) inaccurately states that	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain

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	particular species is “Not Expected” to occur in the “IID Water Service Area.” But scientific analysis of this issue indicates the least bittern does indeed utilize marshes in that portion of the Salton Sea ecosystem: “In the Salton Sea area, most bitterns reside in freshwater marshes in managed impoundments, along rivers or canals sustained by agricultural wastewater, and on lake edges; they are found particularly in dense stands of cattails but also in Common Reed (<i>Phragmites australis</i>) and even dense tamarisk (<i>Tamarix</i> spp.) if cattail is nearby (Patten et al. 2003).”¹⁰⁵ Additionally, Appendix BIO-2 states incorrectly that the peregrine falcon (<i>Falco peregrinus</i>) is “Not Expected” in either IID’s Contract Service Area or other portions of the Salton Sea ecosystem. I have personally observed and photographed peregrine falcons roosting in riparian locations at the Salton Sea, taking avian prey in shoreline areas, and hunting in Imperial County agricultural fields.	applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. The Monitoring Plan as part of the Proposed Action ensures that there would be no adverse effects to habitats and sensitive species. Reclamation completed Section 7 consultation with USFWS in July 2024.
223.	Moreover, there are protected avian species that are known to utilize the Salton Sea ecosystem, but that have been erroneously omitted from the list on Appendix BIO-2. Many, if not all, of those taxa foreseeably could be adversely affected by the Proposed Action. The omitted species include, but are not limited to, the following Special Status Species: Barrow’s goldeneye (<i>Bucephala islandica</i>), brant goose (<i>Branta bernicla</i>), redhead (<i>Aythya americana</i>), black tern (<i>Chlidonias niger</i>), elegant tern (<i>Thalasseus elegans</i>), gull-billed tern (<i>Gelochelidon nilotica</i>), least tern (<i>Sternula antillarum</i>), California gull (<i>Larus californicus</i>), laughing gull (<i>Leucophaeus atricilla</i>), double-crested cormorant (<i>Nannopterum auritum</i>), long-billed curlew (<i>Numenius americanus</i>), lesser sandhill crane (<i>Grus canadensis canadensis</i>), wood stork (<i>Mycteria Americana</i>), northern harrier (<i>Circus cyaneus</i>), osprey (<i>Pandion haliaetus</i>), and white-tailed kite (<i>Elanus leucurus</i>).	Appendix BIO-2 utilized the species analyzed in the QSA EIR/EIS and coordinated with USFWS and CDFW to finalize an appropriate list of species to be analyzed within the EA. Reclamation completed informal consultation with USFWS in July 2024.
224.	Additionally, Reclamation failed to include many other protected species on Appendix BIO-2, including ones listed under the Migratory Bird Treaty Act, which depend on ecologically critical habitat in the	Appendix BIO-2 utilized the species analyzed in the QSA EIR/EIS and coordinated with USFWS and CDFW to finalize an appropriate

¹⁰⁵ Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento. Species Account for the Least Bittern, page 139.

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	Salton Sea ecosystem and foreseeably will be greatly harmed by the Proposed Action. Those additional species are too numerous to specify here.	list of species to be analyzed within the EA. Reclamation completed informal consultation with USFWS in July 2024.
225.	<i>The QSA EIR/EIS is not an appropriate guide for the Draft EA</i> Reclamation's evaluation of potential adverse effects on fish and wildlife also inappropriately relies on the approach and findings of the QSA EIR/EIS as a guide for the Draft EA's analysis and conclusions regarding potential adverse impacts of the Proposed Action. As noted earlier in these comments, the QSA EIR/EIS did not anticipate that the State of California would chronically violate its legal obligations related to the Salton Sea for more than twenty years, and therefore did not anticipate—or require adequate measures to mitigate—the harm that has actually been inflicted on fish, wildlife, and people because of the QSA water transfers. Reclamation's impact analysis in the Draft EA should have considered that crucial context when evaluating the nature and extent of injurious consequences that foreseeably may result from the Proposed Action.	The Proposed Action is approval of an agreement for the temporary period of three years for the creation of conserved water that would reduce IID's annual diversion of Colorado River water by up to 300,000 acre-feet per year. The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented. The three-year period of the Proposed Action is significantly shorter in duration than the water conservation and reduction in diversions under the QSA.
226.	<i>The Draft EA's evaluation of adverse impacts on fish and wildlife relies on faulty assumptions and a flawed methodology</i> Reclamation's evaluation of potential adverse effects on fish and wildlife also hinges on a fundamentally defective evaluation of the Proposed Action's effects on agricultural drains and associated habitat. The Draft EA relies on faulty assumptions and a flawed methodology to reach the unfounded conclusion that the Proposed Action will not cause additional harm to fish or wildlife living in the drains and related wetlands and riparian areas sustained by drainwater. The discussion below focuses on key defects in Reclamation's assumptions and methodology; then Part III.F.2 explains that, contrary to Reclamation's assertions, the Proposed Action will indeed foreseeably result in significant injurious consequences for fish and wildlife, including but not limited to endangered species, both within and beyond IID's Contract Service Area.	The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented. The EA recognizes the Proposed Action may accelerate certain impacts already associated with the water conservation under the QSA. The MMRP, including IID's SS AQMP, is implemented on an ongoing basis regardless and will address any impacts that occur despite anticipated timing. Additionally, the Monitoring Plan sets forth feasible and specific impact avoidance measures that will be implemented by IID in coordination with Reclamation, USFWS and CDFW during the three years of the Proposed Action. Reclamation has committed up to \$250 million dollars to support expanded and accelerated SSMP projects at the Salton Sea.

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227.	The amounts by which Salton Sea tributary flows (including drain flows) will be reduced, when they will be reduced, and where they will be reduced if the Proposed Action is implemented are factors that cannot currently be known with certainty, because the amount and distribution of farmland acreage participating in each water conservation program at any particular point in time during 2024-2026 are factors that are currently unknown, and the amount of water conservation actually to be achieved by each participating acre is also unknown. As the Draft EA itself states, "All existing conservation programs and new conservation programs implemented pursuant to the Proposed Action are voluntary and participation cannot be reasonably predicted." ¹⁰⁶	Despite the uncertainty of the volumes and distribution of participating fields in the conservation programs, the EA provides an analysis for the maximum participation in the programs. Drain monitoring and vegetation monitoring would be ongoing during the three years of the Proposed Action. The existing drain flow variability is explained and analyzed in Section 3.8 Hydrology/Water Quality, specifically beginning on page 99. The drain flow is dynamic, affected by the existing water conservation under the QSA, and ongoing farming practices and operations. The Monitoring Plan provides feasible and responsive actions for the three years of the Proposed Action. The impact avoidance measures are based on existing conditions and changes to those conditions requiring a response to ensure there will not be an adverse effect to species.
228.	Yet Reclamation utilizes an unrealistic assumption concerning the temporal and spatial distribution of water conservation measures in order to conduct the Draft EA's impact analysis. The Draft EA states, "The effect of the Proposed Action within the IID Contract Service Area was evaluated as an average flow reduction, evenly applied both spatially and temporally. " ¹⁰⁷ The assumption that implementation of the Proposed Action will result in "an average flow reduction, evenly [distributed] both spatially and temporally" across IID's Contract Service Area throughout 2024-2026 does not realistically reflect what foreseeably may occur pursuant to the Proposed Action, and it cannot reasonably be assumed to do so. For example, all of the DIP reductions will occur during June-September and will only affect acreage growing forage crops or seed for forage crops; therefore, the large DIP water reductions will clearly not be evenly distributed in time and space throughout IID's Contract Service Area during 2024-2026.	The EA recognizes that actual flow reductions will not be applied evenly, either spatially or temporally, across the geographic extent of the IID Contract Service Area. Actual flow reductions will occur with variability depending on participation of individual agricultural water users. Moreover, each of the conservation programs described as the Proposed Action would result in varying volumes of water reaching the drains, rivers, and ultimately the Salton Sea. Under existing conditions, fields are generally irrigated to support cropping patterns in accordance with agricultural economic trends. As a result, under existing conditions flow variability within the canals and drains varies both spatially and temporally. The Proposed Action includes the Monitoring Plan to ensure that drain flows are sustained spatially and temporally to ensure there are no adverse effect to listed species.
229.	In fact, Reclamation admits that the crucial foundational assumption for the methodology used in the Draft EA's impact analysis is inaccurate: ...flow reductions are not anticipated to be applied evenly, either spatially or temporally, across the geographic extent of the IID Contract Service Area. Actual flow reductions will occur with	The EA recognizes that actual flow reductions will not be applied evenly, either spatially or temporally, across the geographic extent of the IID Contract Service Area. Actual flow reductions will occur with variability depending on participation of individual agricultural water users. Moreover, each of the conservation programs described as

¹⁰⁶ Draft EA, page 98.¹⁰⁷ Draft EA, page 98. Emphasis added.

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	variability depending on participation of individual agricultural water users. Moreover, each of the conservation programs described as the Proposed Action would result in varying volumes of water reaching the drains, rivers, and ultimately the Salton Sea. ¹⁰⁸	the Proposed Action would result in varying volumes of water reaching the drains, rivers, and ultimately the Salton Sea. Under existing conditions, fields are generally irrigated to support cropping patterns in accordance with agricultural economic trends. As a result, under existing conditions flow variability within the canals and drains varies both spatially and temporally. The Proposed Action includes the Monitoring Plan to ensure that drain flows are sustained spatially and temporally to ensure there are no adverse effect to listed species.
230.	Nonetheless, utilizing the initial inaccurate assumption that flow reductions will be evenly distributed in time and space, the Draft EA goes on to use estimates of mean monthly water diversion volumes (in acre-feet) and estimates of mean daily diversions (in cubic feet per second) for both existing conditions and inaccurately-assumed conditions for the Proposed Action in order to calculate an “annual diversion rate reduction from the Proposed Action of 11.9 percent.”¹⁰⁹ Next the Draft EA characterizes flow variability in IID drains that discharge to the Salton Sea by determining the standard deviation of monthly flow for the five-year period 2019-2023 and then comparing the relative magnitude of the drain flow variability thus derived to the inaccurate “magnitude of the effect of drain flow reductions under the Proposed Action” that is based on unrealistic assumptions. By applying this faulty methodology, the Draft EA reaches the following conclusions: The Proposed Action would reduce drain flows by approximately 11.9 percent, assuming flow reductions are applied evenly spatially and temporally across the geographic extent of the IID Contract Service Area. This percent average monthly flow reduction would be well within the existing standard deviation of historic (last five years) monthly drainage flows for every drain. That is to say, impacts of the flow reduction would not substantively alter the pattern of flow variability for every drain, assuming flow reductions are applied evenly spatially and temporally across the geographic extent of the IID Contract Service Area. During any month of the year under existing conditions, drain flows vary	The existing drain flow variability is explained and analyzed in Section 3.8 Hydrology/Water Quality, specifically beginning on page 99. The drain flow is dynamic, affected by the existing water conservation under the QSA, and ongoing farming practices and operations. The Monitoring Plan provides feasible and responsive actions for the three years of the Proposed Action. The impact avoidance measures are based on existing conditions and changes to those conditions requiring a response to ensure there will not be an adverse effect to species.

¹⁰⁸ Ibid.¹⁰⁹ Draft EA, page 99.

