

Draft Program Environmental Impact Report

Proposed Conserved Water Supply Program

SCH No. 2026030859







LEAD AGENCY

Palo Verde Irrigation District
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DATE

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ABBREVIATIONS AND ACRONYMS

AB	Assembly Bill
ACBCI	Agua Caliente Band of Cahuilla Indians
ADT	average daily trips
AF	acre-feet
AF/yr	acre-feet per year
AGR	Agricultural Supply (beneficial use)
AOP	Annual Operating Plan
BLM	U.S. Bureau of Land Management
BMP	best management practice
BO	Biological Opinion
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CAP	Central Arizona Project
CARB	California Air Resources Board
CAWCD	Central Arizona Water Conservation District
CCD	census county division
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH_4	methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CNEL	Community Noise Equivalent Level
CNWR	Cibola National Wildlife Refuge
CO	carbon monoxide
CRHR	California Register of Historical Resources
CWA	Clean Water Act
dBA	A-weighted decibels
DCP	Drought Contingency Plan
DPR	California Department of Pesticide Regulation
EIR	Environmental Impact Report
EIS	Environmental Impact Statement

EPA	U.S. Environmental Protection Agency (also USEPA)
ESA	federal Endangered Species Act
ET	evapotranspiration
et seq.	and the following
FE	Federally Endangered
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FMMP	Farmland Mapping and Monitoring Program
FP	Fully Protected (CDFW)
FT	Federally Threatened
ft asl	feet above sea level
FWS	U.S. Fish and Wildlife Service (also USFWS)
FY	fiscal year
GHG	greenhouse gas
GSP	Groundwater Sustainability Plan
H_2S	hydrogen sulfide
HAP	hazardous air pollutant
HEL	Highly Erodible Land
I-10	Interstate 10
ICAPCD	Imperial County Air Pollution Control District
IID	Imperial Irrigation District
IND	Industrial Service Supply (beneficial use)
IPM	Integrated Pest Management
LCR	Lower Colorado River
LCR MSCP	Lower Colorado River Multi-Species Conservation Program
LU	Land Use (Riverside County General Plan element)
MAF	million acre-feet
MAF/yr	million acre-feet per year
MBTA	Migratory Bird Treaty Act
MCL	maximum contaminant level
MDAQMD	Mojave Desert Air Quality Management District
MGD	million gallons per day
mg/L	milligrams per liter
MLD	Most Likely Descendant
MM	Mitigation Measure
MMRP	Mitigation Monitoring and Reporting Program
MOU	Memorandum of Understanding
mph	miles per hour
MRZ	Mineral Resource Zone
MSCP	Multi-Species Conservation Program

MSHCP	Multiple Species Habitat Conservation Plan
MUN	Municipal and Domestic Supply (beneficial use)
MWD	Metropolitan Water District of Southern California
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAV	Navigation (beneficial use)
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
OHP	California Office of Historic Preservation
OHV	off-highway vehicle
PCN	Preconstruction Notification
PEIR	Program Environmental Impact Report
PIT	passive integrated transponder
PM_{10}	particulate matter 10 micrometers or less in diameter
$PM_{2.5}$	particulate matter 2.5 micrometers or less in diameter
ppm	parts per million
PRC	Public Resources Code
PROC	Industrial Process Supply (beneficial use)
Pub. L. (P.L.)	Public Law
PVER	Palo Verde Ecological Reserve
PVID	Palo Verde Irrigation District
PVVAP	Palo Verde Valley Area Plan (Riverside County General Plan)
RCM	Regulatory Compliance Measure
RD	Rural Development (USDA)
REC-1	Water Contact Recreation (beneficial use)
REC-2	Non-Contact Water Recreation (beneficial use)
Reclamation	U.S. Bureau of Reclamation (also USBR)
ROG	reactive organic gases
RR	Rural Residential
RWD	Report of Waste Discharge
RWQCB	Regional Water Quality Control Board
S	CDFW Sensitive
S1	Critically Imperiled (state rank)
S2	Imperiled (state rank)

S3	Vulnerable (state rank)
S4	Apparently Secure (state rank)
SAR	sodium adsorption ratio
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SCH	State Clearinghouse
SE	State Endangered
SEIS	Supplemental Environmental Impact Statement
SGMA	Sustainable Groundwater Management Act
SMARA	Surface Mining and Reclamation Act
SNWA	Southern Nevada Water Authority
SO_2	sulfur dioxide
SO_4	sulfates
SR-78	State Route 78
SSC	Species of Special Concern (CDFW)
ST	State Threatened
SWE	snow water equivalent
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCP	trichloropropane (1,2,3-TCP)
TCR	tribal cultural resource
TDS	total dissolved solids
U.S.	United States
U.S. 95	U.S. Highway 95
U.S.C.	United States Code
USBR	U.S. Bureau of Reclamation (also Reclamation)
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency (also EPA)
USFWS	U.S. Fish and Wildlife Service (also FWS)
USGS	U.S. Geological Survey
VMT	vehicle miles traveled
VOC	volatile organic compound
WARM	Warm Freshwater Habitat (beneficial use)
WDR	Waste Discharge Requirements
WEAP	Worker Environmental Awareness Program
WL	Watch List (CDFW)
§	section
§§	sections
°C	degrees Celsius
°F	degrees Fahrenheit

$\mu g/m^3$	micrograms per cubic meter

ES.0 EXECUTIVE SUMMARY

ES.1 Introduction

This Draft Program Environmental Impact Report (Program EIR or PEIR) evaluates the potential environmental effects of the Palo Verde Irrigation District (PVID or District) Conserved Water Supply Program (Program). PVID is the Lead Agency under the California Environmental Quality Act (CEQA) and the only agency with authority to approve the Program.

The Program EIR has been prepared at a program level pursuant to CEQA Guidelines Section 15168. The Program consists of a series of related actions that share one purpose: to conserve a portion of PVID's Colorado River water supply for voluntary, compensated, temporary transfer to other Colorado River users during shortage conditions. Future site-specific projects, particularly infrastructure improvements, may tier from this Program EIR as provided in CEQA Guidelines Sections 15152 and 15168.

This Executive Summary is provided in accordance with CEQA Guidelines Section 15123. It briefly describes the proposed Program, summarizes its potential environmental impacts and the measures that would avoid or reduce them, describes the alternatives evaluated, and identifies areas of controversy and issues to be resolved.

Project Title	Palo Verde Irrigation District Conserved Water Supply Program
CEQA Document	Program Environmental Impact Report
Lead Agency	Palo Verde Irrigation District 180 W. 14th Avenue Blythe, California 92225
Contact	Victor Lujan, General Manager Phone: (760) 922-3144; Email: pvid@pvid.org

ES.2 Program Location and Setting

The Program would be implemented within PVID's service area in the Palo Verde Valley of eastern Riverside County and northeastern Imperial County. The District covers about 189 square miles surrounding the City of Blythe, including 104,500 acres of valley lands west of the Colorado River. The Colorado River, the boundary with Arizona, forms the District's eastern and southern boundaries and is its sole source of irrigation water.

PVID diverts Colorado River water at the Palo Verde Diversion Dam at the north end of the valley. The District owns and maintains 250 miles of canals, 56 miles of which are concrete lined, and 142 miles of open drains. More than half of PVID's diversion returns to the Colorado River through the drainage system at the south end of the valley. Approximately 94,500 acres have been in regular irrigated use, producing alfalfa, grasses, cotton, wheat, melons, vegetables and other crops; citrus and dates are grown on the Palo Verde Mesa.

PVID holds Priority 1 rights among California's Colorado River contractors under the 1931 Seven Party Agreement. Since 2004, PVID has participated with the Metropolitan Water District of Southern California (MWD) in a 35-year fallowing program, in which about 20 percent of irrigated acreage participates in an average year. PVID is also a participant in the Lower Colorado River Multi-Species Conservation Program (LCR MSCP); approximately 80 percent of all MSCP land in California is in the Palo Verde Valley.

ES.3 Program Summary

PVID proposes to adopt a Conserved Water Supply Program that would make conserved water available for voluntary, compensated transfer to other Colorado River contractors. The Program is intended to be responsive to the Bureau of Reclamation's (Reclamation) Post-2026 Operational Guidelines, which establish a 10-year framework (2027–2036) with operating plans developed every two years.

ES.3.1 Goals and Objectives

- Participate actively in long-term Colorado River management and Reclamation's post-2026 operating criteria through voluntary agreements consistent with the Law of the River.
- Protect the Colorado River, PVID's sole water source, by contributing to Lower Basin system conservation.
- Maintain and protect the long-term use and productivity of as much PVID agricultural land as possible.
- Share the burden of basin-wide shortages through voluntary, compensated transfers that avoid litigation, preserve agricultural productivity, and support the local economy and disadvantaged communities of the Palo Verde Valley.

ES.3.2 Program Elements

1. **On-farm conservation measures.** Voluntary seasonal or annual fallowing, deficit irrigation, early crop termination, crop rotation and crop switching. On-farm measures may include MWD program lands not called by MWD in a given year and lands beyond

the acreage enrolled in the MWD program. Long-term fallowing would be limited to three consecutive two-year fallow periods, followed by production of at least one crop in the seventh year. On-farm measures are expected to be the primary conservation element and require no new construction.

2. **Canal lining.** Concrete lining of targeted segments of earthen canals to reduce evaporative losses, with estimated savings of 954 to 1,754 acre-feet per year.
3. **Regulating reservoir storage.** One or more regulating reservoirs with a total footprint of approximately 75 to 125 acres, located on District-owned previously disturbed land or long-term agricultural land, and avoiding native riparian habitat and LCR MSCP lands. Reservoirs could capture an estimated 13,200 to 17,600 acre-feet per year of otherwise non-storable Colorado River flows.
4. **Other similar elements** identified in future plan development, subject to supplemental environmental review.

ES.3.3 Program Implementation

The Program would reduce PVID's water use by up to 21 percent of historic use (50 percent combined with the MWD program). If Reclamation finds that extraordinary circumstances exist for a two-year operating period, the reduction could increase to 31 percent (60 percent combined). The Program has no fixed end date and would be adapted by PVID to changing water supply conditions, with adaptive review every two years for at least the first ten years consistent with Reclamation’s biannual updates.

Participation would be voluntary and open to all eligible farmers. Lands owned by the United States, the State of California, or entities managing land for habitat protection would not be eligible. Water savings would be verified annually by a committee of PVID, the participating contractors and Reclamation, using PVID's diversion-less-return method. Transfer payments would be shared among participating growers, the existing Community Benefits Program, and PVID for administrative costs. Participants would be required by contract to implement weed control and wind erosion control measures as integral Program features.

This Program EIR does not evaluate future community improvement projects funded through the Community Benefits Program. Those projects have not been selected, and any required environmental review would occur when they are.

ES.4 Environmental Review Process

PVID filed a Notice of Preparation (NOP) with the State Clearinghouse and the Riverside and Imperial County Clerks on March 18, 2026. The CEQA review period ran from March 19 through

April 20, 2026, and PVID accepted responses through the end of April 2026. Tribal consultation letters under Assembly Bill (AB) 52 were sent to six Tribes in early March 2026.

This Draft Program EIR is being circulated for a 45-day public review period beginning November 18, 2026, and ending January 5, 2027. Comments must be received by January 5, 2027, to be addressed in the Final EIR. Comments may be submitted by mail to Victor Lujan, General Manager, Palo Verde Irrigation District, 180 W. 14th Avenue, Blythe, CA 92225, or by email to pvid@pvid.org.

The Draft Program EIR is available for downloading at www.PVID.org (under Publications), and in hard copy at PVID headquarters, and at the Palo Verde Valley Library, 125 W. Chanslor Way, Blythe. After the review period, PVID will prepare responses to comments for the Final EIR. The PVID Board of Trustees will consider the Final EIR and its Mitigation Monitoring and Reporting Program (MMRP) when deciding whether to approve the Program.

Subsequent approvals and permits for infrastructure elements may be required from Reclamation, the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the California Department of Fish and Wildlife (CDFW), the Colorado River Basin Regional Water Quality Control Board, the Mojave Desert Air Quality Management District and the Imperial County Air Pollution Control District.

ES.5 Summary of Environmental Impacts

The Program would result in no significant and unavoidable impacts. All potential impacts would be less than significant, or less than significant with mitigation, regulatory compliance, and Best Management Practices (BMPs) built into the Program. No Statement of Overriding Considerations would be required. The Program's contribution to cumulative impacts would not be considerable for any resource.

This Program EIR distinguishes three types of measures. Mitigation measures (MM) are adopted under CEQA and included in the MMRP. Regulatory Compliance Measures (RCM) restate requirements PVID must meet under existing law and permits. BMPs are standard practices incorporated into the Program description and participant contracts.

ES.5.1 Resource Topics Dismissed from Detailed Analysis

Section 3.1 found no impact or a less-than-significant impact, without mitigation, for the following topics: aesthetics; energy; geology and soils; greenhouse gas emissions; hazards and hazardous materials; land use and planning; mineral resources; noise; population and housing; public services; recreation; transportation; utilities and service systems; and wildfire. On-farm measures would occur on existing farmland with no change in land use, and construction of infrastructure elements would be temporary and localized.

ES.5.2 Resource Topics Evaluated in Detail

Agricultural Resources (Section 3.2). Temporary and rotational fallowing would not convert Important Farmland to non-agricultural use. Fallowed land would retain its zoning, irrigation entitlement and agricultural capability, and must return to production after the fallowing cycle. Voluntary participation would not forfeit PVID's Priority 1 water rights. Regulating reservoirs would remove limited acreage from crop production but would serve as agricultural infrastructure. The Program would not conflict with agricultural zoning or the 481 acres under Williamson Act contract. Impacts would be less than significant with BMPs AG-1 through AG-4.

Air Quality (Section 3.3). Construction of canal lining and reservoirs would generate short-term exhaust and fugitive dust. Fallowed fields could produce wind-blown dust (PM10) in an area that is nonattainment for PM10 and ozone. Compliance with air district Rule 403 (RCM AQ-1), equipment controls (RCM AQ-2, BMP AQ-1), and required soil stabilization on fallowed fields (BMP AG-1) would keep impacts less than significant.

Biological Resources (Section 3.4). At least 79 percent of agricultural fields would be unaffected by Program fallowing, and at least 50 percent when combined with the MWD program. Foraging effects on species such as the greater sandhill crane, white-faced ibis, Couch's spadefoot and American badger would be less than significant. Drain water levels, and the vegetation they support, have not declined in more than 20 years of MWD fallowing. Canal lining could affect canal marsh vegetation and burrowing owls, and reservoir construction could disturb wildlife. With MM BIO-1 through BIO-9, impacts would be less than significant.

Cultural and Tribal Cultural Resources (Section 3.5). On-farm measures would cause no new ground disturbance. Canal lining and reservoirs could alter canals more than 50 years old that have not been evaluated for historic eligibility, or encounter buried archaeological resources or human remains. With MM CUL-1 through CUL-5 and MM TCR-1, impacts would be less than significant.

Hydrology and Water Quality (Section 3.6). Reduced diversions would be matched by reduced return flows, and the Program would generally reduce salt, pesticide, nutrient and sediment loading to the Colorado River. Shallow groundwater beneath fallowed fields has typically dropped 1 to 3 feet and recovered within one or two irrigation seasons. The Program would not increase flood hazards. Construction would comply with stormwater, erosion control and Clean Water Act permit requirements. With regulatory compliance measures HYD-1 through HYD-6, impacts would be less than significant.

ES.5.3 Cumulative Impacts

The cumulative analysis considered the existing MWD fallowing program and conservation actions across the Lower Colorado River Basin, including those of MWD, the Imperial Irrigation

District (IID), the Central Arizona Project and the Southern Nevada Water Authority. The Program would not contribute to regional farmland conversion and would support Lake Mead storage. Cumulative reductions in return flows could marginally increase salinity concentrations below Imperial Dam, but existing monitoring indicates this would remain within Basin Plan objectives. No cumulatively considerable impact was identified.

ES.6 Alternatives to the Proposed Program

Alternatives to the proposed program are considered in Chapter 4. The *No Project* alternative is discussed as required by CEQA. Other feasible alternatives include a *Limited Fallowing Period* alternative and an *Unlimited Participation* alternative. *Elimination of the infrastructure elements* – canal lining and regulating reservoirs – is also considered as an alternative. Each of these alternatives is analyzed to provide decisionmakers and the public with consideration of effects that may result from Program changes that do not unnecessarily limit attainment of the District's goals and objectives. The District's *Preferred Alternative*, described in the Project Description and including implementation of all the best management practices, regulatory compliance measures and mitigation measures identified in this Program EIR, is determined to be the environmentally superior alternative.

ES.7 Areas of Potential Controversy and Issues to Be Resolved

CEQA Guidelines Section 15123(b) requires a summary to identify areas of controversy known to the Lead Agency, including issues raised by agencies and the public, and issues to be resolved. No substantial issues or areas of controversy were identified or raised in the Notice of Preparation scoping process. Areas that may raise concern are addressed throughout the Program EIR, particularly related to long-term protection of agricultural lands, air quality and dust control, protection of biological resources and cultural / tribal cultural resources, and hydrology and related water quality. These are briefly summarized below.

- **Wind-blown dust from fallowed fields.** The Palo Verde Valley is in nonattainment areas for PM10, and residents may be concerned about dust from idled land.
- **Program-level analysis of infrastructure.** Locations of canal lining segments and regulating reservoirs have not been identified. Future canal lining and reservoir projects will require site-specific evaluation and may require supplemental surveys, CEQA documentation and permits from resource agencies.
- **AB 52 consultation with the Agua Caliente Band of Cahuilla Indians.** The Tribe's March 25, 2026, request for formal consultation was located in October 2026. PVID contacted the Tribe on October 27, and the Tribe accepted PVID's offer to begin formal

consultation on November 9, 2026. Consultation is ongoing with results to be reported in the Final Program EIR.

- **LCR MSCP amendment.** The current Biological Opinion covers Lower Colorado River flow reductions of up to 3.0 million acre-feet through January 31, 2028. Reclamation and USFWS have begun an amendment process, expected to be completed in October 2029, to provide long-term coverage. PVID is participating as a cooperating co-lead agency in that amendment process.
- **Reclamation's two-year operating plans.** Operating parameters under the Post-2026 Operational Guidelines will be set in two-year plans beginning with 2027–2028. Program implementation is proposed to be adjusted biannually to reflect consistency with those plans.

ES.8 Summary of Impacts and Mitigation Measures

Table ES-1 summarizes, for each of the five resource topics evaluated in detail, the measures identified in Sections 3.2 through 3.6 to prevent, avoid or minimize potential adverse effects. As described above, these include Mitigation Measures (MM), Regulatory Compliance Measures (RCM) and Best Management Practices (BMP). Measures are summarized; the full text governs.

Table ES-1. Summary of Measures to Prevent, Avoid or Minimize Potential Adverse Effects

Measure	Summary of Measure
Agricultural Resources (Section 3.2)	
BMP AG-1 Soil Stabilization and Wind Erosion Control	Each participating landowner must control wind erosion on fallowed or modified fields using one or more options: leaving post-harvest stubble or sod remnants; clod plowing where crops leave little residue (repeated after rain; no single episode longer than three years); surface roughening with soil binders such as mulch or manure; or shallow-rooted cover crops where rainfall allows. Deficit-irrigated and early-terminated fields comply by retaining roots and partial canopy.
BMP AG-2 Integrated Weed and Pest Management	Landowners must manage weeds and pests on idled or modified acreage in coordination with the Riverside and Imperial County Agricultural Commissioners, using chemical, biological or mechanical controls to keep noxious plants, plant diseases and insect vectors from spreading to active fields, and following integrated pest management to remove invasive vegetation (e.g., salt cedar) while limiting chemical runoff.
BMP AG-3 Construction Coordination and Access Maintenance	During canal lining and reservoir construction, PVID and its contractors must coordinate schedules with affected landowners, avoid indefinitely blocking field access roads or impairing irrigation turnouts, and rebuild any modified turnouts or drainage pathways to maintain agricultural service.

Measure	Summary of Measure
BMP AG-4 Annual Water Rights and Budgeting Review	Before each operating year, PVID must complete a water rights legal review and water budget confirming the volume to be conserved and acreage to be fallowed, that remaining diversions fully meet non-participating irrigators' demands, that volumes match the conservation agreement(s), and the projected effect on Lake Mead elevation. Results are documented in PVID's annual water accounting report to Reclamation.
Air Quality (Section 3.3)	
RCM AQ-1 Fugitive Dust Control (MDAQMD/ICAPCD Rule 403)	The construction contractor must obtain an air district permit for a fugitive dust control program that includes: watering exposed and disturbed surfaces at least twice daily; a 15 mph limit on unpaved roads; halting work on unpaved surfaces when winds exceed 25 mph; covering or watering stockpiles twice daily; minimizing disturbed areas; seeding and watering areas inactive for more than three months; and paving, watering or chemically stabilizing on-site roads.
RCM AQ-2 Heavy-Duty Idling Limits	The construction contractor must keep equipment engines in good condition and tuned to manufacturer specifications to minimize exhaust emissions, including during smog season (May–October).
BMP AQ-1 Equipment Maintenance	Construction vehicle and equipment idling must be minimized by shutting equipment off when not in use or limiting idling to five minutes (13 CCR § 2485), and equipment operators must receive training on the idling limit.
Dust from fallowed fields is also controlled through BMP AG-1, AG-2 and AG-3, which are required in participant agreements (see Agricultural Resources above).	
Biological Resources (Section 3.4)	
MM BIO-1 CDFW Permit No. 2081-2005-008-06 Compliance	Operate and maintain the Program, including canal lining, in compliance with PVID's existing CDFW permit, including limits on annual acres of marsh habitat affected, avoidance of the breeding season, reporting, and all other permit measures.
MM BIO-2 Biological Surveys and Habitat Mapping	During site-specific CEQA review, conduct biological surveys and habitat mapping at locations considered for regulating reservoirs.
MM BIO-3 Limit Canal Lining Activity Areas	Confine canal lining work to existing maintained canals and adjacent access roads, with no additional disturbance or removal of adjacent vegetation.
MM BIO-4 Equipment Cleaning	Power- or high-pressure-clean all construction equipment before it enters a project site, and during construction, to minimize introduction of invasive species.
MM BIO-5 Wildlife Impact Avoidance During Construction	Limit construction vehicles to 15 mph; work only during daylight hours to avoid night lighting; use only water or non-toxic agents for dust suppression; and keep all trash and food waste contained in vehicles.
MM BIO-6 Pre-Construction Burrowing Owl Habitat Assessment	Before canal lining, and during CEQA review for site-specific reservoir projects, a qualified biologist will conduct burrowing owl habitat assessments following CDFW (2012) guidelines, covering the site and a 150-meter buffer, before canal banks or construction areas are disturbed.
MM BIO-7 Pre-Construction Burrowing Owl Surveys	Where suitable burrows, burrow surrogates, owl sign, or reports within the past three years are found, complete breeding- or non-breeding-season surveys following CDFW protocol before canal lining or reservoir construction.

Measure	Summary of Measure
MM BIO-8 Burrowing Owl Avoidance	Conduct canal lining only 100 feet or more from occupied burrows; where occupied burrows are 100 to 500 feet from the work area, construct only during the non-breeding season (September through January).
MM BIO-9 Burrowing Owl Awareness Program	Upon Program approval, develop and implement a Burrowing Owl Awareness Program for site-specific construction projects and for farm workers throughout the District.
Cultural and Tribal Cultural Resources (Section 3.5)	
MM CUL-1 Cultural Resources Worker Environmental Awareness Program (WEAP)	Before any on-site grading, all construction and contractor personnel must complete WEAP training on cultural resources that could be exposed; new workers must complete it within their first week, and operational staff before deployment.
MM CUL-2 Historical Resource Identification and Evaluation	Before approving any site-specific canal lining, reservoir or other infrastructure project involving ground disturbance or modification of structures more than 50 years old, PVID must retain a qualified historian or architectural historian to evaluate NRHP/CRHR eligibility, including a CHRIS records search and archaeological pedestrian survey as warranted.
MM CUL-3 Historical Resource Protection	Where a historical resource is identified, PVID must avoid it where feasible; if avoidance is not feasible, treatment measures will be developed in consultation with applicable agencies and implemented before construction.
MM CUL-4 Inadvertent Discovery Protocol for Archaeological Resources	If archaeological resources are exposed during construction, all work within 100 feet must stop until a qualified archaeologist (Secretary of the Interior standards) evaluates the find. Non-significant finds (e.g., isolates) are recorded and work resumes; potentially significant finds may require a treatment plan, testing or data recovery.
MM CUL-5 Protection of Human Remains	If deposits believed to be cultural or human are discovered, work must halt within 100 feet and a qualified archaeologist must evaluate the find and notify the lead agencies of cultural resources. Suspected human remains are protected and the County Coroner/Medical Examiner notified (Health & Safety Code § 7050.5); if Native American, the NAHC designates a Most Likely Descendant, who makes treatment recommendations under PRC § 5097.98 and AB 2641. Work resumes only when the lead agencies confirm treatment is complete.
MM TCR-1 Cultural Resource Technical Report, Tribal Coordination and Monitoring	In addition to MM CUL-1 through CUL-5, for canal lining segments and regulating reservoirs: a qualified archaeologist will prepare a Cultural Resource Technical Report (inventory and records search); records searches and all resulting cultural documentation will be provided to Tribes that request them; an approved Cultural Resource Monitor must be present during ground disturbance, with authority to halt work and call in a qualified archaeologist if deposits are found; and government-to-government consultation will occur under AB 52.
Hydrology and Water Quality (Section 3.6)	
RCM HYD-1 Stormwater Pollution Prevention Plan (SWPPP)	Reservoir and canal lining construction requires a SWPPP approved by the Regional Water Quality Control Board under the NPDES permit, including measures to minimize off-site sediment tracking, barriers (e.g., hay bales) to prevent discharges to surrounding waters, and procedures for fuel and lubricant spills.

Measure	Summary of Measure
RCM HYD-2 Listed Species Consultation Support and Data Sharing	PVID will support Section 7 consultation between Reclamation and USFWS on basin-wide conservation effects, provide Program diversion, return flow and water quality data to USFWS and CDFW on request for LCR MSCP monitoring, and participate as a cooperating agency in the LCR MSCP amendment (flow depletion from 2.083 up to 3.0 MAF; expected October 2029).
RCM HYD-3 Water Accounting and Return Flow Monitoring	PVID will continue measuring gross diversions at Palo Verde Diversion Dam and return flows at drain outfalls, report annual water budget data to Reclamation, and share return flow data with the Imperial Irrigation District and other downstream users.
RCM HYD-4 Erosion and Sediment Control Plan (ESCP)	Canal lining and reservoir construction must follow a project-specific ESCP under the Construction General Permit (SWRCB Order 2022-0057-DWQ), with perimeter controls such as silt fencing next to drainage channels, stabilized construction entrances, dewatering management, and an inspection and maintenance schedule; a SWPPP must be in place before soil disturbance where permit coverage is required.
RCM HYD-5 Section 404, Section 401 and Streambed Alteration Permit Compliance	Before any discharge of dredged or fill material to waters of the U.S., PVID must obtain Corps Section 404 authorization and a Section 401 Water Quality Certification, and, if required, a CDFW Lake or Streambed Alteration Agreement before in-channel work, and implement all permit water quality requirements.
RCM HYD-6 Salinity Monitoring and Reporting	PVID will continue participating in the Reclamation/SWRCB salinity monitoring program and report annual return flow volumes and total dissolved solids (TDS) loading.

The full text of each measure appears in the corresponding section of Chapter 3 and will be carried into the MMRP for the Final EIR.