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	significantly more than the 11.9 percent increment estimated to be the effect of the Proposed Action assuming flow reductions are applied evenly spatially and temporally. ¹¹⁰	
231.	This is a house of cards. Using one shaky assumption after another, Reclamation constructs an unsound methodology that collapses under scrutiny and cannot reasonably be relied upon to draw conclusions about the Proposed Action's adverse impacts. Whatever the actual flow reductions in particular tributaries will ultimately turn out to be if the Proposed Action is implemented, those reductions will foreseeably not be what this flawed methodology assumes they will be. Even using Reclamation's defective methodology, the Draft EA admits there will be "brief periods that drain flows may occur lower than the 5-year historical lows if the DIP were to be implemented at maximum participation during the summer months of June through September."¹¹¹ I suggest it is therefore reasonable to think that if Reclamation's unsound methodology were not employed, and instead more realistic assumptions and analytical methods were used, harmfully low flows in the drain system would be even more likely to occur, as would injurious consequences for fish and wildlife and their habitat.	The EA recognizes that actual flow reductions will not be applied evenly, either spatially or temporally, across the geographic extent of the IID Contract Service Area. Actual flow reductions will occur with variability depending on participation of individual agricultural water users. Moreover, each of the conservation programs described as the Proposed Action would result in varying volumes of water reaching the drains, rivers, and ultimately the Salton Sea. Under existing conditions, fields are generally irrigated to support cropping patterns in accordance with agricultural economic trends. As a result, under existing conditions flow variability within the canals and drains varies both spatially and temporally. The Proposed Action includes the Monitoring Plan to ensure that drain flows are sustained spatially and temporally to ensure there are no adverse effect to listed species.
232.	But the Draft EA then asserts that although the foregoing low flows are projected to occur, they will happen during a period when, historically, flows have generally been higher; therefore Reclamation insists that the flow reductions will not be sufficient to cause harm. That argument is specious. The Proposed Action, in combination with the existing QSA-related water conservation program, will create both qualitatively and quantitatively different water-use conditions than have existed historically. There is no guarantee that historical drain flow patterns will continue to occur, and there are solid reasons to think they will not. It is clear that the fields participating in the DIP and the FUEP will yield zero flows to drains, and the maximum extent of the flow deficiencies will occur during the hottest months. Even if there are other fields releasing flows into the same drains, which conceivably may not in fact turn out to be the case for some drains, those other fields may be participating in	The drain flows are generally at higher levels during these summer months and the reduction in flows only represents a reduction to that volume, but does not result in no flows in those drains. The Proposed Action includes the Monitoring Plan to ensure that drain flows are sustained spatially and temporally to ensure there are no adverse effect to listed species. The Monitoring Plan requires coordination with Reclamation, USFWS and CDFW to further ensure there will be no adverse effects to listed species.

¹¹⁰ Draft EA, pages 100-101.

¹¹¹ Draft EA, page 101.

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	the OFECP which will substantially reduce—if not eliminate—their drainwater. Thus, it is reasonably foreseeable that the amount of water present in drains from June through September will be far lower than historical amounts, and it is unwarranted for the Draft EA to use historical irrigation patterns to draw a contrary conclusion. Utilizing the results derived by relying on the flawed methodology discussed above, Reclamation then evaluates the impacts of the Proposed Action's inaccurately-assumed flow reductions on plant communities, fish, and wildlife—and does so in an untenable way.	
233.	Regarding plants, the Draft EA states that “annual inflows to the exposed playa would be sufficient to meet estimated annual ET [evapotranspiration] demands in all locations during a normal (mean flow) year.” There are three unreasonable metrics being used in that sentence to draw the conclusion that plants will not suffer adverse effects from inadequate water: “annual inflows,” “estimated annual ET,” and “a normal (mean flow) year.” Utilizing those parameters cannot yield an accurate assessment of the actual water deficit that plants may experience day-to-day and week-to-week or even month-to-month in varying environmental conditions, and cannot demonstrate that plants in Salton Sea tributaries, riparian areas, and playa wetlands that are reliant on drainwater will not be subjected to severe water stress or even lethal water-deprivation as a result of the Proposed Action. On the contrary, use of those parameters serves to underestimate—potentially severely—the water inadequacies that plants may actually experience.	Drain monitoring and vegetation monitoring would be ongoing during the three years of the Proposed Action. The Monitoring Plan provides feasible and responsive actions for the three years of the Proposed Action. The impact avoidance measures are based on existing conditions and changes to those conditions requiring a response to ensure there will not be an adverse effect to species. The Monitoring Plan also requires coordination with Reclamation, USFWS and CDFW to further ensure there will be no adverse effects to listed species.
234.	Moreover, even using those inappropriate metrics, the Draft EA acknowledges that some plant communities at the Salton Sea that are reliant on drainwater already suffer water deficits during the summer. In fact, many of the vegetated locations on the exposed lakebed in the vicinity of agricultural drains have large areas of dead plants already, likely because the existing amounts of drainwater have been insufficient in relation to ET demand during the summer. Reclamation admits that the Proposed Action's water reductions would foreseeably add to the existing water deficits: The ET analysis shows that for normal [mean flow] years under existing conditions, some areas experience a water deficit compared with ET demand during summer months... The Proposed Action	Natural communities and land cover types are depicted in Figures 3-3a through 3-3d. The Monitoring Plan includes robust vegetation monitoring, including extensive reporting and coordination with Reclamation, USFWS and CDFW and the potential for DIP participation to be limited in certain drainsheds where flows directly connect to the Salton Sea or its shoreline. The impact avoidance measures are based on existing conditions and changes to those conditions requiring a response to ensure there will not be an adverse effect to species.

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	would potentially add to the existing monthly deficits during these months...¹¹² The Draft EA insists that such drainwater deficits in aquatic, riparian, and wetland habitat areas—which will occur, at a minimum, during the hottest part of the year when temperatures are frequently 105-110 degrees Fahrenheit and may exceed 115 degrees—would be “temporary,” and that flows “would recover as quickly as a few days, but no more than a few months.”¹¹³ That is little comfort, even assuming it is true. In exceedingly hot summer temperatures, plants can perish from water-deprivation far more quickly than “a few months”; moreover, birds can die within days or even hours, and fish can succumb within minutes.	
235.	Concerning harmful impacts of reduced drainwater flows on the endangered desert pupfish living within the drains, Reclamation simply asserts that “adverse effects to desert pupfish would be unlikely during the short-term period of the Proposed Action.”¹¹⁴ This claim is unjustified. First, the assertion that additional water reductions will occur only for a “short-term period” is unfounded, as discussed in Part III.C above, and it is improper for Reclamation to rely on that allegation. In addition, the Draft EA acknowledges that “flow reductions caused by the Proposed Action may reduce moisture or ponding” in the IID drains where pupfish are living, and implicitly admits that harmful water deficits may occur. While noting that the drains containing pupfish “currently have sufficient flow to reliably maintain suitable habitat,” the Draft EA goes on to state, “The spatial and temporal extent of flow reductions [pursuant to the Proposed Action] remains unknown and will depend on agronomic practices and the locations and timing of participating fields in the conservation programs implemented under the Proposed Action.”¹¹⁵ Then, in an attempt to provide reassurance that any adverse impacts on the endangered fish will be averted, Reclamation next leans heavily on the Draft EA’s proposed Monitoring Plan, which I explain below in Part IV	There will be no adverse effects to desert pupfish for a number of reasons. Desert pupfish utilize open water within drains that currently exhibit substantial flow variability. The proposed reduction in flows may create drier conditions temporarily in certain areas, but would not permanently eliminate habitat. The expected deficit in drain flows during certain months of the Proposed Action may add to those observed under existing conditions, but drain flows within the IID Contract Service Area are highest each year March through September and, therefore, drain flows will remain substantial during this period. The Monitoring Plan would further ensure there would be no adverse effects to listed species.

¹¹² Draft EA, page 102.

¹¹³ Ibid.

¹¹⁴ Draft EA, page 74. See the discussion in Part III.C above regarding the unreasonable assumption that flow reductions will be limited to 2024-2026 and that IID’s water use will return to higher levels subsequently.

¹¹⁵ Draft EA, page 73.

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	is inadequate and foreseeably will be ineffective at preventing significant harm to fish and wildlife caused by the Proposed Action.	
236.	Regarding potential adverse impacts on wetlands sustained by agricultural drainwater and relied upon by desert pupfish, endangered Yuma Ridgway's rails, and other Special Status Species, the Draft EA acknowledges: The Proposed Action would reduce flows [to the wetlands] from the IID drains. If the flow reductions were sufficient to reduce the quantity or quality of the vegetative habitats along the southern shore of the Salton Sea, aquatic, riparian and marsh species including desert pupfish and Yuma Ridgeway's rails could be affected.¹¹⁶ But then Reclamation goes on to apply the same flawed methodology discussed above in order to reach the unjustified conclusion that flow reductions will be insignificant, as will their consequences for fish and wildlife. While admitting the "expected deficit in drain flows during certain months of the Proposed Action may add to those observed under existing conditions,"¹¹⁷ Reclamation goes on to assert, "The proposed reduction in flows may create drier conditions temporarily in certain areas, but would not permanently eliminate habitat."¹¹⁸ But it is foreseeable that fish and birds may be killed by the "drier conditions." So, even if the unsupported claim that water-deprivation "would not permanently eliminate habitat" is correct— and I suggest its accuracy has not been and cannot be demonstrated—that does not negate the fact that significant harm foreseeably will occur when flows are low or non-existent, a situation which the Draft EA admits may continue for as long as "a few months." The later resurrection of habitat that Reclamation claims will happen eventually cannot resurrect fish and birds that have already died.	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. The Monitoring Plan as part of the Proposed Action ensures that there would be no adverse effects to habitats and sensitive species. Reclamation completed Section 7 consultation with USFWS in July 2024.

¹¹⁶ Draft EA, page 75.

¹¹⁷ Draft EA, page 76.

¹¹⁸ Ibid.

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237.	The Draft EA also alleges:¹¹⁹ ...large areas of nesting habitat are available to nesting birds within the Salton Sea Vegetation Study Area allowing movement during these [summer] months. Given the Proposed Action is for a limited, short period of time of three years, areas affected by periods of lower flow will recover when flows resume to existing conditions. But, as discussed below in Part III.F.2, the assumption that nesting birds—including, but not limited to, the endangered Yuma Ridgway's rail—can simply move their vulnerable eggs and their helpless hatchlings to some other location if water-deprivation threatens to harm them during the hottest period of the year is profoundly misguided. In addition, as discussed above in Part III.C, the claim that habitat damaged or destroyed by low flows will “recover” after December 31, 2026 is baseless and unreasonable, and it is improper for Reclamation to use that assumption to buttress the unjustified allegation that the Proposed Action will not cause injurious consequences for fish and wildlife.	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to desert pupfish and Yuma Ridgway's rail within vegetation habitats along the southern shore of the Salton Sea. The EA focuses on including impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action.
238.	Concerning potential adverse impacts on shorebirds and waterbirds, the Draft EA offers just two inaccurate and inadequate sentences: The Proposed Action may result in a temporary acceleration in exposure of Salton Sea acreage by 3 to 4 years based on the trajectory predicted by hydrologic models developed by DWR...; however, drain water from the IID Contract Service Area would continue to flow to the Sea. Shorebirds and waterfowl utilizing the Salton Sea, adjacent vegetated areas, and drains would continue to do so under the Proposed Action.¹²⁰ As explained earlier, the Proposed Action will quickly cause many thousands of additional acres of Salton Sea lakebed to become exposed, beyond the areas that would otherwise have been exposed because of the QSA, and it will continue to cause the desiccation of additional large expanses of lakebed through at least 2045. Reclamation's assertion regarding “a temporary acceleration in exposure of Salton Sea acreage by 3 to 4 years” is grossly misleading at best.	The 3 to 4 years has been changed to 5 to 10 years consistent with the DWR modeling explained in Appendix HYDRO-3.

¹¹⁹ Ibid.

¹²⁰ Draft EA, page 77.

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239.	In addition, while IID's drainwater would "continue to flow" <i>toward</i> the Salton Sea, it will not actually reach the receding shoreline of the lake in most areas.	Despite the decline in the elevation of the Salton Sea and the creation of vegetation at the termini of the drains, drain water flows are eventually reaching the Salton Sea. Although drain water is not directly going into the Sea and now goes to the shoreline, there remains a hydrologic connection to the Sea. It is accurate to state that the drain water is flowing to Salton Sea despite the changed conditions of the shoreline. Drain water is a component of the inflows assumption for the Sea in DWR's modeling.
240.	Moreover, the inflow reductions resulting from the Proposed Action will substantially increase the Salton Sea's salinity and will have other damaging impacts on water quality, all of which will degrade and foreseeably destroy the lacustrine ecosystem that provides crucial sustenance for waterbirds and shorebirds, including numerous Special Status Species. To simply dismiss the foreseeable and harmful changes to the Salton Sea ecosystem that will occur because of the Proposed Action, and to baldly assert that shorebirds and waterfowl currently utilizing the ecosystem "would continue to do so under the Proposed Action," is untenable	The Salton Sea is a terminal inland lake that is continually increasing in salinity over time due to evaporation. The Proposed Action in the EA is fully developed allowing for the analysis to consider specific aspects of the Proposed Action. The analysis in the EA is pursuant to DWR's modeling using SSAM, which is the same modeling completed for the SEIS. The modeling was refined for the Proposed Action in the EA which finds that there would be an acceleration of the increase in salinity by 3 to 4 years and then would reach the same levels as identified in the QSA EIR/EIS. The MMRP will address the accelerated increase in salinity. This analysis is consistent with the SEIS, which recognized that increases in salinity from the Proposed Action would be analyzed in this EA.
241.	Notwithstanding Reclamation's unfounded protestations to the contrary, the Proposed Action's water-use reductions will result in substantial decreases in the flow of Salton Sea tributaries, including but not limited to agricultural drains; the diminished flow will cause adverse impacts on aquatic, riparian, and wetland habitat; and those negative effects will result in significant injurious consequences for fish and wildlife, including protected species.	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. The Monitoring Plan as part of the Proposed Action ensures that there would be no adverse effects to habitats and sensitive species. Reclamation completed Section 7 consultation with USFWS in July 2024.
242.	The Proposed Action will foreseeably cause significant harm to fish and wildlife, including but not limited to endangered and threatened species The Draft EA does not properly evaluate, and draws incorrect conclusions regarding, the foreseeable and significant harmful impacts of	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated

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	the Proposed Action on the endangered desert pupfish (<i>Cyprinodon macularius macularius</i>) and the endangered Yuma Ridgway's rail (<i>Rallus obsoletus yumanensis</i>); erroneously fails to consider potential injurious effects on the threatened Western snowy plover (<i>Charadrius nivosus nivosus</i>); and inadequately evaluates adverse impacts on numerous migratory species protected pursuant to the Migratory Bird Treaty Act and on other birds dependent on the Salton Sea ecosystem as ecologically critical habitat. Reclamation's analysis of these issues in the Draft EA does not comply with the requirements of NEPA and other applicable law. The Proposed Action's water reductions during 2024-2026 will significantly decrease the volume of water in the Salton Sea's tributaries within IID's Contract Service Area. Consequently, the Proposed Action will substantially reduce the amount of water available: (a) to preserve ecologically crucial characteristics of the Salton Sea and its shoreline; (b) to support fish and other aquatic organisms in the lake, in its tributaries, and in playa wetlands and pools into which tributary waters flow; and (c) to sustain numerous wildlife species reliant on the lake and its shoreline, and on adjacent wetlands and riparian areas. Furthermore, Reclamation's modeling shows that shrinkage of the Salton Sea, increases in its salinity, and associated adverse consequences for fish and wildlife will continue to worsen for at least the next two decades because of the 2024-2026 water cutbacks. From 2024 through at least 2045 the Proposed Action will persist in causing injurious impacts on the Salton Sea ecosystem that will substantially exceed the negative effects that the QSA alone would have caused. It is foreseeable that many of the Special Status Species and other wildlife dependent on the Salton Sea ecosystem will be harmed as a result, and some may be extirpated.	to be affected by this Proposed Action. The Monitoring Plan as part of the Proposed Action ensures that there would be no adverse effects to habitats and sensitive species. Reclamation completed Section 7 consultation with USFWS in July 2024.
243.	Importantly, pursuant to the Proposed Action the largest water reductions will occur during the hottest months of the year when fish and wildlife will be particularly vulnerable to harm. All of the DIP water conservation and approximately one-third of OFECP and FUEP cutbacks will occur during June, July, August, and September. If it is assumed that the "Efficiency & Fallowing" water-cutback scenario modeled in the Draft EA is the one implemented pursuant to the Proposed Action (with maximized OFECP and DIP, and minimized FUEP), and that the OFECP and FUEP water reductions have a temporal distribution that is uniform throughout each	The existing drain flow variability is explained and analyzed in Section 3.8 Hydrology/Water Quality, specifically beginning on page 99. The drain flow is dynamic, affected by the existing water conservation under the QSA, and ongoing farming practices and operations. The Monitoring Plan provides feasible and responsive actions for the three years of the Proposed Action. The impact avoidance measures are based on existing conditions and changes

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	year while all of the DIP cutbacks occur during June-September, then more than 70% of the Salton Sea inflow reductions pursuant to the Proposed Action will occur when temperatures are highest during 2024-2026. (See the calculations presented in Attachment A.) In the hottest portions of the June-September period, air temperatures in Imperial County and eastern Riverside County may exceed 110 degrees Fahrenheit and can even reach 115-120 degrees or higher. ¹²¹ As man-made climate change continues to cause temperatures to rise due to the accumulation of greenhouse gases in the atmosphere, it is projected that extreme and protracted heatwaves will become more frequent and more severe.	to those conditions requiring a response to ensure there will not be an adverse effect to species.
244.	Decreased water availability during the hottest portion of the year is likely to kill many aquatic, wetland, and riparian plants and invertebrates, and to cause cascading adverse impacts on fish and wildlife. Furthermore, water-deprivation impacts of the Proposed Action on fish and wildlife are likely to be most harmful during June-September because: (a) high temperatures are already physiologically stressful, and the Proposed Action's impacts such as decreased water availability, hotter water temperatures (because shallower water, and water that is inadequately replenished, will be hotter), and potentially a complete lack of water at times in some locations, are all conditions that will worsen the already-significant physiological stress during that portion of the year; (b) hazardous contaminants may be concentrated in small, shallow, and undrained areas of water; (c) potential loss of plants in key habitat because of water-deprivation will have adverse impacts on such crucial aspects of fish and wildlife ecology as feeding, nesting, and sheltering from predators and sun; and (d) the June-September period includes at least a portion of breeding season, if not the entirety, for fish, birds, and other wildlife, and is a time when eggs and young are very vulnerable to extreme temperatures and insufficient water, and adults may also suffer enhanced vulnerability to those adverse conditions as they expend a significant portion of their physiological resources on bearing and caring for their offspring.	The existing drain flow variability is explained and analyzed in Section 3.8 Hydrology/Water Quality, specifically beginning on page 99. The drain flow is dynamic, affected by the existing water conservation under the QSA, and ongoing farming practices and operations. While June through September are the hottest months of the year, drain flows will remain substantial. The Monitoring Plan provides feasible and responsive actions for the three years of the Proposed Action. The impact avoidance measures are based on existing conditions and changes to those conditions requiring a response to ensure there will not be an adverse effect to species.

¹²¹ For example, on July 5, 2024 in Palm Springs, CA a short distance northeast of the Salton Sea, the temperature reached 124 degrees Fahrenheit; and a few days later, on July 8, the temperature hit 122 degrees. Anthropogenic climate change is making such extreme temperatures increasingly likely.

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245.	Reclamation's modeling shows that the Proposed Action will abruptly raise the Salton Sea's salinity to 101 ppt.—a level nearly three times the salinity of ocean water—which is a physiologically intolerable concentration for all Salton Sea fish, including the endangered desert pupfish, as well as many invertebrates that birds depend upon for food. Moreover, following the 2024-2026 water cutbacks, the modeling shows that for two additional decades the lake's salinity will continue to rise beyond the levels it would have reached because of the QSA alone. As noted earlier, these estimates regarding salinity may be underestimates. In addition to causing very high salinity that is intolerable for many species, the reduced inflows resulting from the Proposed Action are likely to cause other harmful changes in water quality, including but not limited to decreased dissolved oxygen, higher concentrations of contaminants, and more frequent and expansive blooms of toxic algae. Besides resulting in the extirpation of all Salton Sea fish, except possibly in the immediate vicinity of the largest river mouths, such alterations of water quality will have major adverse impacts on other aquatic organisms in the lake. Consequently, not only piscivorous birds but also hundreds of other avian species that depend on the Salton Sea ecosystem for feeding and breeding, including Special Status Species, are very likely to suffer significant harm. It is foreseeable that many could be extirpated. Migratory shorebirds and waterbirds are particularly likely to experience severe injurious consequences; they have nowhere else to refuel and recuperate in a large parched region they must traverse as they fly enormous distances during their biannual cross-continental travels.	The Salton Sea is a terminal inland lake that is continually increasing in salinity over time due to evaporation. The Proposed Action in the EA is fully developed allowing for the analysis to consider specific aspects of the Proposed Action. The analysis in the EA is pursuant to DWR's modeling using SSAM. Based on the modeling, the EA finds that there would be an acceleration of the increase in salinity by 3 to 4 years and then would reach the same levels as identified in the QSA EIR/EIS. The MMRP will address the accelerated increase in salinity. This analysis is consistent with the SEIS, which recognized that increases in salinity from the Proposed Action would be analyzed in this EA.
246.	The endangered desert pupfish (<i>Cyprinodon macularius macularius</i>) lives in natural streams that are tributary to the Salton Sea at various locations around its perimeter but are becoming cut off from the lake as it recedes. Pupfish also live in agricultural drains including, but not limited to, ones within IID's Contract Service Area. In addition, they occur in wetlands and small pools adjoining locations where natural streams and agricultural drains debouch onto the Salton Sea's exposed lakebed, and they utilize the Salton Sea itself. Although desert pupfish can tolerate elevated salinity and heat, their tolerance is not unlimited. The modified and degraded conditions in the pupfish's habitat, including federally-	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. To ensure there are no ecological impacts, the Monitoring Plan will be implemented in addition to the MMRP. Reclamation has received concurrence from USFWS on its approach for minimizing impacts to pupfish.

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	designated critical habitat, that will foreseeably result from the Proposed Action are likely to further imperil this endangered species. The Proposed Action will extirpate desert pupfish in the Salton Sea and jeopardize survival of the species in the other portions of the Salton Sea ecosystem where it currently persists. Adults and eggs of the desert pupfish can tolerate water salinity up to 70 ppt., and reportedly larvae can tolerate salinity up to 90 ppt.¹²² Thus, based on the Draft EA's modeling, by 2027—at the latest—the Proposed Action will render the Salton Sea uninhabitable by desert pupfish. The imperiled species will only be able to survive in tributaries, including agricultural drains, and in associated wetlands and small areas of ponded water on the exposed lakebed that have tolerable salinity levels. The limited populations of pupfish in most of those locations will be completely cut off from one another, because the Proposed Action will also cause the Salton Sea to rapidly recede far away from all tributaries except the largest ones—the New, Alamo, and Whitewater Rivers. Pupfish persisting in small and isolated populations will be unable to use waters of the Salton Sea to move from one disconnected and shrinking area of habitat to another. Small, isolated populations of organisms are known to be at much greater risk of extirpation. The Salton Sea tributaries and associated wetlands and pools where desert pupfish struggle to survive will suffer reduced water flow because of the Proposed Action, and may be subjected to zero flow at times; and this is very likely to occur during the hottest periods of the year. Desert pupfish adults, eggs, and larvae in those isolated locations will be at risk of serious and even lethal harm because of inadequate water, higher concentrations of contaminants, lower dissolved oxygen, toxic algae blooms, death of plants that are needed for shade and protection from predators, excessive water temperatures, and even desiccated conditions. The Proposed Action's water reductions, in combination with the isolation of pupfish in small and shrinking habitat areas, foreseeably will kill many of these fish, and could result in complete loss of the species in some locations. Thus, the Proposed Action will foreseeably push the already-endangered desert pupfish closer to extinction.	

¹²² Schoenherr, A.A. (1988). A Review of the Life History and Status of the Desert Pupfish, *Cyprinodon macularius*. *Bull. Southern California Acad. Sci.* 87(3), pp. 104-134.