1.0 INTRODUCTION

Project Title: **Palo Verde Irrigation District Conserved Water Supply Program**

CEQA Document: Program Environmental Impact Report

Lead Agency: Palo Verde Irrigation District
180 W. 14th Avenue
Blythe, California 92225

Contact Person: Victor Lujan, General Manager
(760) 922-3144

Project Location:

Entire Palo Verde Irrigation District including portions of the Palo Verde Valley (104,500 acres) west of the Colorado River border with the State of Arizona, surrounding the City of Blythe, CA (approximately 189 square miles)

Northern Point:
Palo Verde Diversion Dam
±33° 73′ 17″ North Latitude, 114° 51′ 18″ West Longitude
Section 19, Township 5 North, Range 24 East, San Bernardino Baseline and Meridian (SBBM)

Southern Point:
Drain outfall to Colorado River
±33° 34′ 56″ North Latitude, 114° 71′ 18″ West Longitude
Section 36, Township 9 South, Range 22 East, SBBM

1.1 Introduction

The Palo Verde Irrigation District (PVID or District) proposes to adopt a Conserved Water Supply Program (Program), building upon the Land Management, Crop Rotation and Water Supply Program currently in place in partnership with the Metropolitan Water District of Southern California (MWD).[1] The new Program is intended to be consistent with responsive to the Bureau of Reclamation's Post-2026 Operating Criteria for managing chronic shortage conditions within

[1] The current PVID/MWD Program began in 2004 and provides MWD with a water supply option of 25,000 up to approximately 111,000 acre-feet of Colorado River water per year for 35 years. It stabilizes the farm economy within the Palo Verde Valley through payment and bi-annual payments applicable to participants in the proposed Program and by providing a funding mechanism for community improvement projects. Two types of agreements are included: (1) a Program agreement between PVID and MWD and (2) land contracts, each with a term of up to 35 years, between MWD and participants in the Palo Verde Valley. Farmlands are voluntarily committed to the proposed Program by land contracts. Water saved is available for transfer to MWD via its existing Colorado River Aqueduct system.

the Colorado River basin. This Draft Program Environmental Impact Report (Program EIR or PEIR) analyzes the environmental effects that potentially may occur should the proposed Conserved Water Supply Program be implemented.

PVID diverts water from the Colorado River to the Palo Verde Valley for irrigation and provides agricultural drainage for irrigated farmlands. The diversion of river water into the valley occurs at the Palo Verde Diversion Dam, located on the Colorado River at the northern (upstream) end of the Palo Verde Valley. In addition to irrigating Palo Verde Valley farmlands, some of the water diverted into the valley is pumped up to the Palo Verde Mesa for irrigation of mesa farmlands. All water unused by PVID returns to the Colorado River.

1.2 Project Description

The current severity of drought conditions imposes a need for a wide range of conservation and management strategies, many of which PVID has been a major contributor for more than 20 years. With a goal to reduce California's use of Colorado River water, PVID is currently participating in a 35-year fallowing program with Metropolitan Water District of Southern California (MWD) for which an EIR was previously completed.[2] This program pays farmers to annually fallow a portion of their land, rotate their crops, and transfer saved water to urban Southern California. On average, about 20% of the total irrigated acreage participates in the program each year.

In response to potentially chronic Colorado River water supply shortages in current and future years, PVID proposes to develop and implement a new *Conserved Water Supply Program* including a range of infrastructure improvements, voluntary fallowing, and farm management measures to conserve water for potential water transfers to assist other Colorado River water users. The district's primary goals for the Program include:

- Farm management and infrastructure improvements to create conserved water for compensated and voluntary transfer to other Colorado River Basin users.
- Contribute to improved water supply and the Bureau of Reclamation's management of water supply shortages in the Colorado River Basin.
- Provide a stabilizing economic influence for participants and a funding mechanism for specific future community improvement projects.

Land management and infrastructure improvements to be considered as elements of the Program may include:

[2] PVID, *Final Environmental Impact Report for the Proposed Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program*, October 2003, SCH No. 2001101149.

- On-farm Conservation (seasonal fallowing, deficit irrigation, early crop termination, crop rotation and crop switching)
- Canal lining to reduce evaporation losses
- Regulating reservoir storage
- Fallowing lands not requested by MWD in any given year
- Fallowing above and beyond the MWD Fallowing Program
- Potentially other elements to be determined in plan development.

Details of each of these elements are provided in the Project Description in Chapter 2. Related features of the Program include a Tracking and Verification Reporting Plan specific to each water conservation element, and an extension of the district's existing Community Benefits Plan.

1.3 Purpose and Use of a Program EIR (CEQA Guidelines §15168)

The State CEQA Guidelines (14 CCR §15000 et seq.) govern the procedures for implementation of CEQA, including the preparation of program-level EIRs (§15168), establishment of thresholds of significance (§15064.7 and Appendix G), the analysis of cumulative impacts (§15130), and the preparation of mitigation measures and MMRP (§15097). Appendix G of the CEQA Guidelines provides the Environmental Checklist that forms the basis of the thresholds of significance applied throughout this Program EIR.

The numerous elements of PVID's proposed *2026 Conserved Water Supply Program* can be developed independent of one another, but they are related in their underlying purpose – to implement voluntary conservation measures of PVID's water supply to make water available for voluntary temporary transfer to other Colorado River basin users in times of shortage on the Colorado River. The CEQA Guidelines section 15168 provides that an agency may prepare a Program EIR (Program EIR or PEIR) to cover a series of related actions that can be considered as one large project.

The advantages of a Program EIR are that related actions can be covered within a single CEQA process, with consideration of a wide range of potential effects throughout the District's boundaries and avoiding duplicative consideration of potential effects. Standard Best Management Practices (BMPs) and mitigation measures can be identified and implemented for individual program elements as applicable. Water conservation strategies evaluated in the Program EIR can then be implemented over time with applicable BMPs and mitigation measures, subject to subsequent and/or supplemental CEQA review documentation confirming or supplementing the characterization of potential impacts and appropriate mitigation. A program EIR is most helpful in dealing with later activities when it provides a description of planned

activities that would implement the program and deals with the effects of the program as specifically and comprehensively as possible.[3]

1.3.1 Tiering from the Program EIR

Environmental analyses and associated documentation prepared for future projects may "tier" from the Program EIR (CEQA Guidelines §15152, §15168, and §15385). The purpose and intent for this Program EIR is to evaluate and disclose the range of potential environmental impacts associated with implementation of the respective conservation elements, and the types of mitigation measures that are typically applied to address those impacts. As defined in Section 15168(d) of the CEQA Guidelines cited above, the CEQA review process for subsequent implementation projects would include additional environmental review which could include completion of Initial Studies, Negative Declarations, an addendum to this Program EIR, or subsequent or supplemental EIRs.

Specific locations for the future site-specific infrastructure projects have not been determined and are therefore qualitatively assessed in this Program EIR to explain the physical environmental actions employed for construction and assess the range of potential effects that are expected to be encountered. This Program EIR identifies and evaluates the types of impacts and the typical mitigation strategies and actions employed to avoid, minimize or offset those effects. The detailed investigations and actions to be undertaken for evaluation of site-specific projects are also described, including field investigations and mapping, computer modeling, resource agency consultation, and permit application processes to be completed as part of subsequent or supplemental CEQA review.

When specific infrastructure projects are identified, PVID will use a checklist or similar device to document the evaluation of the site and the activity in light of this Program EIR to determine whether an additional environmental document must be prepared. With a detailed project description and analysis of the Program, these later activities could be found to be within the scope of the project described in this Program EIR, and no further environmental documents would be required.

1.4 CEQA Process and Notice of Preparation

Pursuant to CEQA and the State CEQA Guidelines, PVID, in their role as Lead Agency, as authorized by Section 15050 under the CEQA Guidelines, determined that a Program EIR was the appropriate environmental document for the 2026 Conserved Water Supply Program. PVID prepared a Notice of Preparation (NOP) at the initiation of this EIR process. Copies of the NOP were sent to the State Clearinghouse and filed with the County Clerks for Riverside and Imperial counties on March 19,

[3] 14 California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15168.

2026. The associated minimum 30-day review period required by CEQA for the NOP and Initial Study extended from March 19 through April 20. In addition, information from the NOP was included in Tribal consultation letters sent to six Tribal contacts on March 6, 2026. To ensure that agencies and Tribes responding to the notices had sufficient time to prepare and provide scoping comments, PVID accepted responses to the NOP through the end of April 2026.

This Draft EIR is being circulated for public review to public agencies and interested members of the general public for a period of 45 days, beginning on November 18, 2026, and ending on January 5, 2027. Comments on the adequacy of this Draft EIR must be provided to PVID by the close of the 45-day public review period on January 5, 2027, to be addressed in the Final EIR.

A Notice of Completion and Notice of Availability has been filed with the Riverside and Imperial County Clerks and the State Clearinghouse. The Program EIR is available electronically for download from the PVID website (www.PVID.org), under the "Publications" list). Printed hard copies of the Program EIR are also available at the District's headquarters office located at 180 W. 14th Avenue, Blythe, California, and at the Palo Verde Valley Library located at 125 W Chanslor Way, Blythe, California.

During the 45-day public review period, comments on the Draft EIR may be submitted to the lead agency either by email or mail at the following addresses:

Victor Lujan, General Manager
Palo Verde Irrigation District
180 W. 14th Avenue
Blythe, CA 92225
Email: pvid@pvid.org

1.5 Draft EIR Format and Contents

This Draft Program EIR is organized to provide a basic understanding of the proposed Conserved Water Supply Program and the potential environmental effects of its implementation. The Program EIR is organized in seven chapters and supporting appendices:

- **Table of Contents**
- **List of Acronyms and Abbreviations**
- **Executive Summary**—A brief description of the proposed Program, a summary of the potential environmental impacts, the alternatives to the proposed Program, and potential areas of controversy.
- **Chapter 1**—An Introduction to the Program EIR.
- **Chapter 2**—A detailed Project Description of the proposed Conserved Water Supply

Program, including PVID's goals and objectives, supporting water rights, conservation measures, and the intended uses of the Draft Program EIR.

- **Chapter 3**—The Environmental Impact Assessment describes existing environmental conditions in the study area, applicable laws, ordinances and regulations, and the criteria used to identify when potential impacts would be considered significant. Section 3.1 provides a summary assessment of resource topics evaluated and dismissed from further consideration. More in-depth assessments follow for agricultural resources (3.2), air quality (3.3), biological resources (3.4), cultural resources (3.5), and hydrology and water quality (3.6).
- **Chapter 4**—A description of alternatives to the proposed Program, including the No Project Alternative.
- **Chapter 5**- List of References to the main sources identified in the text of the Draft Program EIR.
- **Chapter 6**—Lists the Persons and Organizations consulted during preparation of this Program EIR.
- **Chapter 7**—Provides a List of Preparers of the Program EIR
- **Appendices**—Appendix A consists of the 2025 Annual Water Quality Monitoring Report. Appendix B contains the Biological Database Search Results.

Chapter 3 contains impact assessments for the following resources: agricultural resources, air quality, biological resources, cultural and Tribal cultural resources, and hydrology and water quality. It also identifies current best management practices for resource protection employed by PVID, and where applicable, mitigation measures to be included as conditions of approval of the Conserved Water Supply Program. Table 1-1 identifies resource topics that will not be examined in detail.

Table 1-1. Resource Topics Considered and Dismissed from Further Analysis

○ Aesthetics ○ Energy ○ Geology and Soils ○ Greenhouse Gas Emissions	○ Hazards and Hazardous Materials ○ Land Use and Planning ○ Mineral Resources Noise ○ Population and Housing	○ Public Services ○ Recreation ○ Transportation ○ Utilities & Service Systems ○ Wildfire

1.6 Final EIR and Board of Trustees Decision Regarding Adoption of the Program

PVID will prepare responses to comments received during the public review period regarding the adequacy of the Draft EIR. The comments and responses, together with the Draft EIR will comprise the Final EIR. In arriving at a decision on whether to proceed with the proposed Conserved Water Supply Program, the PVID Board of Trustees will consider, among other things, the information in the Final EIR and will determine the adequacy of the environmental documentation under CEQA.

1.7 Mitigation Monitoring and Reporting Program (MMRP)

Pursuant to California Public Resources Code (Section 21081.6), a Mitigation Monitoring and Reporting Program (MMRP) is required to be included with the final EIR when proposed mitigation measures are identified to reduce potentially significant impacts.

2.0 PROJECT DESCRIPTION

In response to potentially chronic Colorado River water supply shortages in current and future years, Palo Verde Irrigation District (PVID) proposes to develop and implement a *Conserved Water Supply Program* including voluntary farm management measures and potential infrastructure improvements. This program is intended to be responsive to the recent Bureau of Reclamation's adopted Post-2026 Operational Guidelines[1] and to contribute to managing long term water shortages, including responses to potential future "extraordinary circumstances" as determined by Reclamation. For the voluntary farm management measures, this proposed conservation program is designed to promote forbearance agreements that provide compensation to PVID farmers to annually fallow a portion of their land, rotate their crops, or other on-farm measures for the purpose of conserving water that can be transferred to other Colorado River water users ("Colorado River Contractors").

The proposed Program relates to California's and PVID's historical use of Colorado River water, "The Law of the River", and to ongoing efforts to conserve Colorado River water and engage in voluntary and compensated water transfers to Colorado River Contractors facing critical shortages. The proposed Program would be implemented on various irrigated farmlands located within PVID in the Palo Verde Valley.[2] Specific locations of farmlands that may voluntarily commit to participation in the proposed Program have not been identified but would include previously farmed lands that have been in irrigated agricultural uses for years. Lands that are owned by the United States, State of California and other entities managing lands for habitat protection are not part of this program and would not be eligible to participate.

Under the Law of the River, the Palo Verde Irrigation District holds senior water rights to Colorado River water among California's Colorado River contractors and distributes that water for the benefit of the landowners and their tenants within the District. Under terms of the District's contract with the Bureau of Reclamation, Colorado River water is to be diverted and used for beneficial uses within the District's boundaries. Landowners within the District do not have individual water rights that pertain to their land. Only conservation actions and measures implemented under this proposed Conserved Water Supply Program or other PVID sponsored and approved program are entitled to be accounted for in voluntary and compensated transfer(s) to other entitled Colorado River basin users. Such transfers can only be implemented

[1] U.S. Bureau of Reclamation. Post-2026 Operational Guidelines and Strategies Final EIS. July 2026. The Final EIS establishes a 10-year framework but does not select specific operating parameters which will be developed in two-year operating plans beginning with a forthcoming plan for 2027 and 2028 (as of October 2026).

[2] PVID lands irrigated on the adjacent Palo Verde Mesa are planted in date palm trees and citrus trees which are not eligible for on-farm water conservation measures such as seasonal or annual fallowing, deficit irrigation or annual crop changes.

pursuant to contract terms mutually agreed to by the transfer party and PVID, and subject to approval by the Bureau of Reclamation.

The proposed Conserved Water Supply Program has no defined time limits since, unlike the previous and ongoing 35-year fallowing program with Metropolitan Water District of Southern California (MWD), this is a District Program independent of an outside party, with subsequent conservation-based water transfer agreements to have specific time frames as needed. The District's program will be put in place in-perpetuity, subject to modification by PVID in response to changing water supply conditions, needs and goals that are not foreseeable at this time.

PVID has determined that the Conserved Water Supply Program constitutes a "project" requiring its discretionary approval as defined in the California Environmental Quality Act (CEQA). The District is the CEQA Lead Agency as the only agency with authority to approve the program and would prepare a Program Environmental Impact Report for the proposed conservation program.

2.1 PVID's Colorado River Water Rights and The Law of the River

Water rights and the specific set of federal laws, court decisions, compacts, agreements and treaties pertaining to the Colorado River – collectively referred to as "The Law of the River" – are complex and have been developed over more than 100-years. The following brief overview of PVID's water rights in relation to the proposed Conserved Water Supply Program is important to understand because these rights enable PVID to conserve water and have the Bureau of Reclamation make an equal amount of water available through transfers to other Colorado River Contractors.

Colorado River water is federally controlled and apportioned by the Bureau of Reclamation to California water agencies under the 1931 "Seven Party Agreement",[3] a federal agreement developed as a part of the 1928 Boulder Canyon Project Act. PVID is the Priority 1 water rights holder for water use among California's Colorado River contractors for the 104,500 acres in the Palo Verde Valley. The District also shares Priority 3b rights for water use on approximately 16,000 acres and a Priority 6b right for approximately 16,000 acres on the Palo Verde Mesa west of the valley (see Table 2-1). Water uses are not specified in the law or in the 1933 contract between Reclamation and PVID, except that they must be "for beneficial consumptive use".[4] With specific agreements in place, the water made available for transfer to other Colorado River Contractors under the proposed Program would come from PVID's Priority 1 water right.

[3] Boulder Canyon Project, Agreement Requesting Apportionment of California's Share of the Waters of the Colorado River Among the Applicants in the State; (commonly referred to as "The Seven Party Agreement"), August 18, 1931.

[4] U.S. Bureau of Reclamation*, Water: California Palo Verde Irrigation District Boulder Canyon Project* (Water supply contract between the U.S. Department of the Interior – Bureau of Reclamation and the Palo Verde Irrigation District), February 7, 1933.

In 1963, the U.S. Supreme Court, in its decision in *Arizona v. California*, and its subsequent Decree on March 9, 1964, apportioned use of 4.4 million acre-feet[5] of Colorado River water to California, 2.8 million acre-feet to Arizona and 0.3 million acre-feet to Nevada in a normal year. The Court permitted the Secretary of the Interior to make available the unused apportionments of the respective states (Arizona, California and Nevada) to the other respective states.

Table 2-1. 1931 California Seven Party Agreement and Water Delivery Contracts

Priority	Description		Acre-feet/Year
1	Palo Verde Irrigation District (PVID) gross area of 104,500 acres of valley lands		
2	Yuma Project (Reservation Division) not exceeding a gross area of 25,000 acres		
3(a)	Imperial Irrigation District (IID) and other lands in Imperial and Coachella valleys served by the All American Canal (AAC)		3,850,000
3(b)	PVID on 16,000 acres of Lower Palo Verde Mesa Lands		
4	Metropolitan Water District for use on the coastal plain of southern California		550,000
	Subtotal		4,400,000
5(a)	Metropolitan Water District for use on the coastal plain of southern California		550,000
5(b)	City and/or County of San Diego		112,000
6(a)	IID and other lands in Imperial and Coachella valleys served by the AAC		
6(b)	PVID on 16,000 acres of Lower Palo Verde Mesa Lands		300,000
7	Agricultural Use in the Colorado River Basin in California		

Making water available to other Colorado River Contractors under the proposed Program would not affect existing rights to Colorado River water for either PVID or other Colorado River Contractors. The conserved water would be made available to other Colorado River Contractors within the context of The Law of the River. Federal and state laws encourage water conservation and the voluntary transfer of water from agricultural to urban uses. Federal and state laws also provide protections against loss of water rights by agricultural entities that undertake such programs. Under these laws, water sold by PVID to other Colorado River Contractors pursuant to the proposed Program for a contractually defined term would not result in any forfeiture or loss of PVID's historic water rights.

2.2 Conserved Water Supply Program

2.2.1 Goals and Objectives

PVID has multiple goals and objectives for implementing the proposed conserved water supply program, all of which are related to the Bureau of Reclamation's *Post-2026 Colorado River Operational Guidelines*.

- As a major water user with senior water rights to Colorado River water, PVID intends to actively participate in solutions for long-term river management and the Bureau of

[5] An "acre-foot" is enough water to cover one acre (43,560 square-feet) a foot deep, totaling 325,829 gallons.

Reclamation's post-2026 operating criteria. These criteria are intended to manage Colorado River shortages through voluntary agreements consistent with the Law of the River as it has developed over more than 100 years.

- Protecting the Colorado River as PVID's sole source of water by contributing to the proposed Lower Basin plan for water use reductions through system conservation.
- Maintain and protect long-term use and productivity of as much PVID agricultural land as possible.
- Assist other Colorado Basin users through implementation of voluntary and compensated transfers of water to share the burden of the current Colorado River basin-wide shortage conditions as an effective means of contributing to management solutions that avoid litigation, preserve agricultural productivity, and support the local economy and disadvantaged communities in the Palo Verde Valley.

2.2.2 Proposed Program Elements

This Conserved Water Supply Program would be a long-term program subject to future hydrologic conditions on the Colorado River, and decisions to make amendments and alterations that may be made by future PVID Board of Trustees. The Program would be implemented in a manner responsive to Reclamation's *Post-2026 Operational Guidelines*, including for the next 10-years (2027-2036), with adaptive review and adjustments every two years consistent with the Guidelines. The Program would be adapted to future operational guidelines and is intended to be implemented in a manner consistent with Reclamation's adaptive changes as needed. The Program is expected to result in a maximum temporary reduction of up to 21 percent of PVID's historic water use, for a total of 50 percent of PVID's historic water use in combination with the existing MWD fallowing program, but may be extended to 31 percent (60 percent total) in response to Reclamation finding that "extraordinary circumstances" exist for any two-year operational period requiring extraordinary responses from eligible water users.

On-farm management and infrastructure improvements to be considered as elements of the Program include:

1. **On-Farm conservation measures:**
    - On-farm conservation (seasonal fallowing, deficit irrigation, early crop termination, crop rotation and crop switching). This is expected to be the primary water conservation measure to be implemented with this Program but is not mandated to be so.

- These on-farm conservation measures would be implemented seasonally or for an entire year, including lands participating in the existing fallowing program with Metropolitan Water District of Southern California (MWD) not requested by MWD in any given year, and lands above and beyond the acreage now included in the MWD program.

2. **District infrastructure improvements, potentially including:**
    - Canal Lining to Reduce Evaporation Losses
    - Regulating Reservoir Storage
3. **Potentially other similar elements to be determined in subsequent plan development and implementation.**

The Conserved Water Supply Program may include irrigated farmland throughout the district, and interested growers would participate on a voluntary basis. All farmlands that may voluntarily participate in the water conservation program have been in agricultural use for decades. For farm management conservation measures, growers would contract with Colorado River Contractors subject to PVID approval, and the District would be responsible for determining water savings. Payments for the conserved water would be allocated to 1) the participating grower as compensation for the conservation actions; 2) the existing Community Benefits Program developed for the MWD fallowing program as compensation for lost employment opportunities, and 3) the District to cover administrative costs.

Related features of the Program include a Tracking and Verification Reporting Plan specific to each water conservation element, and an extension of the District's existing Community Benefits Plan, as applicable.

2.2.3 Background

The Palo Verde Irrigation District (PVID) was established in 1923 with passage of the Palo Verde Irrigation District Act by the State legislature. The District occupies about 189 square miles of territory in Riverside and Imperial counties, in southeastern California. The Colorado River, which is the boundary between California and Arizona, forms the eastern and southern boundaries of PVID and is the sole source of water for irrigation and for potable water in the district; (see Figure 2-1: Regional Location Map and Figure 2-2: Palo Verde Irrigation District, Valley and Mesa Areas, and Figures 2-3 and 2-4 showing lands potentially included in this Conserved Water Supply Program).

The valley is relatively level; approximately 9 miles wide, 30 miles long, and ranging in elevation above sea level from about 290 feet at the northern end to about 220 feet at the southern end. The soils are alluvial in nature, laid down in past years by Colorado River floods; and range in

texture from fine grain clays to silty loams to light sandy soils, with the predominant soil being a sandy loam. The entire valley is underlain with permeable sand at shallow depths, which promotes return water flow infiltration that goes back to the Colorado River.

PVID owns and maintains 250 miles of canals of which 56 miles are concrete lined. Water is diverted at the Palo Verde Diversion Dam at the north end of the district and after irrigation in the valley the surface runoff and shallow seepage water is returned to the Colorado River at the south end of the valley. There are approximately 325 miles of privately-owned farm ditches within the district. The district owns and maintains 142 miles of open drainage channels. All the main canals and many of the small laterals are controlled by dispatchers in the main District office through a series of 155 radio-controlled telemetry stations.

A variety of crops are grown in the valley, including alfalfa, Bermuda and other grass, cotton, wheat, watermelons, cantaloupes, honeydews, specialty melons, lettuce, onions and garlic. Predominant crops on the Mesa are citrus and dates. In recent years, the annual value of crops produced within the district has ranged from $60 million to $158 million, excluding livestock. PVID is also a participating agency in the *Lower Colorado River Multi-Species Conservation Program* (LCR MSCP) adopted in September 2005 and managed by the U.S. Fish and Wildlife Service. PVID contributes more than 2,200 acre-feet of water annually to support MSCP habitat.[6]

On average, PVID returns more than half of its diversion back to the Colorado River through a drainage system that includes approximately 140 miles of open channels that convey shallow groundwater and water from operational spill of canals away from the farmed lands. Approximately 94,500 acres within the district's service area have been in regular use for irrigated farming, but not all acres are farmed within a given year. Based on Reclamation data for PVID's recorded Colorado River diversions and returns since 2015, the district has an average consumptive use of 4.9 acre-feet per acre.

The current severity of drought conditions imposes a need for a wide range of conservation and management strategies, of which PVID has been a major contributor for more than 20 years. With a goal to reduce California's use of Colorado River water, PVID is currently participating in a 35-year fallowing program with MWD, initiated in 2004. This program pays farmers to annually set aside a portion of their land, rotate their crops, and transfer saved water to urban Southern California. On average, about 20% of the total irrigated acreage participates in the program each year.[7]

[6] September 1, 2005. U.S. Fish and Wildlife Service, *Lower Colorado River Multi-Species Conservation Program* (adopted by PVID and nine other participating California agencies and one investor-owned utility)

[7] Palo Verde Irrigation District and Metropolitan Water District of Southern California Land Management, *Crop Rotation and Water Supply Program*. 2003.

Figure 2-1. Regional Location Map

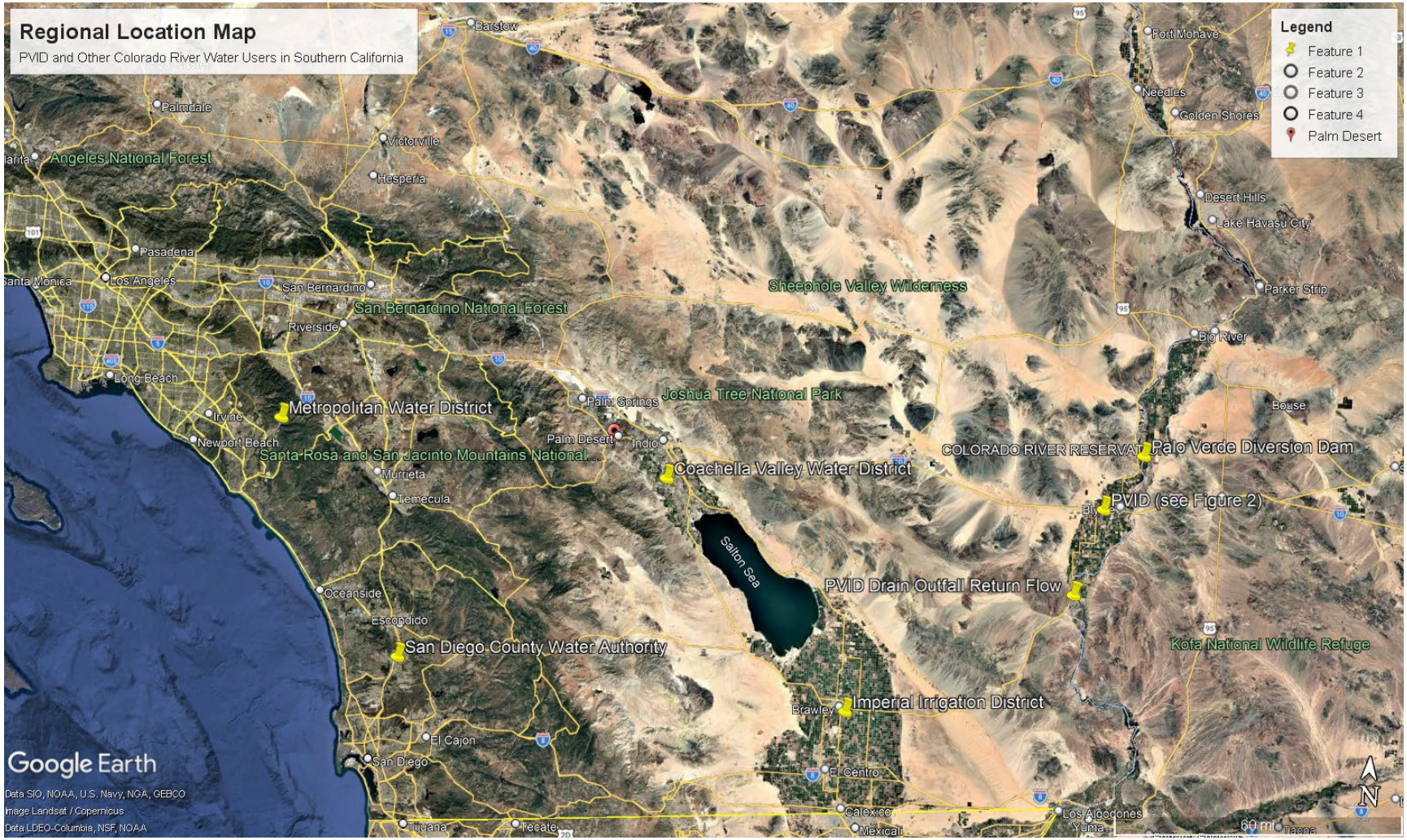


Figure 2-2. Palo Verde Irrigation District, Valley and Mesa Areas



PVID: Palo Verde Valley and Mesa, Southeast California, City of Blythe, Colorado River (State boundary with Arizona). (Source: Google Earth Pro)