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247.	The Proposed Action will also foreseeably cause significant harm to the endangered Yuma Ridgway's rail (<i>Rallus obsoletus yumanensis</i>), could jeopardize the rail's ability to survive in the Salton Sea ecosystem, and is inconsistent with the recovery plan for this imperiled species. Reclamation did not adequately evaluate potential adverse impacts of the Proposed Action on the Yuma Ridgways's rail, or appropriately acknowledge the extent to which those negative effects cannot be minimized or mitigated.	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. The Monitoring Plan as part of the Proposed Action ensures that there would be no adverse effects to habitats and sensitive species. Reclamation completed Section 7 consultation with USFWS in July 2024 and has received concurrence on its approach to minimizing impacts to Yuma Ridgway's rail.
248.	The Yuma Ridgway's rail, previously known as the Yuma clapper rail (<i>Rallus longirostris yumanensis</i>),¹²³ is an endangered marsh bird dependent on wetlands in the Salton Sea ecosystem. The species is listed as endangered under the U.S. Endangered Species Act wherever it is found throughout its remaining range.¹²⁴ The Yuma Ridgway's rail faces "a high degree of threat and low recovery potential from loss of habitat due to lack of natural river processes that create and maintain marshes [because of dams and other man-made modifications to river systems], and lack of security relative to the protection of existing habitats."¹²⁵ The U.S. Fish and Wildlife Service determined that the "greatest threat" to the species "is that without active management and protection of water sources supporting the habitat, these habitat areas will be permanently lost. Other threats to this species include continuing land use changes in floodplains, human activities, environmental contaminants (particularly increases in selenium levels), and reductions in connectivity between core habitat areas."¹²⁶ The Salton Sea ecosystem and small areas along the lower Colorado River are the only two remaining "major core areas" in the U.S. for this endangered	Comment noted.

¹²³ 86 FR 67352.

¹²⁴ 88 FR 64824. A 5-year status review of the species is currently pending (87 FR 5834). The Yuma Ridgway's rail is listed as a threatened species pursuant to the California Endangered Species Act.

¹²⁵ U.S. Fish and Wildlife Service (2009). Yuma Clapper Rail (*Rallus longirostris yumanensis*) Recovery Plan. Draft First Revision. U.S. Fish and Wildlife Service, Southwest Region, Albuquerque, New Mexico.

¹²⁶ Ibid.

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	species; ¹²⁷ the third major core area is the Cienega de Santa Clara in the Colorado River delta region of Mexico, an ecosystem that is also in jeopardy. "Patches of emergent marsh within the Salton Sea ecosystem comprise a substantial part of the remaining habitat for this endangered species' disjointed range in the southwestern United States." ¹²⁸	
249.	Aspects of the biology and ecology of the Yuma Ridgway's rail that are relevant to the Proposed Action and are crucial for evaluating potential adverse impacts of the Proposed Action on the species, yet were not appropriately considered in the Draft EA, include but are not limited to the following: • Most Yuma Ridgway's rails in the Salton Sea population are not migratory but are reliant on the region year-round. Individual birds have only minor seasonal changes in their activity areas within the Salton Sea ecosystem.¹²⁹ "[T]he typical pattern is for rails to be relatively stationary."¹³⁰ Home ranges are smallest during the breeding season.¹³¹ • Nests are located over water in marshes; they may be situated over deeper water in the interior of marshes, or in shallower water near marsh edges.¹³² They are constructed on stable vegetation platforms, including on clumps of emergent plants, within dense cattails, and on or within deep mats of marsh vegetation.¹³³ The surrounding and overhead vegetation provides cover, and protects adults incubating eggs, the eggs themselves, and hatchlings from avian and mammalian predators.¹³⁴	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. Reclamation completed informal consultation with USFWS in July 2024 and has received concurrence on its approach for minimizing impacts to Yuma Ridgway's rail.

¹²⁷ Ibid.¹²⁸ Ricca, M.A., et al. (2022). Yuma Ridgway's Rail Selenium Exposure and Occupancy Within Managed and Unmanaged Emergent Marshes at the Salton Sea. U.S. Geological Survey Open-File Report 2022-1045. <https://doi.org/10.3133/ofr20221045>.¹²⁹ U.S. Fish and Wildlife Service (2009), op. cit.¹³⁰ Ricca, M.A., et al. (2022), op. cit.¹³¹ Conway, C.J. et al. (1993). Seasonal changes in Yuma clapper rail vocalization rate and habitat use. *Journal of Wildlife Management* 56(2), pp. 282-290.¹³² U.S. Fish and Wildlife Service (2009), op. cit.; Bennett, W.W. and R.D. Ohmart (1978). Habitat requirements and population characteristics of the clapper rail (*Rallus longirostris yumanensis*) in the Imperial Valley of California. University of California, Lawrence Livermore Laboratory, Livermore. 55 pp.; Abbot, C.G. (1940). Notes from the Salton Sea, California. *Condor* 42(5): 264.¹³³ Ibid.¹³⁴ Eddleman, W.R. (1989). Biology of the Yuma clapper rail in the southwestern U.S. and northwestern Mexico. Final Report to Bureau of Reclamation, Yuma Projects Office and Fish and Wildlife Service, Region 2. Wyoming Cooperative Fish and Wildlife Research Unit, University of Wyoming. 127 pp.

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	• The breeding period lasts from March through late July.¹³⁵ Nesting begins in March, and the peak of the nesting period occurs from May through the end of June in the Salton Sea ecosystem.¹³⁶ The incubation of eggs ranges from 23 to 28 days.¹³⁷ For at least six weeks post-hatching, adults remain with the chicks, protecting and feeding them in brooding nests and subsequently accompanying them during foraging trips.¹³⁸ • Young birds are unable to fly from the time they hatch until the end of September.¹³⁹ • Adult Yuma Ridgway's rails undergo a molt in May-August, during which they lose remiges (wing feathers) and rectrices (tail feathers), both of which feather types are necessary for flight. The birds cannot fly until they regrow those feathers. They may be flightless through the end of September.¹⁴⁰	
250.	It is clear that the Proposed Action's water-use reductions will foreseeably result in significant harm to Yuma Ridgway's rails dependent on marsh habitat in the Salton Sea ecosystem. The largest water cutbacks will occur during June-September, when adults, eggs, and young are the most vulnerable to harm. Shriveling and death of marsh vegetation from water-deprivation will impair the rails' ability to construct nests, jeopardize the integrity of nests that have been built and are in use, reduce cover relied upon by rails for protection from predators, increase nest predation risks, and expose eggs and hatchlings to higher temperatures during the hottest time of year. Lower water levels or the complete lack of water in nesting locations will reduce or eliminate evaporative cooling, potentially subjecting adults, eggs, and hatchlings to harmful heat and even intolerable extreme temperatures. Decreased water and potential desiccation of marsh habitat in the vicinity of nests	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. Reclamation completed informal consultation with USFWS in July 2024 and has received concurrence on its approach for minimizing impacts to Yuma Ridgway's rail.

¹³⁵ Eddleman, W.R. (1989), op. cit.

¹³⁶ Bennett, W.W. and R.D. Ohmart (1978), op. cit.; Abbot, C.G. (1940), op. cit.

¹³⁷ Eddleman, W.R. (1989), op. cit.

¹³⁸ Eddleman, W.R. and C.J. Conway (1998). Clapper rail (*Rallus longirostris*). In *The Birds of North America*, No. 340 (A. Poole and F. Gill, eds). The Birds of North America, Inc. Philadelphia, Pennsylvania. 31 pp.

¹³⁹ Eddleman, W.R. (1989), op. cit.

¹⁴⁰ Ibid.; U.S. Fish and Wildlife Service (2009), op. cit.

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	will also reduce or eliminate nearby aquatic prey for the birds at a time when hatchlings are unable to forage far or at all, and adults must remain with their chicks to protect them. Juvenile rails are flightless throughout the hottest months of the year when more than 70% of the Proposed Action's water cutbacks will occur, ¹⁴¹ and adults cannot fly during most of that time; therefore, the birds' ability to move from one isolated habitat area to another will be severely limited in the event that lack of water in a particular location threatens them. Any attempt to walk a significant distance across desiccated, scorching lakebed in extreme summer temperatures, searching for suitable habitat, is likely to be a death march for both chicks and adults.	
251.	In addition, the Proposed Action will foreseeably increase risks to the Yuma Ridgway's rail posed by contaminants, including selenium. In terminal marshes containing irrigation drainwater that are disconnected from the receding Salton Sea, pollutants become concentrated and may constitute a significant threat to the endangered birds. This potentially severe problem will worsen as a result of the Proposed Action. Selenium is a trace element that is an essential micronutrient for all vertebrates but is toxic at elevated levels. The original source of selenium in the Salton Sea ecosystem is the Mancos shale formation in the upper Colorado River basin. Selenium transported in river water and deposited in Salton Basin sediments bioaccumulates in vegetation, invertebrates, and fish. Rails become contaminated by consuming prey containing elevated levels. It is well established that high levels of selenium can result in acute toxicity, chronic poisoning, tissue and organ damage, and reproductive impairment including developmental abnormalities, embryo mortality, and reduced growth and survival of young birds. ¹⁴² The results of a recent study ¹⁴³ indicate that risks of dietary selenium exposure for Yuma Ridgway's rails in the Salton Sea ecosystem are substantially higher in unmanaged terminal marshes containing irrigation drainwater that is retained, compared to managed marshes receiving direct input of lower-selenium Colorado River water that flows through them. Thus, as the Salton Sea recedes from additional water- deprivation because of the	The Salton Sea is a terminal inland lake that is continually increasing in salinity over time due to evaporation. The analysis in the EA is pursuant to DWR's modeling using SSAM. Pursuant to the modeling there would be an acceleration of the increase in salinity and selenium by 3 to 4 years and then would reach the same levels as identified in the QSA EIR/EIS. The MMRP will address the accelerated increase in salinity and selenium. To ensure there are no ecological impacts, the Monitoring Plan will be implemented in addition to the MMRP.

¹⁴¹ See the calculations presented in Attachment A.

¹⁴² U.S. Fish and Wildlife Service (2009), op. cit.

¹⁴³ Ricca, M.A., et. al. (2022), op. cit.

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	Proposed Action, and marshes sustained by agricultural drainwater at numerous locations around the perimeter of the Salton Sea are increasingly cut off from the lake (both within and outside of IID's Contract Service Area), it is foreseeable that elevated levels of selenium bioaccumulating in the food webs of those isolated and undrained marshes could jeopardize the health and survival of endangered Yuma Ridgway's rails.	
252.	The Proposed Action also foreseeably will cause significant injurious consequences for numerous other species, yet the Draft EA did not evaluate the problems involved. ¹⁴⁴ For example, the Draft EA failed to consider the foreseeable and significant harmful effects of the Proposed Action on the Western snowy plover (<i>Charadrius nivosus nivosus</i>), a shorebird species listed as threatened under the U.S. Endangered Species Act that nests at the Salton Sea. There are also many other species facing harm from the Proposed Action, including Special Status Species, ones that are protected by the Migratory Bird Treaty Act, and ones that depend on the Salton Sea ecosystem as an "ecologically critical" area. ¹⁴⁵ It is not feasible in these comments to analyze the potential adverse impacts on every one of the hundreds of species, and every aspect of ecologically critical habitat in the Salton Sea ecosystem, that foreseeably will suffer significant harm because of the Proposed Action. However, Reclamation is required to carefully evaluate those matters in detail, and to explain how all of the potential harmful effects will be avoided or fully mitigated in an appropriate manner. The agency did not do so in the Draft EA.	The EA considered all species that were identified in the QSA EIR/EIS, including the Western snowy plover. The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. Reclamation completed informal consultation with USFWS in July 2024.
253.	The Draft EA failed to consider significant and costly greenhouse gas emissions Significant greenhouse gas (GHG) emissions resulting from exposure of the Salton Sea's lakebed and deterioration of its ecosystem because of	The EA notes on page 38 that the proposed project would not affect greenhouse gases. The Proposed Action involves less agricultural activities as a result of the conservation with implementation of the DIP and FUIP. The OFECP involves the same level of agricultural

¹⁴⁴ Notably, the Draft EA's Appendix BIO-2 states that the razorback sucker (*Xyrauchen texanus*), a fish listed as endangered under both federal and state law (but that is a candidate for downlisting to threatened status federally), is present in the "IID Water Service Area and All-American Canal," and "is known to inhabit areas adjacent to the Salton Sea north of the Imperial Wildlife Area bordering the Chocolate Mountains." But Reclamation provides no details beyond these vague statements in Appendix BIO-2, and the species is not discussed further in the Draft EA. It is conceivable that reductions in water use by IID pursuant to the Proposed Action might adversely affect this endangered species; however, there is insufficient public information available to analyze this issue in these comments. Nonetheless, Reclamation's failure to evaluate potential adverse effects on this endangered species in the Draft EA appears to be an important omission, and I suggest Reclamation should remedy it.

¹⁴⁵ 40 CFR 1501.2(d)(2)(ii).

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	the Proposed Action are not considered at all in the Draft EA, nor are the major economic costs of those GHG emissions. Those deficiencies in the Draft EA contravene legal requirements. Federal guidance applicable to NEPA analyses explicitly requires that agencies “must disclose and consider...the extent to which a proposed action and its reasonable alternatives (including the no action alternative) would result in reasonably foreseeable GHG emissions that contribute to climate change.”¹⁴⁶ Moreover, applicable federal guidance states that an agency’s NEPA analysis should “quantify a proposed action’s projected GHG emissions...for the expected lifetime of the action,” and “provide additional context for GHG emissions, including through the use of the best available social cost of GHG (SC-GHG) estimates, to translate climate impacts into the more accessible metric of dollars, allow decision makers and the public to make comparisons, help evaluate the significance of an action’s climate change effects, and better understand the tradeoffs associated with an action and its alternatives...”¹⁴⁷ The Draft EA should have included an analysis of the significant biogenic GHG emissions, and the large associated economic costs, that will foreseeably result from the effects of the Proposed Action on the Salton Sea and its ecosystem.	activities as the No Action Alternative. No new or additional greenhouse gases would be emitted as a result of the Proposed Action.
254.	The Proposed Action’s reductions in freshwater inflows to the central Salton Basin will cause large additional areas of carbon-rich Salton Sea lakebed to be exposed to the atmosphere, will push the lake into extreme hypersalinity, and will exacerbate breakdown of the lake’s ecosystem. An important body of recent scientific research indicates these changes attributable to the Proposed Action will result in major quantities of biogenic greenhouse gases—including carbon dioxide, methane, and nitrous oxide—being emitted to the atmosphere on an ongoing basis for the foreseeable future unless an appropriate and effective restoration	The EA notes on page 38 that the proposed project would not affect greenhouse gases. The Proposed Action involves less agricultural activities as a result of the conservation through the DIP and FUIP. The OFECP involves the same level of agricultural activities as the No Action Alternative. No new or additional greenhouse gases would be emitted as a result of the Proposed Action. Regarding the emissions from biological reactions in the Salton Sea, the EA concludes that the Proposed Action would not result in increased overall anaerobic decay, including emissions of hydrogen sulfide and nitrous oxides, compared with previously assessed conditions in the QSA EIR/EIS.

¹⁴⁶ National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change (2023). Council on Environmental Quality, Executive Office of the President, January 4, 2023, Section IV.

¹⁴⁷ Id., Section II.

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	plan is implemented. ¹⁴⁸ Reclamation wrongly failed to evaluate this key issue in the Draft EA.	
255.	The biogenic GHG emissions attributable to the Proposed Action are likely to be large. Assuming that only 21 square miles of additional Salton Sea lakebed will be exposed because of the Proposed Action (which is a substantial underestimate), and assuming that the exposed lakebed will emit only carbon dioxide and no methane or nitrous oxide (which are much more powerful greenhouse gases than CO ₂ and are likely to be emitted in significant quantities from the exposed lakebed), and also assuming that there will be no other GHG emissions caused by the extremely detrimental changes to the Salton Sea and its ecosystem that will result from the Proposed Action (a conservative assumption, because it is likely there will indeed be such additional GHG emissions), yields the conclusion that more than 1.5 million metric tons of CO ₂ will be emitted annually for the foreseeable future solely due to the Proposed Action. ¹⁴⁹ This is a very conservative estimate for the quantities of ongoing GHG emissions attributable to the Proposed Action; the actual emission amounts will foreseeably be much bigger. But even 1.5 million metric tons of CO ₂ emitted per year is a large and concerning quantity; it is equivalent to the annual emissions of 326,087 typical gas-fueled passenger vehicles. ¹⁵⁰	The EA notes on page 38 that the proposed project would not affect greenhouse gases. The Proposed Action involves less agricultural activities as a result of the conservation through the DIP and FUIP. The OFECP involves the same level of agricultural activities as the No Action Alternative. No new or additional greenhouse gases would be emitted as a result of the Proposed Action. Regarding the emissions from biological reactions in the Salton Sea, the EA concludes that the Proposed Action would not result in increased overall anaerobic decay, including emissions of hydrogen sulfide and nitrous oxides, compared with previously assessed conditions in the QSA EIR/EIS.
256.	In the Draft EA's impact analysis, Reclamation also improperly failed to consider the economic costs of the biogenic greenhouse gas emissions that will foreseeably result from the Proposed Action's negative effects on the Salton Sea. The social cost of greenhouse gases (SC-GHG)—referred to more specifically in analyses performed in federal contexts as the social cost of carbon dioxide (SC-CO ₂), the social cost of methane	Section 3.6 Environmental Justice begins on page 87 and includes the socioeconomic analysis and available data. Costs associated with air quality are dependent upon the analysis of potential air quality impacts. The EA assesses air quality impacts that could affect disadvantaged communities in the entire Salton Sea Air Basin. Based on modeling conducted by DWR using SSAM for the implementation of the SSMP included in Appendix HYDRO-3, the EA finds that the

¹⁴⁸ See the following peer-reviewed report and the references cited therein: Ross, J.E. (2022). Potential Major Greenhouse Gas Emissions from Proposed Salton Sea Long-Range Plans. Report submitted to the Salton Sea Long-Range Planning Committee of the Salton Sea Management Program, California Natural Resources Agency, January 27, 2022. 14 pp. <https://doi.org/10.13140/RG.2.2.36775.62884>. Also see the Supplementary Information for that report, explaining the possible magnitude of the greenhouse gas emissions at the Salton Sea if vast areas of lakebed are left exposed and the residual Salton Sea becomes extraordinarily hypersaline. <https://doi.org/10.13140/RG.2.2.10089.36964>.

¹⁴⁹ This conclusion relies on the calculation method presented in the Supplementary Information for the Report "Potential Major Greenhouse Gas Emissions from Proposed Salton Sea Long-Range Plans" (see footnote 150 above).

¹⁵⁰ <https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle>.

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	(SC- CH₄), and the social cost of nitrous oxide (SC-N₂O)¹⁵¹—is a metric applied by federal agencies and some state agencies to estimate the economic costs incurred by society as a result of the emission of greenhouse gases. The SC-GHG metric is utilized across the entirety of the federal government when agencies evaluate the potential consequences of proposed policies or actions, including when conducting analyses pursuant to NEPA.¹⁵² An evaluation of the climate impacts of proposed federal action that fails to include analysis of the SC-GHG implicitly and improperly assumes that both the economic costs for society of greenhouse gas emissions and the benefits of reducing GHG emissions have a value of zero. It is well understood that the actual costs and benefits are very far from zero, even for a single ton of CO₂. The additional biogenic GHG emissions in the central Salton Basin that will foreseeably result from the Proposed Action, in combination with the massive quantities of GHG emissions resulting from the QSA water transfers and from additional water cutbacks foreseeably to be required beginning in 2027,¹⁵³ could cause the associated social cost of GHGs to reach tens of billions of dollars in the coming years,¹⁵⁴ and could thwart California's efforts to attain carbon neutrality, thereby worsening climate change. Yet the Draft EA fails to consider these crucial, reasonably foreseeable, and significant adverse impacts of the Proposed Action, and also does not assess any measures for avoiding such impacts or mitigating them to the extent they cannot be avoided. Reclamation should have evaluated these important matters.	Proposed Action would accelerate the lowering elevation of the Salton Sea by approximately 5 to 10 years. That is to say, impacts resulting from lowering Sea elevation would include the same acreage as analyzed in the QSA EIR/EIS, but they would occur earlier, slowing down over time until reaching No Action Alternative conditions by 2045. The EA acknowledges the accelerated effects of the Proposed Action and finds that the long-term effects would be those previously identified in the QSA EIR/EIS. The implementation of the MMRP, including the SS AQMP, is ongoing and will address any impacts that occur despite anticipated timing or location.

¹⁵¹ U.S. EPA (2022). Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances. Available online at: <https://www.epa.gov/environmental-economics/scghg>.

¹⁵² The federal Interagency Working Group on the Social Cost of Greenhouse Gases (IWG) has recognized that the social cost of greenhouse gases should apply to all "relevant agency actions," and not just regulatory ones. (Interagency Working Group on the Social Cost of Greenhouse Gases (Feb. 2021), Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide – Interim Estimates under Executive Order 13,990, at p.14.) The IWG has also noted that the social cost of greenhouse gases has been used previously in NEPA analyses. (Id. at p.12.)

¹⁵³ A conservative estimate of the total quantities of GHG emissions resulting from the impacts of all those water cutbacks on the Salton Sea and its ecosystem would be the amount calculated in the Supplementary Information referenced in footnote 150 above—i.e., a ballpark estimate of 26 million metric tons of CO₂ annually.

¹⁵⁴ To perform the necessary calculation (which very conservatively assumes that no methane or nitrous oxide will be emitted), the estimated total emissions amount in the Supplementary Information referenced in footnote 150 should be used along with the information in the following reference: U.S. EPA (2022), op. cit., Appendix A, section A.4, Table 4.2.1, "Annual Unrounded SC-CO₂, SC-CH₄, and SC-N₂O Values, 2020-2080."

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257.	Proposed monitoring and mitigation measures are inadequate and will be ineffective Reclamation is legally obligated to avoid the significant harm that will foreseeably result from the Proposed Action, and to fully mitigate the negative impacts that are impossible to avoid, in compliance with NEPA, the NEPA implementing regulations, and other associated statutes, regulations, and policies, as well as relevant case law. But the Draft EA does not demonstrate that the foreseeable injurious consequences of the Proposed Action will indeed be avoided or minimized as required.	The EA was prepared in compliance with NEPA and CEQA requirements and addressed the impacts of the Proposed Action.
258.	The “IID Drain and Salton Sea Vegetation Monitoring and Reporting Plan” (Monitoring Plan) suggested in the Draft EA for implementation by IID staff will foreseeably be inadequate and ineffective for averting or appropriately mitigating harm to fish and wildlife caused by the Proposed Action’s water reductions within IID’s Contract Service Area. Moreover, the suggested plan will do nothing to prevent or mitigate harm to fish and wildlife in the many locations outside IID’s Contract Service Area that will be adversely affected by the Proposed Action.	The Monitoring Plan sets forth feasible and specific impact avoidance measures that will be implemented by IID in coordination with Reclamation, USFWS and CDFW during the three years of the Proposed Action. The Monitoring Plan is designed to avoid adverse impacts to listed species.
259.	The Draft EA’s Monitoring Plan consists of three components: (1) monitoring of IID drains that flow toward the Salton Sea; (2) monitoring of vegetation associated with the drains and in regions of the exposed lakebed where plants are sustained by water discharged from the drains; and (3) “action triggers” requiring IID staff to initiate actions intended to avert anticipated harm or to mitigate existing harm resulting from inadequate drainwater. Unfortunately it is foreseeable that inherent limitations and shortcomings affecting the suggested monitoring measures will render them inadequate to prevent or to properly minimize and mitigate the significant harm to fish and wildlife that may occur as a result of the Proposed Action. The Draft EA presents an elaborate approach for mapping and assessing landscape-scale changes to plant communities in wetlands and riparian areas sustained by agricultural drainwater within IID’s Contract Service Area. The approach relies on satellite imagery and remote-sensing techniques, Object Based Imagery Analysis, use of limited ground-truth video transects and photo-interpretive techniques, training of a machine-	The vegetation monitoring uses satellite imagery technology, known existing technology, developed to be used for the purposes stated in the Monitoring Plan. The Monitoring Plan is a compilation of these methods using the technology to collect data and develop the components of the program designed to accomplish the vegetation monitoring needed under the EA.