Figure 2-3. PVID Program Lands (North)

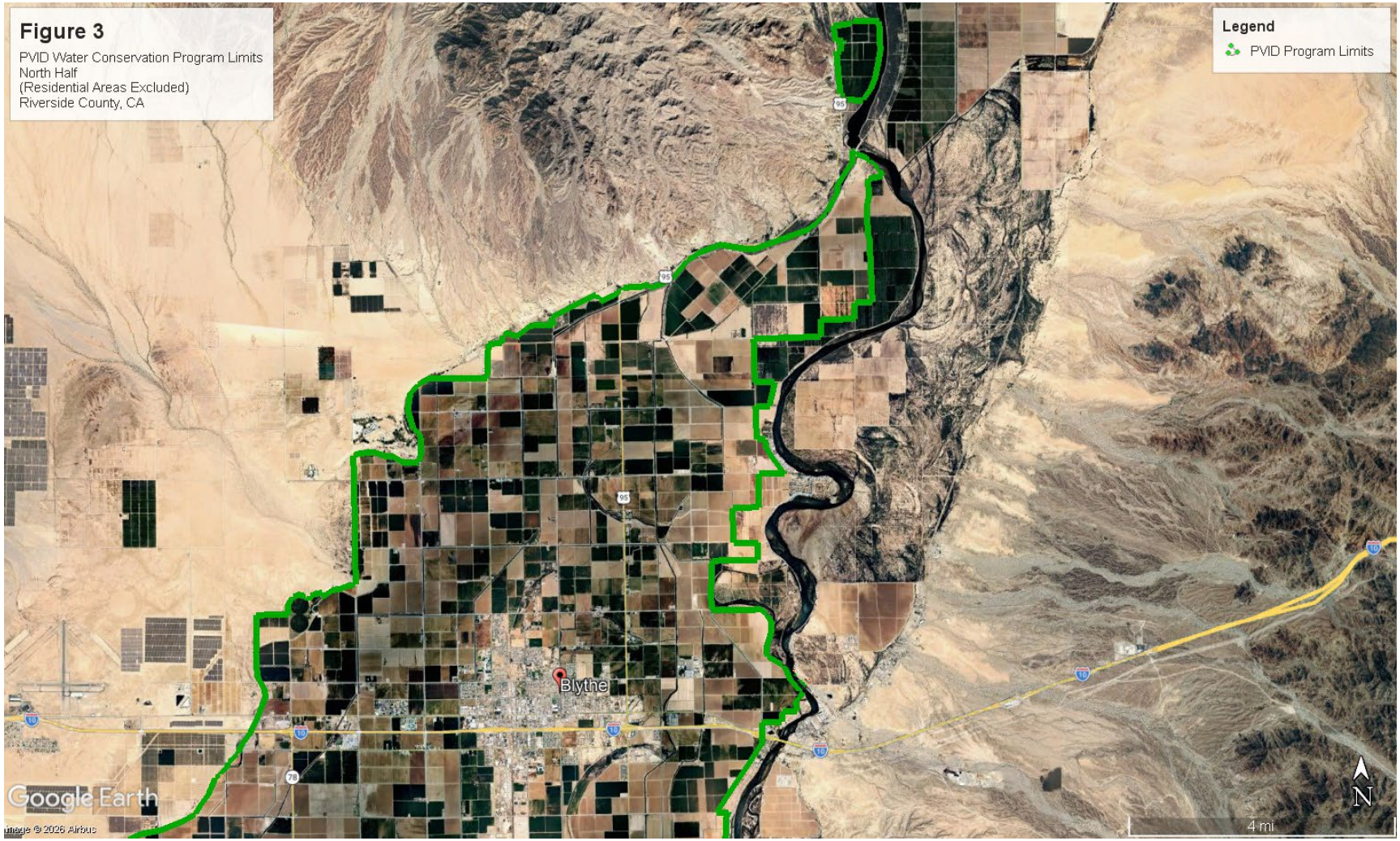
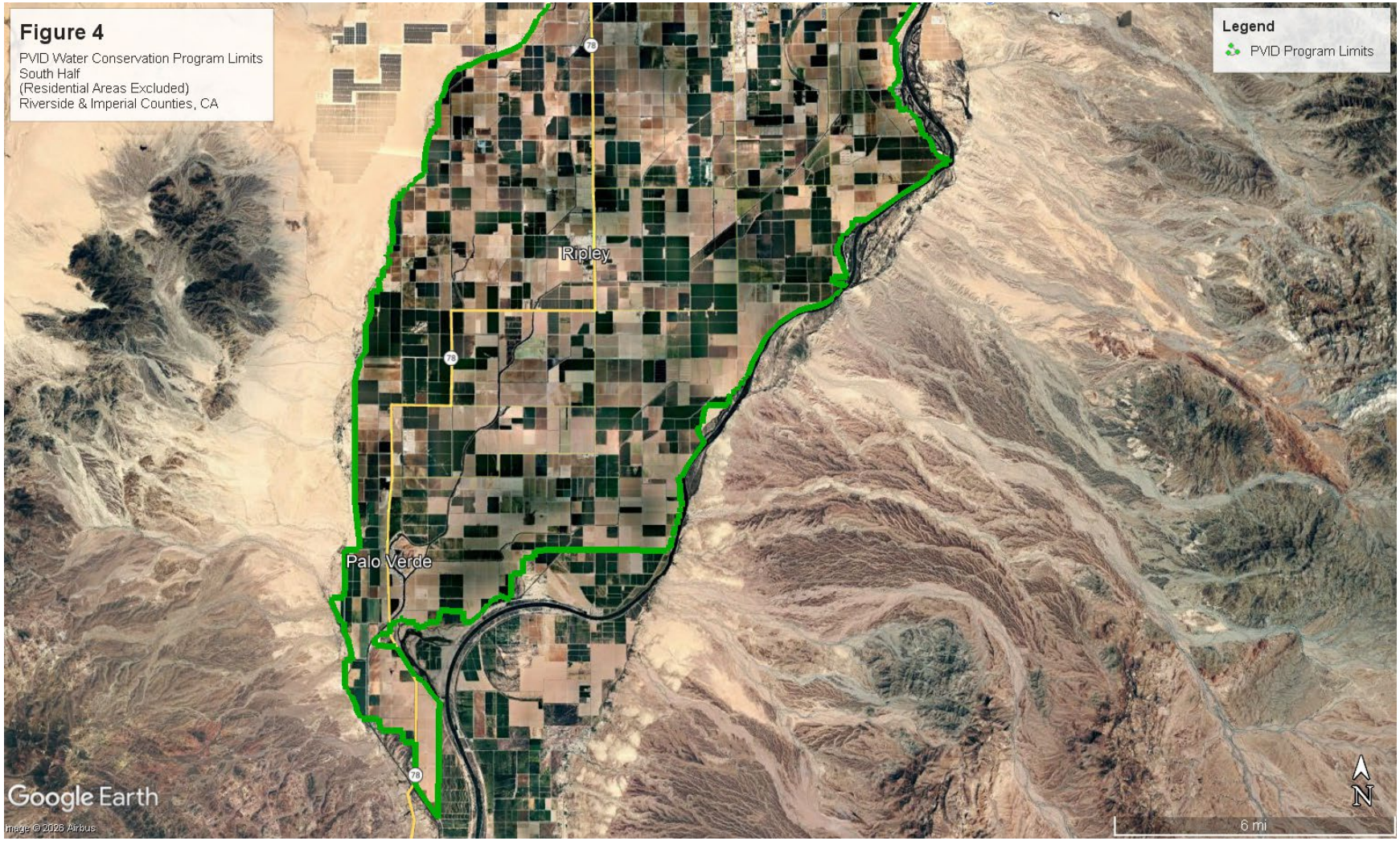


Figure 2-4. PVID Program Lands (South)



2.2.4 Conserved Water Supply Program Elements

Both land management and infrastructure improvements are under consideration as elements of the Program. Each of these elements is described in more detail below.

2.2.4.1 On-Farm Conservation Measures

The Conserved Water Supply Program would enlist PVID's farmers to participate in voluntary conservation actions on an annual basis. All farmers would be allowed to participate in this conservation program. PVID's primary objective is to develop an alternative water conservation program that does not rely solely on long-term fallowing, but results in sustainable water conservation practices with reductions in consumptive use of Colorado River water that can be quantified and verified. The range of conservation actions would include but not be limited to fallowing, seasonally or annually and including lands not requested by MWD in any given year, and fallowing above and beyond the MWD Fallowing Program, deficit irrigation, early seasonal crop retirement, crop rotation and crop switching.

Under the proposed on-farm management elements of the Program, water normally used to irrigate farmland within the Palo Verde Valley would be saved, and an equal amount of water would be made available to other Colorado River Contractors with current Colorado River allocations. Water would be conserved through land management and crop rotation measures. As is currently done under the fallowing program with MWD, the proposed Program would further assist in stabilizing the farm economy within the Palo Verde Valley through payments to participants in the proposed Program and through additional contributions to the District's Community Benefits Program.

Farmlands would be voluntarily committed to the proposed Program land contracts with participating Colorado River Contractors for a specified period of time. Long-term fallowing would be limited to a proposed cycle of three consecutive two-year fallow periods (6 years total), followed by return to agricultural use with production of at least one crop in the seventh year. An amount of water equal to the water saved by the farmers would be made available for transfer to help meet water demands in the participating agency's service area(s). Execution of contracts committing landowners to participate in the proposed Program would be voluntary. For long-term fallowing, Program lands would not be irrigated beginning August 1 of each year through July 31 of the following calendar year (a contract year).

No new construction or modification of existing facilities would be associated with the proposed Program, and PVID's existing facilities are adequate to implement the proposed on-farm conservation element of the Program. All potentially participating Colorado River Contractors would also utilize their existing facilities for water conveyance, and the amount of water diverted under the proposed Program would be within the historic volumes currently diverted and would

not constitute a change in operations or an increase in the amount diverted. In exchange for an agreement/contract for a PVID farmer not to irrigate defined portions of farmlands, the participating Colorado River Contractors would compensate farmers during active implementation of the conservation actions. Each farm participant would be responsible for payment of property taxes, PVID water toll and assessment fees, vegetation abatement, dust control and all other costs related to the Program lands. Participating Colorado River Contractors contracts would also include a contribution to the Community Benefits Program and reimbursement to PVID for administrative costs.

This Draft Program EIR for the proposed conservation program does not evaluate the proposed community improvement projects because specific future projects have not been selected for implementation, which is done by award of grant funding administered by a committee of community representatives. The committee considers and evaluates these future projects. A wide range of potential projects could be selected by the committee, and it would be highly speculative and therefore not feasible to assess the environmental effects of these future projects at this time. When the committee ultimately selects specific community improvement projects for funding and implementation, PVID or another lead agency, as applicable, would be required to evaluate what level of environmental review and other related technical documentation, if any, would be required for those projects.

Land management measures used to control weed growth and wind erosion would be an integral part of the proposed Program. Requirements to implement these land management measures would be included in the participants' respective agreements/contracts. Because these management measures are an integral part of the proposed Program, they are not mitigation measures. These Program-related land management measures would not preempt other measures required by federal, state or local agencies for farmlands within their jurisdiction, but would be implemented in conjunction with any other required measures. Program participants that are obligated to implement Farm Service Agency Conservation Plans in accordance with Williamson Act contracts may be required to implement erosion control measures above and beyond those listed in the standard contract. Contracts must also include restrictions on conversion of lands to non-agricultural use. In addition, should farmlands committed to the proposed Program be sold or transferred through other means, the new owner would be obligated to maintain the original owner's contractual commitment to the proposed Program.

Verification

PVID's water use is determined by the "diversion-less-return" method. Approximately 4.9 acre-feet of Colorado River water is used on average on actively farmed land within the Palo Verde Valley in one year. The actual amount of water saved by the participating farmers would be determined on an annual basis by a verification committee composed of PVID, the participating

Colorado River Contractors and the Bureau of Reclamation. The amount of water saved would be proportional to the amount of land included in the proposed Program during a contract year.

2.2.4.2 District Infrastructure Improvements

Two types of potential infrastructure improvements to conserve water within the PVID system have been identified, including canal lining and installation of regulating reservoirs. These elements of the Program involve modifying existing facilities and constructing new ones. They could be funded through contracts with other Colorado River Contractors or through grant funding for Lower Basin conservation and storing the conserved water in Lake Mead.