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	learning algorithm, a “fusion matrix approach”¹⁵⁵ for assessing map accuracy, a Normalized Difference Water Index and a Leaf Area Index, and “early warning thresholds of meaningful change in the mapped vegetation communities.”¹⁵⁶ But there is no information in the Draft EA indicating that this convoluted combination of techniques suggested for monitoring vegetation has been scientifically confirmed to result in substantively and temporally appropriate conclusions regarding the fine-scale condition of habitat for the particular fish and wildlife species that may be rapidly harmed by inadequate water in the Salton Sea area. What is described in the Draft EA appears to be a novel application of existing technologies to try to accomplish purposes for which the suggested techniques were not designed and have not been validated. It is inappropriate to use such an approach to attempt compliance with legal mandates to protect fish and wildlife, including endangered species, from potentially lethal harm. The Draft EA's vegetation monitoring program appears to be based on the assumption that if large-scale adverse changes to vegetated habitat occur because of the Proposed Action's water reductions, they will eventually be detected by the suggested remote-sensing techniques; and then actions can be undertaken to evaluate and mitigate associated harm to fish and wildlife. But although the described approach may be adequate to perceive the occurrence of widespread harm affecting extensive areas of vegetation—likely after that harm has already occurred—the suggested techniques are not appropriate for preventing injurious consequences for fish and wildlife from water-deprivation. The methods to be utilized do not have the resolution required for identifying and avoiding harm to the endangered desert pupfish or the endangered Yuma Ridgway's rail, or to other wildlife living, feeding, and breeding within agricultural drains, riparian areas, vegetated marshes on the exposed lakebed where drains discharge, and other wetlands that are sustained directly or indirectly by irrigation water. It is foreseeable that many of the habitat areas where pupfish occur and breed, and where Special Status Species such as the Yuma Ridgway's rail feed and nest,	

¹⁵⁵ Draft EA, page 34. Use of this phrase in the Draft EA appears to be an error. A confusion matrix, not a “fusion matrix” is used for evaluating the performance of a machine-learning model.

¹⁵⁶ Draft EA, page 36.

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	will not be properly evaluated using the techniques described. It is likely that many such spots cannot even be seen in the imagery to be used, let alone evaluated in the necessary detail. In addition, the temporal framework described in the Draft EA for performing the analysis of vegetation is inconsistent with the speed of adverse changes related to water-deprivation that will cause significant harm to fish and wildlife. Plants typically succumb slowly to inadequate water and heat stress; fish and wildlife do not. Although the described techniques conceivably might be sufficient to avert permanent large-scale negative impacts on plant communities that could otherwise occur as a result of the Proposed Action, I suggest the program is not adequate to detect and prevent, or appropriately mitigate, injurious and even deadly consequences for fish and wildlife, including but not limited to the endangered desert pupfish and endangered Yuma Ridgway's rail.	
260.	The additional drain habitat monitoring described in the Draft EA that is to be conducted once per week by human observers does not solve the foregoing problems. The monitoring spots where IID staff will be positioned to attempt collection of information about habitat status and to obtain photographs of drain conditions are located far—as much as two miles away and potentially farther—from the places where desert pupfish, Yuma Ridgway's rails, and other Special Status Species may be situated in wetlands reliant on drainwater. Although an assessment of habitat in the immediate vicinity of monitoring spots may be feasible, the habitat areas that are more distant from the observers' positions are the places most likely to be at significant risk from reduced water availability. In addition, the pertinent habitat typically includes areas of very dense vegetation; this means that, even by using binoculars, the monitors will not have the clear views necessary for the type of detailed evaluation of habitat status that is required in order to assess the well-being of fish and wildlife. As the Salton Sea continues to recede because of the Proposed Action in combination with the ongoing impacts of the QSA water transfers, monitoring positions will be even farther away from many of the locations that would need to be assessed in order for the Monitoring Plan to be effective at protecting fish and wildlife from the harmful impacts of inadequate water.	The weekly visual habitat monitoring is to provide context and information regarding the general conditions of the IID drains and adjacent vegetation along the southern shoreline of the Salton Sea during the implementation of the conservation programs under the Proposed Action. The general locations of IID staff to conduct the habitat monitoring are shown on Figures 2-3a through 2-3c. Locations and results of the visual habitat monitoring will be reported to Reclamation, USFWS, and CDFW. Adjustments to locations may result from the reporting and coordination with the agencies.

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261.	The monitoring locations were selected, understandably, because they are “feasibly accessible for visual monitoring to be safely conducted by IID staff.” But the selected locations are not likely to be particularly good spots to conduct habitat monitoring or to assess whether harm is occurring to fish and wildlife. In addition, even if they were authorized to try, human observers would be unable to reach better monitoring locations safely because of impenetrable vegetation and deep glue-like mud. In addition to being unsafe, attempts to gain access to such areas would disturb and potentially harm fish and wildlife; and bushwhacking through dense undergrowth would also open up corridors that mammalian predators such as raccoons, skunks, and coyotes could utilize to reach vulnerable nesting birds. Also, dangerously hot summer temperatures will require monitors to take precautions for their own safety, such as restricting the duration and extent of their physical exertion, which will also serve to limit their monitoring activities. Furthermore, drones cannot be used effectively in many relevant areas for evaluating potential threats to fish and wildlife, particularly at the required small scale, because of limited visibility from the air down into densely vegetated marshes and other wetland areas. Attempting to use low-flying drones for monitoring will also foreseeably be counterproductive because doing so is likely to frighten wildlife and may harmfully disturb nesting birds.	The weekly visual habitat monitoring is to provide context and information regarding the general conditions of the IID drains and adjacent vegetation along the southern shoreline of the Salton Sea during the implementation of the conservation programs under the Proposed Action. The general locations of IID staff to conduct the habitat monitoring are shown on Figures 2-3a through 2-3c. Locations and results of the visual habitat monitoring will be reported to Reclamation, USFWS, and CDFW. Adjustments to locations may result from the reporting and coordination with the agencies. IID staff is regularly in field during all hours and temperatures. Safety trainings and measures are required of staff to ensure that appropriate actions are taken in extreme heat conditions. Because fieldwork is regularly done by IID staff, it is not anticipated that there would be resulting restrictions or limitations to monitoring activities.
262.	In addition, the habitat monitoring by observers will occur only once per week at each drain, and that alone could easily render the suggested plan inadequate. Particularly during the hottest part of the year, once-weekly monitoring at a single location for each drain will foreseeably fail to detect and avert many types of harm to fish and wildlife that may rapidly occur because of insufficient water. Potentially lethal problems could develop in days, hours, or even minutes, and would not be noticed and remedied in time.	The weekly visual habitat monitoring is to provide context and information regarding the general conditions of the IID drains and adjacent vegetation along the southern shoreline of the Salton Sea during the implementation of the conservation programs under the Proposed Action. Action triggers and impact avoidance measures are separately implemented to ensure there are no adverse effects to listed species.
263.	The portion of the Monitoring Plan that includes drain flow monitoring is also foreseeably inadequate. The suggested monitoring of drains includes the use of automated sensors to accomplish ongoing flow surveillance of drains that are equipped with those devices, and weekly manual monitoring with a hand-held device in drains that do not have automated sensors. The data from automated sensors will not be	Data from automatic sensors will be received and monitored daily, 7 days per week. IID personnel schedules and tasks are developed in accordance with personnel rules and policies. The implementation of the Monitoring Plan is coordinated with Reclamation, USFWS, and CDFW to ensure that IID will implement the Monitoring Plan to avoid adverse effects to listed species. IID will ensure that personnel are

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	monitored 24-7. Rather, the information will only be checked during normal working hours on weekdays, on an unspecified schedule.	assigned and able to complete the requirements of the Monitoring Plan.
264.	The use of hand-held devices to monitor flow in the drains will occur only once per week for each drain. That monitoring method will require personnel to climb down into deep ditches and obtain multiple velocity readings at differing depths across a single cross-section of each drain. ¹⁵⁷ This may be hazardous for personnel and could cause significant disturbance to wildlife, particularly nesting birds, and conceivably the activities could harm fish and/or their habitat. The staff doing the monitoring will not be wildlife biologists and may not even be aware that their actions are causing a harmful disturbance.	It is anticipated that the exact locations where IID staff will be able to use the hand-held current meter will need to be coordinated with USFWS, Reclamation, and CDFW. Consideration will need to be given to IID staff safety to traverse through dense vegetation located within the terminus of each drain (downstream of the last structure) to collect the drain flow data.
265.	A fundamental limitation of both automated and manual flow monitoring is that even when some water is flowing at the monitoring location there may be inadequate water or no water at all in places downstream that are crucial for fish and wildlife. Although IID staff are capable of manually assessing the flow rate in drains at the designated upstream locations, and automated sensors can do so in other drains equipped with such devices, I suggest it is not reasonable to assume that the personnel involved in decision-making about the significance of flow data—regardless of how well-meaning they are—will necessarily be capable of properly identifying circumstances that may threaten fish and wildlife living in downstream, unobserved locations. It is foreseeable that there will be inadequate information available at upstream monitoring spots even for experts on the pertinent species to make the necessary assessments about whether conditions may be occurring downstream that could harm fish and wildlife; and it appears that the IID staff doing the monitoring of drains, and the personnel making decisions regarding whether an “action trigger” has occurred, will not be experts regarding the biology and ecology of the desert pupfish, the Yuma Ridgway’s rail, or other Special Status Species that may be adversely affected by the Proposed Action’s water reductions. It will be exceedingly difficult, if not impossible, for those personnel to make appropriate decisions under time pressure regarding whether a water truck should be called in to add fresh water into a drain—particularly given the fact that the water at issue is the Colorado River water that IID is attempting to cut back on using.	IID will ensure appropriate personnel are responsible for the appropriate tasks to implement the Monitoring Plan. Details of implementation will be coordinated with Reclamation, USFWS and CDFW.

¹⁵⁷ Draft EA, page 21.

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266.	In addition, the Draft EA's description of "action triggers" for the monitored drains indicates that the criteria for initiating "Impact Avoidance Measures" are also inadequate to avert or appropriately mitigate foreseeable and significant injurious consequences of the Proposed Action for fish and wildlife. First, the Draft EA states that "action triggers" will only apply to drains located in areas "where a majority of fields within the drain- shed are enrolled in the DIP or FUIFP or were not participating in the OFECP within the last 5 years (2019-2023) prior to 2024 and become enrolled in the OFECP (or the simplified OFECP) during the three-year period of the Proposed Action." ¹⁵⁸ I suggest that this limitation inappropriately serves to exclude from mitigation action a variety of scenarios in which low-flow or zero-flow conditions may occur in drains and jeopardize fish and wildlife as a result of the Proposed Action. In addition, it is problematic that zero-flow conditions will not be sufficient to initiate mitigation activities pursuant to the Draft EA's methodology for assessing potential "action triggers."	The water conservation under the QSA is occurring and part of existing conditions, including conditions in drain flows. Under the QSA and pursuant to the QSA EIR/EIS, a Biological Opinion (BO) and an Incidental Take Permit (ITP) were issued to IID to address potentially adverse impacts to listed species for the conservation and transfer of water. The action triggers were designed to take into account existing conditions that are being mitigated and are covered by existing permits from USFWS and CDFW. The majority of fields within a drain-shed is a conservative approach that takes into account existing conditions, which includes 70% of agricultural land in the existing OFECP, to create conservation to meet the transfer volumes under the QSA. Participation in the last 5 years is a data point to determine new conservation under the OFECP.
267.	Based on the described methodology, there will be no mitigation for zero flow in a drain unless the number of consecutive days in a week that the particular drain experiences zero flow is determined to exceed the average number of days in a week during which that particular drain has, in the past five years, experienced zero flow. This is a misguided approach. Utilizing an average of the conditions that occurred during the previous five years does not enable a determination of whether the zero-flow status of a particular drain on a specific day is related to the Proposed Action. It is unjustified simply to presume that zero-flow conditions are <i>not</i> being caused by the Proposed Action unless and until the historical average for the number of consecutive zero-flow days is exceeded.	The impacts of the low flow or zero flow in a drain that occurs under existing conditions is being mitigated under the QSA EIR/EIS, BO and ITP. The Monitoring Plan addresses zero flows that are calculated to be more than existing conditions.
268.	Furthermore, the Draft EA's methodology for identifying "action triggers" erroneously assumes it is necessary to isolate the effects of the Proposed Action from all other factors in order to decide whether mitigation for harm to fish and wildlife is required. But that approach is wrong as a matter of law. It is the Proposed Action <i>in its full context</i> that must be assessed in order to determine whether resulting harm may	Impacts that are a result of the QSA conservation and transfers are mitigated pursuant to the MMRP, and in accordance with conditions of the BO and ITP. The Proposed Action facilitates Reclamation's payment of \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA's SSMP,

¹⁵⁸ Draft EA, page 34.

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	occur or is occurring and must be avoided or mitigated. The interplay among many factors must be considered; it is improper to attempt to rule out all other factors as the Draft EA's methodology tries to do. The other factors forming a potentially synergistic context for the effects of the Proposed Action include, but are not limited to, the ongoing water cutbacks pursuant to the QSA, the failure of the State to restore the Salton Sea or even to properly mitigate the effects of the QSA on fish and wildlife, weather variability, the effects of drought, the effects of floods, agricultural economic trends, cropping decisions by farmers, the impacts of climate change such as rising temperatures and increased evapotranspiration, and many other considerations.	specifically to support expanded and accelerated SSMP projects at the Salton Sea.
269.	Even once lower-level personnel decide to notify superiors that there is a problem with inadequate water in a drain, there will be substantial delays before a decision is made that it is necessary to add water; and more time will pass before the water is actually delivered into the pertinent drain. In particular, evaluation of these issues will only occur on weekdays during normal daytime working hours; no pertinent activities or decision-making will happen overnight or on weekends. Overall, based on the information presented in the Draft EA, the amount of time between the actual occurrence of inadequate water in a drain and the subsequent delivery of water into that drain is foreseeably at least a few days, and potentially considerably longer. The delays involved will be too lengthy to avert significant harm to fish and wildlife in many circumstances.	IID personnel schedules and tasks are developed in accordance with personnel rules and policies. The implementation of the Monitoring Plan is coordinated with Reclamation, USFWS, and CDFW to ensure that IID will implement the Monitoring Plan to avoid adverse effects to listed species. IID will ensure that personnel are assigned and able to complete the requirements of the Monitoring Plan.
270.	Furthermore, calling in a water truck to add water into a drain is foreseeably an inadequate approach for avoiding deleterious impacts on fish and wildlife in many locations where harm related to the Proposed Action may occur. Such trucks will be unable to maneuver into the vicinity of most, if not all, downstream locations where fish and wildlife may face jeopardy from inadequate water; and adding a relatively small pulse of water far upstream of pertinent habitat areas may not ensure that enough water, or any water, actually reaches appropriate locations on the exposed lakebed where harm is occurring.	The implementation of the Monitoring Plan is coordinated with Reclamation, USFWS, and CDFW to ensure that IID will implement the Monitoring Plan to avoid adverse effects to listed species. IID will ensure that water trucks will be utilized in compliance with the Monitoring Plan, including locating trucks downstream of the last structure on the drain.
271.	In addition, the Draft EA makes clear that the Monitoring Plan will apply only "to the IID drains that flow directly to the Salton Sea and the vegetated areas along the southern shoreline of the Sea receiving water	The Monitoring Plan was developed in consultation with USFWS and CDFW. Desert pupfish and Yuma Ridgway's rails habitat are within the drains that flow to the Salton Sea and the vegetated areas along the shoreline of the Sea.

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	from those IID drains.” ¹⁵⁹ Thus, the suggested plan will not evaluate potential adverse impacts of the Proposed Action in other parts of the IID Contract Service Area, and will accomplish nothing to avoid or mitigate the significant harm to fish and wildlife that the Proposed Action foreseeably will cause outside of IID’s Contract Service Area.	
272.	By depriving the Salton Sea of very large quantities of fresh water, the Proposed Action will affect the salinity and water quality in the entirety of the lake, and will negatively impact all organisms living in it and reliant on it. Harm will occur to the remaining fish and to the numerous species of birds, including Special Status Species, dependent on food resources in the lake for sustenance. Large areas of additional lakebed will be exposed all around the Salton Sea’s perimeter as the lake shrinks because of the Proposed Action.	The EA identifies all impacts to biological resources identified in the QSA EIR/EIS, which includes the entire Salton Sea, and provides a comparison matrix in Appendix BIO-3. The analysis in the EA assumes that these impacts and mitigation strategies would remain applicable, including for impacts to the Salton Sea. The EA focuses on updating the analysis of biological resources that were anticipated to be affected by this Proposed Action. Reclamation completed informal consultation with USFWS in July 2024. The Proposed Action involves the conservation of water within the IID Contract Service Area, which directly reduces flows within IID drains.
273.	That situation will foreseeably result in many tributaries that are outside of IID’s Contract Service Area— including, but not limited to, Salt Creek and an unnamed stream south of Bombay Beach, both of which contain endangered desert pupfish, as well as agricultural drains around the northern perimeter of the lake— having insufficient flow to reach the receding shoreline, particularly during the hottest months of the year.	The Salt Creek, the unnamed stream south of Bombay Beach, and CVWD’s drains on the north end of the Sea do not receive IID’s water and therefore do not discharge drainage water from IID’s water. Therefore, these locations will not be impacted by reductions in drainage water within IID’s Contract Service Area.
274.	When those tributaries debouch onto exposed areas of lakebed far from the retreating edge of the Salton Sea, endangered desert pupfish may be stranded in small pools that are shallow, hot, isolated, and rapidly evaporating. Birds that feed and nest in marsh and wetland areas at the ends of stranded drains outside of IID’s Contract Service Area that are no longer connected to the Salton Sea will also foreseeably be in jeopardy for various reasons, such as exposure to elevated concentrations of contaminants, including selenium, that could harm them, their eggs, and their offspring. Reclamation’s Draft EA describes no monitoring and no mitigation for the potential harmful impacts of the Proposed Action on fish and wildlife in any of the foregoing locations. Reclamation is legally obligated to avoid or fully mitigate all of that	The EA incorporates the QSA EIR/EIS by reference for purposes of demonstrating consistency with the analysis of past water conservation and incorporates information and analysis from the QSA EIR/EIS where appropriate. The impacts associated with the water conservation volumes transferred under the QSA are already addressed by the QSA EIR/EIS and the required mitigation is being implemented.

¹⁵⁹ Ibid.

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	foreseeable and significant harm, but has failed to present any information in the Draft EA indicating the agency intends to do so.	
275.	The portion of the Draft EA focused on monitoring and mitigation also does not adequately address air quality and human-health impacts of the hazardous dust emissions that foreseeably will be released from many thousands of additional acres of lakebed to be rapidly exposed because of the Proposed Action's 2024- 2026 water cutbacks, nor does it address the continuing exacerbation of harmful consequences that will be ongoing through at least 2045 as a result of further lakebed exposure attributable to the Proposed Action. Although the Draft EA indicates that IID will continue to perform the dust mitigation program already being used within the IID Contract Service Area to lessen particulate emissions resulting from the QSA water transfers, it is unclear how effective those activities actually are in preventing impaired air quality and averting damage to human health. Large quantities of harmful PM10 and PM2.5 continue to be emitted from exposed lakebed;¹⁶⁰ the emitted particulates likely include hazardous, toxic, and carcinogenic constituents; it is widely thought within the scientific community that there is no safe level for human exposure to many of those dangerous substances; and significant and disproportionate pulmonary illness continues to be suffered by people in the adjacent environmental justice communities who are obliged to breathe the hazardous pollutants.¹⁶¹	Unmitigated playa emissions account for less than 1% of all emissions in the Salton Sea Air Basin and when currently planned dust control projects are implemented, this number drops to less than 0.5% of the total emissions in the Salton Sea Air Basin. As provided in Appendix AQ-2, several studies have been conducted to evaluate the health risk, specifically the elemental composition of playa dust and sediment and whether it is unique from native desert material (Vogl et al. 2002, Xu et al. 2016, Frie et al. 2017, 2019, Biddle et al. 2023, IID SS AQMP). Findings indicate that concentrations of toxic metals were either below the method detection limit, or if above detection limits, were indistinguishable between the playa and desert. The concept that playa dust is exceptionally high in toxic metals is not supported by the current body of research. The current analyses of aerosol and sub-aerial soil samples from the playa and desert surrounding the Salton Sea suggest that until PM contaminant concentrations begin to exceed California EPA reference exposure levels, the principal health concern is and will continue to be the amount of PM being emitted rather than the composition. The dust itself (regardless of composition) is the most important aspect to consider in terms of human health. The SS AQMP will continue to be adaptive and proactively detect, locate and assess potential dust emissions regardless of timing, rate and extent of the playa exposure.
276.	Moreover, what will be done to prevent additional dangerous particulate emissions from the regions of lakebed that will be exposed outside of IID's Contract Service Area because of the Proposed Action? What will be done to protect people in adjacent communities from the harm that additional hazardous, toxic, and carcinogenic dust will foreseeably	The EA focuses on the IID Contract Service Area because the conservation of Colorado River water under the Proposed Action will occur in this area. The EA recognizes the affected environment for each resource topic area may extend beyond the IID Contract Service Area and assesses potential environmental impacts that may

¹⁶⁰ The data in the Draft EA's Table 3-2 do not accurately reflect the magnitude of the problem, in part because particulate emissions during "exceptional events" with wind speeds in excess of 25 mph are excluded. Strong wind events are common in the Salton Sea region and result in significant particulate emissions from exposed lakebed, including exposed lakebed where "surface roughening" has been implemented for dust control. I have personally observed such emissions happening. Although the exclusion of dust emissions that occur during strong wind events may be allowed by regulators for purposes of assessing overall compliance with the federal ambient air quality standard for PM10, I suggest that omitting such emissions from consideration is not consistent with understanding public health risks posed by hazardous, toxic, and carcinogenic particulates being emitted from exposed Salton Sea lakebed.

¹⁶¹ See the information in Part III.D above.