Canal Lining to Reduce Evaporation Losses

This Program element includes concrete lining of targeted segments of earthen water conveyance canals that are a part of PVID's water delivery system to reduce consumptive evaporative losses.[8] PVID's system consists of 250 miles of canals, only 56 miles of which are presently concrete lined. A portion of the water diverted into the earthen irrigation channels is lost through evaporation. Concrete lining of portions of these earthen canals would result in reduced water consumption, allowing PVID to reduce diversions from the Colorado River without reducing return flows. Reducing the top width of the lined canals by 25 to 50% would result in annual consumptive use savings ranging from 954 to 1,754 acre-feet. Over a 75-year period, consumptive use savings is estimated to be 71,550 to 131,550 acre-feet.[9]

There are two major methods to concrete line existing earthen irrigation canals: 1) to compact and shape the existing earthen banks, clean the bed of the canal, and install the concrete lining; or 2) reconstruct the canal by removing one or both banks and rebuilding the bank(s). The first method is faster and typically leaves all existing irrigation turnouts in place. The second method requires relocating any turnouts in the bank(s) that are rebuilt. A new concrete canal can have a smaller top width than an earthen canal and convey the same amount of water. For example, the Upper C canal currently has a top width (water surface) of approximately 80 feet. Rebuilding the canal with a concrete lining would reduce the top width to 40 or 60 feet and reduce the amount of evaporation from the water surface by an estimated 25 to 50%. The estimate of the annual evaporation losses for 96 miles of canals is approximately 3,200 acre-feet. Assuming 25 to 50% reduction in canal top width would result in 800 to 1,600 acre-feet per year reduction in consumptive use.

[8] Potential benefits of canal lining to reduce seepage losses are minimal due to the presence of shallow groundwater underlying the entire valley which is captured by the District's drainage system and accounted for as return flow to the Colorado River.

[9] The assessment of canal lining benefits for reduced evaporative losses is based upon a technical memorandum prepared for PVID in 2023: 2023, Al Blair, Ph.D., *Evaluation of Consumptive Use of Water Seeping from Earthen Canals and Canal Evaporative Losses within Palo Verde Irrigation District (PVID)*, prepared for the Palo Verde Irrigation District.

Verification

Verification of reduced consumptive water use would be documented annually during construction by tracking the cumulative length of newly lined canals. Verification of the savings attributable to reduced evaporative losses from the canals would be documented by measuring the corresponding reduction in PVID's water diversions measured at the Palo Verde Diversion Dam, adjusted to account for other water use demand changes related to crop selection, irrigation management and weather changes.

Regulating Reservoir Storage

Limitations associated with river regulation on the Lower Colorado River result from the approximate three-day travel time required for water released from Lake Mead to arrive at Palo Verde Diversion Dam. There is insufficient system storage capacity to enable better management of the demands for water and flows arriving at Palo Verde Diversion Dam once scheduled water orders are released. Factors such as storm events result in short-term changes in water user demand and variations in return flows, channel storage, and tributary flows, and can significantly affect scheduled water deliveries and river regulation. The limited regulating capacity available downstream of Parker Dam is principally in Senator Wash Reservoir, the reservoirs behind Imperial Dam and Laguna Dam, and the more recently completed Drop 2 Brock Reservoir on the All American Canal. Additional regulating capacity would increase beneficial use of water released from Lake Mead for Lower Colorado River users in the U.S. to minimize unscheduled deliveries to Mexico.

Regulating reservoirs are expected to have a total footprint of approximately 75 to 125 acres and would be located entirely on District-owned lands that have been previously disturbed, or lands that have been in long-term agricultural use. No part of any potential reservoir would encroach on native riparian habitat or on any of the lands managed for habitat mitigation as part of the LCR MSCP.[10] An upper storage reservoir would be located in the northern portion of the District and would be configured as an inline all-gravity system reservoir with water levels regulated via a new check structure located at the downstream end of the reservoir. A second turnout structure could be constructed at the downstream end to return water to the river. Potential mid and lower storage reservoirs would include an inlet from the PVID canal system and would require a low-lift pumping station to return water back to the canal system. To maintain capacity, silt build-up would be removed periodically from the bottom of the reservoirs. The flow capacities for the inlet and outlet would be sized to optimize the available storage.

In coordination with Reclamation, non-storable flows from the Colorado River would be diverted by PVID at the Palo Verde Diversion Dam to the PVID canal and reservoir system. As water

[10] The Palo Verde Valley hosts approximately 80% of all MSCP land in California.

schedules allow, the stored flows would be released from the reservoir and conveyed into the outlet canal back to the river or via the canal system. By cycling water through the reservoirs during events that now produce non-storable flows, an estimated annual maximum of approximately 13,200 to 17,600 acre-feet of otherwise non-storable flows could be captured for beneficial use (assuming 2,200 acre-feet total storage capacity and 6 to 8 storm events resulting in non-storable flows in the Lower Colorado River).

Verification

Verification of the volume of non-storable flows captured can be accomplished using metering to measure the inflows and outflows from the reservoirs. Additional verification can be made with documentation of PVID's water diversions measured at the Palo Verde Diversion Dam, with equivalent measurement of return flows measured at the southern end of the District's system.

Potentially other similar elements to be determined in subsequent plan development and implementation.

As conservation actions are being identified and implemented by Colorado River Contractors throughout the Colorado River basin, additional measures applicable for implementation within PVID may be identified. The intent of this Program EIR is to identify a range of potential impacts and effective measures that can be implemented to avoid, minimize and/or offset those impacts. Elements that may be identified and added to this Conserved Water Supply Program in the future would be subject to additional environmental review and may be found to be consistent with the assessments contained herein, or subject to an addendum, supplemental assessment, or new independent environmental assessment to satisfy State and federal requirements.

2.2.4.3 Tracking, Estimation of Consumptive Use and Verification Reporting Plan

Implementation of each element includes documentation to verify actual actions taken and calculated water savings. As applicable, these elements of the proposed conservation program would be subject to those same standards. PVID has more than 20 years of experience providing reliable estimates of its consumptive use. As part of the administrative management of the PVID/MWD Fallowing Program, PVID staff monitor and inspect fields routinely, and do not permit water deliveries to land that is under contract for fallowing. MWD conducts randomly selected, on-site field inspections at least twice a year to verify that participating lands are meeting the fallowing requirements, and future contractors would be expected to perform similar inspections. The Bureau of Reclamation also conducts on-site, randomly selected field inspections twice a year, which are independent of MWD's (or other future contractor's) field inspections. These collective monitoring activities ensure there is consumptive use reduction in the PVID service area through on-farm conservation and fallowing.

PVID conducts year-round maintenance and repairs of its canals and drainage facilities. Canal maintenance activities include:

- Removing sediment and aquatic weeds that restrict water flow
- Building up banks that have become too low for safe operation
- Adding gravel and grading maintenance roads
- Installing rock armor ("riprap") to canal banks to minimize erosion
- Compacting soils along the canal banks to avert potential breaks
- Repairing breaks in canal banks
- Controlling weed growth on banks

Shallow groundwater underlies virtually the entire Palo Verde Valley, with observed aquifer levels ranging from four to more than 20 feet below the surface. The groundwater under the Palo Verde Valley is hydraulically connected to the Colorado River and results from more than 100 years of percolation of irrigation water. The northern portion of the valley's groundwater has been improved by the drains removing the higher saline groundwater, which is flushed out by deep percolation of less saline irrigation water. The southwestern portion of the valley currently has groundwater with higher levels of salinity that increases with groundwater depth.

As needed, PVID alters the bottom elevation of its drains to ensure that they remain effective at carrying return flows to the Colorado River. PVID has worked to lower groundwater levels within the valley to prevent shallow groundwater from waterlogging soils affecting crops. Shallow groundwater also affects land development in the City of Blythe and surrounding communities due to load bearing constraints for building foundations and required depths for stormwater facilities, pipelines and septic tanks. PVID must also maintain drain system depths, so the drains continue to convey shallow groundwater return flows to the Colorado River.

In addition to its ongoing program of maintenance and repairs, the District also measures water deliveries from its canals and return flows in drains to track overall water use. PVID uses the diversion-less-return method of calculating total water use, with diversion of Colorado River water at the Palo Verde Dam at the northern end of the District and return flow measured at the drain system terminus at the southern end. For the proposed Conserved Water Supply Program, and consistent with the method used for the existing program with MWD, the actual amount of water "conserved" by implementation of various methods within the Palo Verde Valley would be determined on an annual basis by a verification committee composed of PVID, participating Colorado River Contractors, and the Bureau of Reclamation.

2.2.4.4 Community Benefits Program

Based on PVID's experience with its water transfer program, to mitigate costs to participants and the surrounding communities, and as noted above, funds received from water transfers would

be allocated to three separate groups: farmer participants, PVID, and the local community. The largest percentage of compensatory funding would go to the farmer participant to cover anticipated losses from farming with less water and program implementation and management. PVID would use a small percentage of compensatory funding to cover its costs to administer the Conserved Water Supply Program. These funds would be used to hire 2-3 additional staff members and provide funding for technical system improvements to increase efficiencies and data validity for the entirety of the proposed Program. The final allocation of funds would be used to support the surrounding disadvantaged minority community. This funding is administered by a 501(c)(3) entity comprised of community members, to be used exclusively to assist in directly mitigating some of the losses it would experience due to the reduction in Colorado River water beneficially used in PVID's service areas. Such future programs include job training opportunities, turf removal in favor of desert landscaping and City of Blythe infrastructure investments for the public good, among others.

2.3 Intended Uses of This EIR

PVID is the CEQA Lead Agency for this proposed Program, and the PVID Board of Trustees will consider the Final EIR and certify whether it has been prepared in accordance with CEQA and the State CEQA Guidelines when determining whether to approve the proposed Program. In addition to lead agency certification of the Final EIR by PVID, other responsible agencies may utilize the Final EIR as needed.

The analyses are conducted at the program level, consistent with CEQA Guidelines §15168. A program EIR examines the effects of a series of related actions that can be characterized as one large project, allowing PVID to evaluate environmental effects comprehensively at a level appropriate to the decision-making stage. As explained in the Introduction (Chapter 1) of this report, subsequent project-level activities carried out under the Program, and particularly development of infrastructure improvements, would likely require tiered environmental review pursuant to CEQA Guidelines §15152. This Program EIR establishes the baseline, analytical framework, and standard mitigation measures applicable to such tiered review. Concurrences, approvals and permits for construction of infrastructure elements of the proposed Program may also be required from other governmental agencies, including the Bureau of Reclamation, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, California Department of Fish and Wildlife, Regional Water Quality Control Board, Mojave Desert Air Quality Management District and Imperial County Air Pollution Control District, and possibly others.

3.0 ENVIRONMENTAL IMPACT ASSESSMENT

The format of this environmental assessment is based on the State's 2026 CEQA Guidelines and defined thresholds of significance for potential adverse effects. The Conserved Water Supply Program ("Program") is evaluated for its potential effects on 20 resource topics in Appendix G of the Guidelines: 14 are dismissed in Section 3.1, and the remaining topics are analyzed in detail in Sections 3.2 through 3.6. Each topic is reviewed against the applicable Appendix G questions, and the evaluation supporting each determination is presented. In Sections 3.2 through 3.6, each impact is assigned one of the following four conclusions.

No Impact: No impacts are identified or anticipated, and no mitigation measures are required.

Less than Significant Impact: No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

Less than Significant Impact with Mitigation Incorporated: Possible significant adverse impacts have been identified or anticipated, and mitigation measures are required as a condition of project approval to reduce these impacts to a level that is less than significant.

Potentially Significant Impact: Significant adverse impacts have been identified or anticipated according to the threshold criteria identified for the resource, even after mitigation strategies are applied and/or an adverse effect that could be significant and for which no mitigation has been identified.

This Program EIR distinguishes three types of measures. Mitigation measures (MM) are adopted under CEQA and included in the MMRP. Regulatory Compliance Measures (RCM) restate requirements PVID must meet under existing law and permits. BMPs are standard practices incorporated into the Program description and participant contracts.

3.1 Resource Topics Considered and Dismissed from Further Analysis

Based on the CEQA Guidelines Appendix G thresholds of significance, PVID determined that the Program would have no impact or a less-than-significant impact on the 14 resource topics listed in Table 3-1. Consistent with CEQA Guidelines Section 15128, Table 3-1 summarizes the existing conditions and the reasons for each determination; these topics are not analyzed further in this Program EIR.

Where a dismissed topic overlaps with a resource analyzed in detail, Table 3-1 cross-references that analysis rather than repeating it. The Geology and Soils entry, for example, relies on Section 3.2 for soil erodibility and wind erosion controls and on Section 3.6 for groundwater conditions and construction erosion control requirements.

Table 3-1. Evaluation of Resource Topics Dismissed from Further Analysis

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
AESTHETICS (Scenic Vista and Visual Character, Scenic Resources within a State Scenic Highway, Light or Glare)	Vistas of the Palo Verde Valley are provided from elevated Palo Verde Mesa to the west and encompass the City of Blythe, expansive agricultural fields, the Colorado River corridor, and the surrounding Big Maria, Mule, and Dome Rock mountains. The visual appearance of fields across the valley floor varies depending on the type of crops growing and the individual field crop rotation patterns.[1] None of the highways traversing the Palo Verde Valley (i.e., Interstate 10 [I-10], U.S. Highway 95 [U.S. 95], and State Route 78 [SR-78]) are officially designated as State Scenic Highways within sight of the valley. However, Riverside County has designated the portion of I-10 and U.S. 95 that traverses the program area as County-eligible scenic highways. Existing sources of nighttime light and daytime glare that affect the visual character of the valley include residential and commercial lighting in and around the City of Blythe, agricultural operations, transportation corridors, and utility-scale energy projects on the mesa.[2]	The proposed Program is dismissed from further analysis regarding Aesthetics due to the following factors: • Scenic Vistas: The overall appearance of the valley would remain that of an active agricultural area. Non-irrigated fields enrolled in the voluntary program would be spread incrementally across the valley floor and would not alter the landscape mosaic. The land would not be converted to urban, industrial or other non-agricultural uses that would permanently obstruct scenic vistas from elevated topography or the valley floor. Minor structural improvements such as the regulating reservoirs and canal lining are low-profile, ground-level utility features that would not block any existing viewsheds. • Scenic Highways: Because the visual landscape would preserve its historic, active agricultural character, the existing viewsheds along the County-eligible scenic highway corridors of I-10 and U.S. 95 would not be altered or degraded. Fallowed fields will be managed using standard agricultural practices (such as weed control) to maintain a clean, rural aesthetic. • Sources of Light or Glare: Unlike large-scale solar projects located on the adjacent Palo Verde Mesa that introduce extensive reflective panels, tracking arrays, or intensive nighttime security lighting, the proposed

[1] County of Riverside. *Palo Verde Valley Area Plan.* September 2021.
[2] County of Riverside. *Grace Solar Energy Center Environmental Impact Report.* SCH No. 2025010194. February 2026.

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
		Program would not entail any new permanent sources of daytime glare or artificial nighttime illumination.
ENERGY (Consumption of Energy Resources; State or Local Renewable Energy or Energy Efficiency Plan)	PVID's water delivery system is unique in that it operates as an almost entirely gravity-fed system. Water is diverted from the Colorado River at the Palo Verde Diversion Dam and flows through a network of 250 miles of canals and 142 miles of drains without the reliance on large-scale, energy-intensive pumping stations. Consequently, PVID's conveyance system has a remarkably low energy intensity compared to other water districts in the state.[3] On-farm energy use within the service area currently consists of petroleum-based fuels (diesel and gasoline) for tractors, tilling, and harvest equipment, alongside electricity for small-scale booster pumps, well pumping and workshop maintenance. At the regulatory level, the State of California has established clear energy efficiency goals for the water sector (often referred to as the "water-energy nexus"), emphasizing that reducing water consumption inherently saves the energy required to convey, distribute, and treat it.[4] The regional energy landscape is also characterized by significant utility-scale renewable energy production. The local grid is supported by	The proposed Program is dismissed from further analysis regarding Energy due to the following factors: • Construction: Infrastructure improvements, such as regulating reservoir construction, would require a temporary, short-term increase in petroleum fuel consumption for heavy machinery. This usage would be limited in duration and scale. PVID would implement standard construction Best Management Practices (BMPs) to guarantee that construction-related energy is not used in a wasteful, inefficient, or unnecessary manner. • Operations: The proposed Program would potentially conserve more than 100,000 acre-feet of water. By reducing the total volume of water diverted, delivered, and managed, the electricity required for localized water management would decrease. • System Infrastructure Improvements: Proposed structural improvements would permanently increase the overall efficiency of PVID's water delivery network. By lining canals to reduce evaporation losses and introducing regulating reservoirs, the system would allow for more precise downstream water management.

[3] Palo Verde Irrigation District. Accessed June 9, 2026. https://www.pvid.org/history.php

[4] County of Riverside. *Grace Solar Energy Center Environmental Impact Report.* SCH No. 2025010194. February 2026.

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
	existing generation facilities on the Palo Verde Mesa, including the combined-cycle natural-gas powered and the Blythe Energy Plant, Blythe, McCoy, Arlington, and Blythe Mesa solar energy projects. Additionally, the upcoming Grace Solar Energy Center is anticipated to add 500 MW of solar capacity and 500 MW of battery storage to the local grid infrastructure upon its completion.[5]	• Consistency with State and Regional Energy Plans: The Program directly supports State of California energy conservation policies by promoting water-use efficiency. Furthermore, because water saved within the gravity-fed PVID network can offset demands in highly energy-intensive water service areas downstream, the Program generates a net regional energy benefit. • Compatibility with Renewable Energy Infrastructure: The Program relies on voluntary, non-structural land management measures and localized utility improvements. No element of the proposed water conservation program would conflict with, disrupt, or shade any existing or proposed solar energy developments within the project area.
GEOLOGY AND SOILS (Fault Rupture, Seismic Ground Shaking, Liquefaction, Landslides; Soil Erosion or Loss of Topsoil; Unstable or Expansive Soils; Septic Systems; Paleontological Resources or Unique Geologic Features)	The Palo Verde Valley is a level, north–south trending floodplain of the Colorado River in the Colorado Desert physiographic province. It is about 30 miles long and nine miles wide, ranging from about 290 feet above sea level at the north end to about 220 feet at the south end (see Chapter 2). The valley sits within a structural trough related to the San Andreas Fault System, filled with older Pliocene–Pleistocene alluvium. Holocene river alluvium of interbedded silt, sand	The proposed Program is dismissed from further analysis regarding Geology and Soils due to the following factors: Fault Rupture and Seismic Ground Shaking: The Program would not build habitable structures or facilities that would expose people to fault rupture or strong ground shaking. On-farm conservation measures involve no construction. Canal lining would occur within existing canal alignments. Any regulating reservoir would be sited on previously disturbed or long-term agricultural land on the valley floor. Liquefaction and Seismic-Related Ground Failure: The valley floor is mapped as very high liquefaction

[5] County of Riverside. *Grace Solar Energy Center Environmental Impact Report.* SCH No. 2025010194. February 2026.

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
	and gravel lies at the surface and may extend about 140 feet deep.[6] Valley soils, their erodibility, and the distribution of Highly Erodible Land (HEL) are described in Section 3.2, Agricultural Resources. Valley floor soils have low to moderate expansion potential.[7] Shallow groundwater typically lies 3 to 10 feet below the surface in irrigated areas and is controlled by PVID's drain system (see Section 3.6). There are relatively few seismic hazards in the planning area. The most significant fault is a Quaternary fault in the Big Maria Mountains at the valley's northeast edge.[8] No known active faults cross the valley floor, and peak horizontal ground acceleration is estimated at 0.1 to 0.2g.[7] The entire valley floor has very high liquefaction susceptibility because of its soils and shallow groundwater. Landslide and rockfall susceptibility is mapped only in the surrounding mountains and along the Mesa escarpment, not on the valley floor.[8] Holocene river alluvium on the valley floor has low or undetermined paleontological sensitivity. Higher sensitivity is associated with Pleistocene older alluvium.[7]	susceptibility, which makes liquefaction the main geotechnical issue for any regulating reservoir. Reservoir design would address liquefaction and other site conditions through site-specific geotechnical investigation and compliance with the California Building Code during subsequent project-level review. Landslides: No landslide or rockfall susceptibility is mapped on the valley floor, where all Program elements would be located. Soil Erosion and Loss of Topsoil: Fallowed fields, many with HEL soils, could be exposed to wind erosion. Participants will implement wind erosion controls under BMP AG-1 (Section 3.2). Fallowed land must also return to production after the fallowing cycle. Construction of canal lining and reservoirs would comply with a Stormwater Pollution Prevention Plan and an Erosion and Sediment Control Plan (RCM HYD-1 and RCM HYD-4, Section 3.6). Unstable and Expansive Soils: Valley floor soils have low to moderate expansion potential. Canal lining and reservoirs would be engineered for site soil and groundwater conditions. Drawdown of the shallow water table beneath fallowed parcels has typically been 1 to 3 feet, recovering within one or two irrigation seasons after irrigation resumes (Section 3.6). That drawdown would not cause subsidence or ground instability.

[6] Palo Verde Irrigation District. *PVID Land Management, Crop Rotation, and Water Supply Program Final EIR*. SCH No. 2001101149. October 2003.
[7] California Public Utilities Commission and Bureau of Land Management, *Devers–Palo Verde No. 2 Transmission Line Project Draft EIR/EIS*. 2006.
[8] County of Riverside. *Palo Verde Valley Area Plan.* September 2021.

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
		Septic Systems: The Program would not include septic tanks or alternative wastewater disposal systems. Paleontological Resources and Unique Geologic Features: On-farm measures would occur within existing plowed fields and would not increase tillage depth. Canal lining would occur within previously excavated canal prisms. Regulating reservoirs would be on the valley floor, where Holocene river alluvium has low or undetermined paleontological sensitivity. Site-specific review of reservoir projects would confirm excavation depths and underlying geologic units and determine whether paleontological monitoring is warranted. There are no unique geologic features in the Program area.
GREENHOUSE GAS EMISSIONS (Directly or Indirectly Generate Greenhouse Gases; Greenhouse Gas Reduction Plan, Policy or Regulation)	Greenhouse gas (GHG) emissions within the PVID service area are primarily generated by active agricultural production. These include carbon dioxide (CO_2) from the combustion of petroleum fuels in farm equipment, methane (CH_4) from livestock, and nitrous oxide (N_2O) resulting from nitrogen fertilizer application and soil management. According to the California Air Resources Board (CARB), agriculture is responsible for approximately 8% of statewide GHG emissions, with roughly 30% of those emissions directly attributable to crop cultivation and harvesting.[9] GHG emissions are primarily regulated by CARB, with emissions in the PVID service area governed	The proposed Program is dismissed from further analysis regarding Greenhouse Gas Emissions due to the following factors: • Operational Reductions: Implementation of the Program would involve voluntary land management measures such as fallowing, deficit irrigation, and crop switching. Because fallowed land requires no tractor passes for tilling, planting, or harvesting, and zero application of nitrogen-based fertilizers (a major source of N_2O), the Program would result in a direct reduction of localized GHG emissions compared to the baseline of active farming. • Construction: Infrastructure improvements, such as regulating reservoirs and canal lining, would result in

[9] California Air Resources Board. *California Greenhouse Gas Emissions from 2000 to 2021*. December 2023.

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
	regionally by the Mojave Desert Air Quality Management District (MDAQMD) and the Imperial County Air Pollution Control District (ICAPCD). CARB is responsible for preparing the annual statewide GHG emission inventory. California climate policy (AB 32 and SB 32) recognizes that saving water is one of the most effective ways to save energy and reduce GHG emissions. In the Palo Verde Valley, the most significant on-farm GHG sources are related to the cultivation of field crops like wheat and cotton. The energy intensity of the local water delivery system is nearly zero, as the 250-mile canal network is almost entirely gravity-fed, requiring negligible electricity for primary conveyance. However, water saved within PVID is typically transferred to "Colorado River Contractors" in other regions where water conveyance is highly energy-intensive (e.g., pumping water through the Colorado River Aqueduct or the State Water Project).[10]	short-term GHG emissions from construction equipment. These emissions would be temporary, localized, and small-scale. PVID would implement standard dust and emission control Best Management Practices (BMPs), ensuring that these one-time construction emissions do not exceed the significance thresholds established by MDAQMD or ICAPCD. • Consistency with State Climate Planning: The proposed Program is fundamentally a resource conservation project. By improving water delivery efficiency and reducing regional water-related energy demand, it is inherently consistent with the CARB Climate Change Scoping Plan and state goals for achieving carbon neutrality.[11]
HAZARDS & HAZARDOUS MATERIALS (Reasonably Foreseeable Upset and Accident Conditions; Hazardous Materials Within	The Palo Verde Valley is primarily an agricultural region where the use of regulated pesticides, including herbicides, is a standard component of existing farming operations. Current PVID operations include routine maintenance of 250 miles of canals and 142 miles of drains, involving	The proposed Program is dismissed from further analysis regarding Hazards & Hazardous Materials due to the following factors: • Routine Transport, Use, or Disposal: Under the proposed Program, the application of agricultural

[10] The Pacific Institute. *The Future of California's Water-Energy Climate Nexus*. September 2021.
[11] California Air Resources Board (CARB). 2022. *2022 Scoping Plan for Achieving Carbon Neutrality.* November 2022.

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
One-Quarter Mile of Schools; Listed Hazardous Material Sites; Airport Land Use Plan or Within Two Miles of Public Airport; Emergency Response Plan or Emergency Evacuation Plan; Wildland Fires)	the use of pesticides, as well as fuels and lubricants for mechanical equipment and shredders.[12] Application of pesticides is regulated by the California Department of Pesticide Regulation (DPR) and enforced locally by the Riverside and Imperial County Agricultural Commissioners. The valley is intersected by I-10, which is a major transportation corridor where hazardous materials are routinely transported. Additionally, the Blythe Municipal Airport lies adjacent to land supplied with water by PVID on the Palo Verde Mesa, approximately seven miles west of downtown Blythe. There are six K-12 schools within the Program area, plus Palo Verde Community College, and several of these schools are located within one-quarter mile of active farming operations. For these sites, DPR mandates strict notification protocols and equipment/drift restrictions for application of pesticides near school facilities.[13] A search of the California Department of Toxic Substances Control (DTSC) EnviroStor and the State Water Resources Control Board (SWRCB) GeoTracker databases was conducted.[14] There are no large-scale hazardous waste or contaminated	chemicals would continue for weed control and other uses but is not anticipated to increase the potential for chemical runoff or accidental release. Weed control and maintenance procedures would comply with local, state, and federal regulations related to the use of pesticides. Construction and maintenance activities would not involve the use of hazardous materials beyond standard fuels and lubricants and would be managed through BMPs. • Safety Compliance Near Schools: While schools are located within one-quarter mile of the broader Program area, any ongoing or adjusted pesticide applications would continue to strictly adhere to DPR's protocols and application restrictions, ensuring no new or elevated hazard to school sites. • Existing Contaminated Sites: The proposed Program would not create a hazard to the public or the environment through the development or physical disturbance of a known hazardous materials site. Minor infrastructure changes would avoid any localized active cleanup sites identified in the EnviroStor or GeoTracker databases (last accessed May 29, 2026). • Compatibility with Airport Safety Zones: The Program area does not overlap with restricted safety zones or runway protection zones at the Blythe Municipal Airport, nor would the Program impact aviation

[12] Palo Verde Irrigation District. *Palo Verde Water Quality Monitoring Plan*. September 2005.
[13] Palo Verde Irrigation District. *PVID Land Management, Crop Rotation, and Water Supply Program Final EIR*. SCH No. 2001101149. October 2003.
[14] DTSC EnviroStor and SWRCB GeoTracker on ArcGIS. Accessed June 9, 2026. https://www.arcgis.com/apps/mapviewer/index.html

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	materials sites listed on the State's "Cortese List"[15] within the active Program footprint. Several small sites are scattered throughout the PVID service area; some of these have been remediated to a status of "No Further Action", while a few remaining sites are awaiting further action.	operations or create new hazards that would interfere with flight safety. • Emergency Response: Program elements would occur within existing agricultural parcels or PVID rights-of-way and would not physically interfere with adopted emergency response or evacuation plans for the City of Blythe, and Riverside and Imperial Counties. • Wildland Fire Hazards: Implementation of the proposed Program would not expose people or structures to an additional risk of wildland fires. Vegetation on fallowed land would either be removed or reduced to stubble in accordance with standard agricultural management practices, thereby minimizing the presence of dry fuel loads and reducing the risk of wildfire spreading.
LAND USE & PLANNING (Division of an Established Community; Conflict with any Land Use Plan, Policy, or Regulation)	The Program area is primarily located within the Palo Verde Valley and portions of the Palo Verde Mesa, spanning unincorporated areas of both Riverside and Imperial Counties. Most of the District is designated as Agriculture (A) in the Riverside and Imperial County General Plans. These designations are intended to preserve the highly productive agricultural character and rich economic base of the Palo Verde Valley while protecting it from urban encroachment. Local zoning is a mix of Light or Heavy Agriculture (A-1, A-2) and Rural Residential (RR), which allow for	The proposed Program is dismissed from further analysis regarding Land Use & Planning due to the following factors: • Division of an Established Community: The proposed Program would be conducted within existing PVID facilities or active agricultural parcels. It does not include the construction of any structure (i.e., roadways) that would physically bisect the City of Blythe or any rural residential neighborhoods. There would be no physical interface or land use conflict with neighboring industrial energy projects.