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	cause? The Draft EA states only that, "Implementation of the SSMP will address potential dust emissions that could adversely affect human health." ¹⁶² But clearly the SSMP's activities have been chronically and seriously inadequate for years. As explained earlier, the agency has even failed to comply with the most basic legal mandates for implementing dust control measures on specified amounts of lakebed acreage annually in order to mitigate the harmful effects of the QSA. Therefore, I suggest it is not reasonable for the Draft EA simply to assume that the SSMP will undertake the actions necessary to remedy the additional adverse impacts of the Proposed Action on air quality and human health outside of IID's Contract Service Area.	result from the Proposed Action as appropriate for the resource topic. The scope of the affected environment depends on the resource being evaluated. For example, Section 3.3 Air Quality analyzes the entire Salton Sea region (e.g. Salton Sea Air Basin, page 43; Regional Air Quality, page 44; IID's SS AQMP, State's Salton Sea Management Program (SSMP) and Dust Suppression Action Plan (DSAP) projects, page 46; hydrogen sulfide and hazardous air pollutants monitoring, page 47). Additionally, the human health analysis is not limited to the IID Contract Service Area. This analysis is based on the analysis in Section 3.3 Air Quality. The economic effects raised are a result of human health impacts. Current and anticipated playa exposure is higher in the relatively larger, shallower southern end of the Sea. The analysis in the southern end and the most directly impacted communities from the acceleration of playa exposure is appropriate for Section 3.7 Human Health. The SS AQMP is implemented for the entire Salton Sea and will address any impacts that occur despite anticipated timing and location.
277.	Another significant problem is that the Draft EA's suggested Monitoring Plan will not avert or alleviate emissions of greenhouse gases from the additional areas of lakebed that will become exposed because of the Proposed Action. In fact, the Monitoring Plan's dust mitigation activities, which probably will primarily include "surface roughening"—i.e., deep furrowing of the lakebed—are likely to exacerbate GHG emissions substantially. ¹⁶³ Furthermore, if water is applied in order to dampen areas of the exposed lakebed in an effort to suppress dust, that dust-control measure will also foreseeably worsen GHG emissions considerably. ¹⁶⁴	The EA notes on page 38 that the proposed project would not affect greenhouse gases. The Proposed Action involves fewer agricultural activities as a result of the conservation through the DIP and FUIP. The OFECP involves the same level of agricultural activities as the No Action Alternative. No new or additional greenhouse gases would be emitted as a result of the Proposed Action. Regarding the emissions from biological reactions in the Salton Sea, the EA concludes that the Proposed Action would not result in increased overall anaerobic decay, including emissions of hydrogen sulfide and nitrous oxides, compared with previously assessed conditions in the QSA EIR/EIS.
278.	A crucial reason for the inadequacy of the Monitoring Plan suggested in the Draft EA is the fact that there is already an ongoing environmental, ecological, and public-health crisis at the Salton Sea because of the State of California's chronic failure to comply with its legal obligations.	The State of California's responsibility for the restoration of the Salton Sea and delays to the schedule are outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration

¹⁶² Draft EA, page 94.

¹⁶³ Furrowing serves to increase the sediment-atmosphere interface and oxygenates previously buried sediments, thereby causing microbial effects that increase GHG emissions. See the report cited in footnote 150 above.

¹⁶⁴ See the report cited in footnote 150 above.

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	Since 2003, the State has violated the statutory requirement to restore the Salton Sea for “the permanent protection of the wildlife dependent on that ecosystem.”¹⁶⁵ In addition, the State has also blatantly failed to satisfy its additional legal responsibilities pursuant to the State Water Board’s 2017 Stipulated Order to fully mitigate the harmful impacts of the QSA water transfers on fish, wildlife, and people. By its obvious failures, the State has created a situation in which the Proposed Action will necessarily compound the crisis that already exists.	projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA’s SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects. The implementation of the MMRP, including the SS AQMP, is ongoing and will continue to be implemented by IID under the Proposed Action.
279.	An Alternative Action Significant additional harm to fish, wildlife, people, and the environment will foreseeably result from the Proposed Action and its synergistic interaction with the existing Salton Sea crisis. Furthermore, that serious harm cannot be avoided or effectively minimized and fully mitigated as required by applicable law. It would be unlawful to compound the existing dire circumstances with even more injurious consequences. If the State of California had fully complied with statutory requirements since 2003, the current situation would be different. Even if the State had fully satisfied its legal obligations pursuant to the Stipulated Order and had implemented most of the 10-Year Plan during the past seven years, the current situation would be different. But the State’s chronic violation of its legal responsibilities for more than two decades has resulted in an ongoing and worsening environmental, ecological, and public-health crisis; and there is no indication that the State intends to quickly remedy all its failures and the associated harm. And now Reclamation’s Proposed Action will greatly exacerbate the already dreadful situation for fish, wildlife, and people. Therefore, the Proposed Action as currently formulated cannot legally proceed.	The State of California’s responsibility for the restoration of the Salton Sea and delays or schedule are outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA’s SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects. The implementation of the MMRP, including the SS AQMP, is ongoing and will continue to be implemented by IID under the Proposed Action.

¹⁶⁵ The Salton Sea Restoration Act, California Fish and Game Code Chapter 13, Sections 2930 et seq.

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280.	A modified version of the Proposed Action could accomplish substantial water conservation to help sustain the Colorado River while not causing disproportionate and unreasonable negative effects, if—and only if—Reclamation ensures the water cutbacks are limited and carefully managed temporally and spatially, and their adverse impacts throughout the Salton Sea region are prudently minimized and entirely mitigated in a timely way. The Alternative Action for IID to undertake additional water conservation during 2024-2026 should not include the DIP, because the associated risks to fish and wildlife from that program's water cutbacks in the hottest months of the year are too great and cannot realistically be avoided. It also appears probable that the IID Board will not approve use of the FUIFP because of the significant economic impacts it would entail for Imperial County. I therefore suggest that the only Alternative Action for 2024-2026 that might be appropriate is for IID to perform additional water conservation using the OFECP, with the maximum amount of the extra water cutbacks capped at no more than a total of 50,000 acre-feet per year. Additionally, IID can leave another 50,000 acre-feet of conserved QSA water in Lake Mead annually during 2024-2026 if the San Diego County Water Authority agrees to forego taking that amount from IID each year during that period, as it did in 2023¹⁶⁶—which SDCWA should do in light of its large water surplus.	The proposed Alternative Action would be within the Proposed Action analyzed under the EA and, therefore, could be done without additional analysis. The Proposed Action includes annual and cumulative limits on the volume of conservation to be created and any volumes within those limits could be implemented.
281.	I also suggest that after 2026 IID should not be required to implement any additional water cutbacks, beyond the major annual water conservation that the District is already committed to accomplishing pursuant to the QSA, unless and until an effective plan for full restoration of the Salton Sea and long-term sustenance of the lake's ecosystem has been developed, along with a viable funding mechanism, and the restoration plan is actually being implemented for the permanent protection of fish, wildlife, people, and the environment. Even the limited Alternative Action would foreseeably cause significant negative effects for fish, wildlife, and people, largely because it would occur in the context of, and would compound, the ongoing Salton Sea crisis resulting from the QSA. The Alternative Action should therefore move forward <i>only if</i> all of its harmful consequences are averted, or are	A wide range of alternatives for the multi-year NEPA process for the post-2026 Colorado River operating guidelines are currently being considered and analyzed. Therefore, conservation volumes are speculative and not reasonably foreseeable.

¹⁶⁶ See footnote 24.

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	fully mitigated to the extent it is impossible to prevent them, and the additional requirements specified below are also satisfied.	
282.	A modified version of the Monitoring Program outlined in the Draft EA may be a feasible approach for detecting and averting the portion of the Alternative Action's adverse impacts that will foreseeably occur within IID's Contract Service Area <i>if</i> : (a) the water reductions are strictly limited and are not allowed to disproportionately affect a small number of drains and associated marshes and playa wetlands; (b) flow and habitat monitoring occurs more than once per week; (c) the "action triggers" for mitigation are appropriately modified to prevent harm to fish and wildlife and do not require exceedance of average historical conditions, as discussed above; and (d) fish and wildlife experts from the CNRA and the USFWS assist IID with monitoring and mitigation activities on an ongoing basis to prevent the significant harm that might otherwise occur. ¹⁶⁷ IID's ongoing dust mitigation activities must also continue, and must be increased if necessary to address additional areas of lakebed to be exposed as a result of the Alternative Action's water-use reductions. Also, experts independent of IID's current dust-mitigation contractor should be consulted regarding alternative measures for suppressing lakebed dust to the maximum feasible extent that can be utilized instead of the existing furrowing method, which exacerbates GHG emissions from the exposed lakebed.	The suggested reduced project and Monitoring Program would not meet the purpose and need of the proposed Action outlined on page 3 of the EA. The EA does not include a second Action Alternative, since no other agricultural conservation practices are feasible to meet the project objectives. The EA acknowledges that the increased exposed lakebed acreage and salinity concentrations would occur earlier than under the No Action Alternative. That is to say, the temporary diversions would accelerate the estimated elevation and salinity effect. The EA concludes that as a worse-case scenario, this acceleration could be 5 to 10 years.
283.	Additionally, the CNRA must shoulder full responsibility for preventing or minimizing and fully mitigating all harmful impacts on fish, wildlife, the environment, and people that may result from the Alternative Action in all locations outside of IID's Contract Service Area, and must undertake the necessary activities in a timely manner that keeps pace with the effects of the extra water reductions. I suggest that the funding the CNRA is to receive from Reclamation related to IID's 2024-2026 water cutbacks, as well as the \$70 million that the CNRA has already received from Reclamation for IID's 2023 SCIA, must be earmarked specifically for actions during 2024-2026 to prevent and mitigate harm to fish, wildlife, and people associated with the Alternative Action. It is essential for those harm-prevention and mitigation activities by the CNRA to occur <i>during</i> 2024-2026 and to match the rate at which impacts of the water cutbacks	The CNRA's responsibility for the restoration of the Salton Sea and delays or schedule are outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA's SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects. The implementation of the MMRP, including the SS AQMP, is ongoing

¹⁶⁷ The Draft EA suggested a quarterly consultation between IID staff and pertinent experts affiliated with the CNRA and the USFWS. That is not adequate.

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	occur during that period. In addition to performing dust suppression to protect air quality and public health, preferably without furrowing the lakebed, CNRA must also devise and immediately implement effective conservation measures to protect fish and wildlife from the impacts of the Alternative Action. I suggest that beginning the operation of the SCH immediately, rather than waiting at least several more years to do so as the CNRA currently intends, would be one appropriate way to provide some protection for fish and wildlife expeditiously.¹⁶⁸ Furthermore, the CNRA's implementation of measures to prevent and mitigate the impacts of the Alternative Action must be <i>in addition to</i> the agency's prompt fulfillment of all other legally required harm-prevention, conservation, and mitigation activities at the Salton Sea that it has shirked for many years. The CNRA must immediately and effectively address the backlog of activities that the agency has failed to accomplish pursuant to the 2017 Stipulated Order.	and will continue to be implemented by IID under the Proposed Action.
284.	If, for whatever reason, the CNRA decides that it is not feasible to perform the necessary measures to prevent and mitigate harm to fish, wildlife, and people that will foreseeably result from the Alternative Action, and to do so in a timely manner in addition to promptly fulfilling the agency's other pending legal responsibilities at the Salton Sea that have not yet been satisfied, then the Alternative Action <i>must not occur</i>. I also suggest that if the CNRA agrees to perform the necessary harm-prevention, conservation, and mitigation activities and the Alternative Action therefore moves forward, but then the CNRA fails actually to perform the requisite activities during a particular year in a full and timely manner that keeps pace with the water cutbacks, then the Alternative Action's water reductions must be cancelled from that point forward. It is untenable, and it would be a violation of applicable law, for the same injurious situation that has occurred during the past twenty years to be repeated. For two decades the QSA water transfers have been ongoing, but the State of California has failed to fulfill its legal obligations to avert or even mitigate the severe harm that those water cutbacks have caused for fish, wildlife, the environment, and hundreds of thousands of people. Now Reclamation has proposed additional water reductions that will	The CNRA's responsibility for the restoration of the Salton Sea and delays or schedule are outside the scope of the Proposed Action and the analysis in the EA. Reclamation has been an active partner with the State of California to facilitate restoration projects at the Salton Sea. Reclamation committed to providing \$250 million to CNRA under the Commitments Agreement in support of the implementation of CNRA's SSMP, specifically to support expanded and accelerated SSMP projects at the Salton Sea. Reclamation is committed to continuing its close partnership with IID and the State of California to support mitigation and restoration projects at the Salton Sea and pursue additional actions to facilitate those projects. The implementation of the MMRP, including the SS AQMP, is ongoing and will continue to be implemented by IID under the Proposed Action.

¹⁶⁸ Although I understand there are engineering reasons for delaying operation of the SCH until after additional habitat is constructed, it makes no sense to do so from a wildlife conservation standpoint. Given the CNRA's failure to comply with legal mandates to protect fish and wildlife from the impacts of the QSA, the agency must prioritize fish and wildlife now.

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	compound the ongoing harm caused by the QSA. Even a small portion of those additional cutbacks must not proceed unless effective and timely actions are implemented to prevent and fully mitigate the associated harm from both the QSA and the extra water reductions.	