[15] California Government Code § 65962.5.

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	the cultivation of crops, water management infrastructure, and associated farm structures.[16]
	
	The City of Blythe serves as the primary urban center, surrounded by the geometric grid of the PVID irrigated valley. The PVID's canals and drains are established within long-standing easements and fee-owned rights-of-way.
	
	The Lower Colorado River Multi-Species Conservation Program (LCR MSCP) is a 50-year comprehensive effort (2005–2055) coordinated by the U.S. Bureau of Reclamation to conserve habitat and work toward the recovery of threatened and endangered species along the Lower Colorado River, while accommodating current and future water and power deliveries. In the northern end of the PVID service area, the Palo Verde Ecological Reserve (PVER) encompasses more than 1,350 acres. The eastern boundary of the property is adjacent to the Colorado River, and the western boundary is adjacent to active agricultural fields. This riparian habitat will be managed and maintained for the 50-year life of the LCR MSCP. At the southern edge of PVID, an additional 1,971 acres were recently acquired to become an expanded portion of the PVER.[17]
		• General Plan Agricultural Policies: The Program supports the long-term viability of the regional agricultural economy by conserving water and helping maintain a reliable water supply. This directly aligns with the stated County goals to protect agricultural resources and prevent the premature conversion of farmland to non-agricultural uses. Participation in the Program would not change the legal land use designation or zoning of the contributing parcels.
		• Consistency with the LCR MSCP: The proposed Program does not conflict with, and directly supports the long-term objectives of the LCR MSCP for the following reasons:
		  • *No Habitat Conversion*: The Program would not convert agricultural land to urban or industrial use, which would be detrimental to long-term regional habitat planning. The physical landscape would remain as open space, preserving habitats and buffer zones.
		  • *Vegetation Management*: PVID's management of non-native vegetation would directly align with LCR MSCP goals to replace invasive, high-water-use species with native riparian vegetation. Vegetation control would improve habitat quality for covered species without conflicting with existing PVID land use rights.

[16] County of Riverside. *Palo Verde Valley Area Plan, Land Use*. September 2021. County of Imperial. *General Plan, Land Use*. October 2015.

[17] Lower Colorado River Multi-Species Conservation Program. Final Implementation Report, Fiscal Year 2026 Work Plan and Budget, Fiscal Year 2024 Accomplishment Report. September 2025.

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
		• *Hydraulic Consistency*: The LCR MSCP relies on the predictable delivery and movement of water through the Colorado River system. The Program would not alter the fundamental hydraulics of the river or the operational baseline upon which the LCR MSCP's biological opinions are founded.
MINERAL RESOURCES (Known and Locally Important Mineral Resources)	The California Geological Survey (CGS) classifies lands into Mineral Resource Zones (MRZ) based on the known presence or absence of significant mineral deposits. The majority of the PVID service area is located within MRZ-4, which denotes areas where available geologic information is inadequate for assignment to any other MRZ zone. The Palo Verde Valley does not host active metal mines or large-scale commercial mineral extraction operations.[18] While several aggregate operations (sand and gravel mines) are located on the elevated terrain of the Palo Verde Mesa, there are no areas within the active PVID service boundaries designated by the State Mining and Geology Board as being of regional or statewide mineral resource significance. Furthermore, neither the Riverside County's Palo Verde Valley Area Plan[19] nor the Imperial County General Plan[20] delineate the	The proposed Program is dismissed from further analysis regarding Mineral Resources due to the following factors: • Locally Important Resources: None of the parcels within the active Program footprint have been identified as containing significant mineral resources (such as an MRZ-2 classification). Because the Program relies on voluntary on-farm conservation measures (fallowing and crop rotation) and minor utility improvements (canal lining and regulating reservoirs), it would not result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the state. No Program activities would permanently cover or preclude future mineral exploration or extraction. • Extraction Operations: Implementation of the Program would not impact ongoing aggregate extraction activities in the region, typically on Palo Verde Mesa. The valley floor's naturally high groundwater table generally makes large-scale open-

[18] California Department of Conservation. Accessed June 9, 2026. https://maps.conservation.ca.gov/mol/index.html
[19] County of Riverside. Palo Verde Valley Area Plan, Land Use Plan. September 2021.
[20] County of Imperial. *General Plan, Land Use Element*. October 2015.

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
	irrigated agricultural valley floor as a locally important mineral resource recovery site.	pit mining economically unfeasible compared to upland sites. Additionally, the Program would not involve any changes to land use designations or zoning that would conflict with local mining ordinances or the state Surface Mining and Reclamation Act (SMARA).
NOISE (Increase in Ambient Noise Levels; Ground-Borne Vibration; and Compatibility with Airport Operations)	The ambient noise environment within the PVID service area is predominantly rural and agricultural in character. Noise ordinances are established by Riverside County[21], Imperial County[22], and the City of Blythe[23] to protect residents from excessive exposure. Primary noise sources within the valley are generated by heavy machinery during seasonal tilling, planting, and harvesting operations, as well as the operation of PVID's maintenance equipment (such as excavators and mowers) used for canal and drain clearing. Areas of higher ambient noise occur along major transportation corridors, particularly I-10, and in the immediate vicinity of the Blythe Municipal Airport due to vehicular traffic and aircraft operations. Both Riverside County and Imperial County have established normally acceptable sound levels in agricultural areas of 75 dBA CNEL (A-weighted decibels Community Noise Equivalent Level).	The proposed Program is dismissed from further analysis regarding Noise due to the following factors: • Ambient Noise: The Program relies on voluntary land management measures. By reducing the frequency of active farming cycles (such as tractor passes and heavy crop transport trucks), the Program would result in a net decrease in seasonal agricultural noise compared to the baseline of continuous active farming. No new permanent operational noise sources are proposed. • Construction Noise: Minor infrastructure improvements would require the temporary use of heavy construction equipment. These activities would be short-term, localized, and incremental and would occur during daytime hours. Temporary increases in ambient noise levels remain less than significant. • Ground-borne Vibration: Construction activities are limited to standard earthmoving, grading, and canal shaping. The Program would not involve pile driving,

[21] County of Riverside. *Palo Verde Valley Area Plan.* September 2021.
[22] County of Imperial. *General Plan*. October 2015.
[23] City of Blythe. *General Plan 2025*. March 2007.

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
	Sensitive noise receptors in the project area consist primarily of rural residences scattered throughout the agricultural valley grid and concentrated residential neighborhoods within the City of Blythe.	blasting, or other high-impact activities that could generate excessive vibration. • Compatibility with Airport Operations: While the PVID service area surrounds Blythe Municipal Airport, these lands are not eligible to participate in the conserved water program since they are planted in citrus and date palm trees that cannot be fallowed or subject to deficit irrigation.
POPULATION & HOUSING (Induce Substantial Unplanned Population Growth; Displace Substantial Numbers of Existing People or Housing)	The PVID service area encompasses the City of Blythe and several unincorporated rural communities within Riverside and Imperial Counties, including Ripley, Palo Verde, and localized agricultural clusters. Population, housing, and employment data within the region are monitored and forecasted by the Southern California Association of Governments (SCAG).[24] Population and Demographics: The regional population is characterized by long-term stability, with growth rates tracking below the broader Southern California coastal averages. The PVID service area has a total population of less than 25,000 people, of which 5-10% consists of an institutionalized population associated with a state correctional facility[25] on the Mesa approximately eight miles west of Blythe Airport.[26]	The proposed Program is dismissed from further analysis regarding Population and Housing for the following reasons: • Population Growth: The Program does not include the construction of new homes, businesses, or significant utility infrastructure that would directly result in a permanent increase in the local population. • Growth Inducement: The Program is strictly focused on voluntary water conservation and agricultural efficiency improvements. It does not involve the extension of public roadways, sewer, or water systems into previously undeveloped areas that could induce unplanned land development. • Displacement of Housing or People: All proposed infrastructure improvements would be sited entirely within existing PVID easements or on current agricultural parcels. The Program would not require

[24] Southern California Association of Governments. Accessed June 9, 2026. https://scag.ca.gov/
[25] California Department of Corrections and Rehabilitation. *Monthly Report of Population*. May 31, 2026.
[26] U.S. Census Bureau. *Blythe CCD, Riverside County, California*. Accessed June 9, 2026. https://data.census.gov/all?q=Blythe,+CA

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
	Housing Characteristics: Housing within the Program area reflects a clear urban-rural divide. The City of Blythe contains most of the region's urban residential housing, consisting of about 5,700 single-family homes and multi-family complexes. The surrounding unincorporated valley features low-density housing, including historic rural farmsteads, mobile homes, and dedicated agricultural labor housing scattered throughout the irrigation district.[27] Employment and Economic Baseline: The regional economy and labor market are anchored by two primary sectors: public administration (corrections) and commercial agriculture. Agriculture serves as the foundational economic driver of the valley floor. This creates a seasonal fluctuation in the local workforce, with employment peaks coinciding with intense winter and summer planting, cultivation, and harvesting cycles.[28]	the removal, demolition, or relocation of any existing residential units, nor does it displace any individuals. • Stable Labor Force: Voluntary land fallowing may result in minor fluctuations in the seasonal demand for agricultural labor on specific parcels; however, like the 2005 agreement between PVID and the Metropolitan Water District (MWD), the Program is explicitly designed to support the long-term economic viability of the District. Compensation payments for participating farmers and community improvement funds would continue to be made and would not result in a substantial permanent loss of jobs that would lead to regional population decline, the abandonment of housing, or a measurable out-migration of the local workforce. • Consistency with Regional Growth Forecasts: The Program does not conflict with the long-term population or housing growth projections established by the SCAG for the Riverside and Imperial County sub-regions.
PUBLIC SERVICES (Physically Altered Government Infrastructure—Fire Protection, Police Services, Schools, Parks, Other Facilities)	Fire Protection: Fire protection services within city limits are provided by the Blythe Fire Department,[29] while unincorporated areas are served by the Riverside County Fire Department	The proposed Program is dismissed from further analysis regarding Public Services due to the following factors: • Population Growth: The Program does not include the construction of new residential or commercial

[27] City of Blythe. *Sixth Cycle Housing Element (2021-2029)*. June 2024. County of Riverside. *Palo Verde Valley Area Plan.* September 2021.
[28] Southern California Association of Governments. *City of Blythe 2022 Spatial & Statistical Summary*. May 2022.
[29] City of Blythe. General Plan 2025, Safety Element. March 2007.

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	and the Imperial County Fire Department through a network of regional stations.[30] Police Services: Law enforcement is provided by the Blythe Police Department and the Riverside and Imperial County Sheriff's Departments. The California Highway Patrol (CHP) maintains jurisdiction over regional transportation corridors, including SR-78, U.S. 95, and I-10.[31] Schools: Educational services are provided by the Palo Verde Unified School District (PVUSD), which operates elementary, middle, and high schools in the City of Blythe.[32] Higher education and vocational training are provided by Palo Verde College. Parks and Public Facilities: Regional recreational needs are met by a variety of parks operated by the City of Blythe and Riverside County. Other public facilities serving the region include the Palo Verde Valley Library District and various municipal administrative buildings.[33]	developments that would result in a permanent increase in the local population. Therefore, the Program would not increase the underlying demand for schools, parks, libraries, or general government administrative services. • Emergency Services: The increase in fallowed crops may increase fire hazards due to higher dry fuel loads, but this would be mitigated using standard agricultural practices. Infrastructure improvements, such as small regulating reservoirs, would be maintained by existing PVID staff and would not require additional dedicated fire or law enforcement protection. • School Facilities: Because the Program does not involve housing, it would not generate new student enrollment for PVUSD, nor would it require altering school facilities. • Consistency with Service Standards: Infrastructure improvements would adhere to all applicable local safety and building codes. The Program would not obstruct or interfere with the response times, service capacity, or physical accessibility of local fire, law enforcement, or medical service providers.

[30] County of Riverside. General Plan, Safety Element. June 2024. County of Imperial. General Plan, Seismic and Public Safety Element. November 2022.
[31] California Vehicle Code § 2400.
[32] City of Blythe. Palo Verde Unified School District. Accessed June 9, 2026. https://www.pvusd.us/
[33] City of Blythe. Accessed June 9, 2026. https://www.cityofblythe.ca.gov/88/Parks-Department

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RECREATION (Increased Use, Construction, or Alteration of Recreational Facilities)	The Colorado River serves as a major regional hub for water-based activities, including boating, jet skiing, canoeing, and fishing. Primary public access points, boat launches, and developed camping facilities are located at Mayflower Regional Park and McIntyre County Park along with private marinas along the river corridor. Additionally, the Palo Verde Ecological Reserve (PVER) and nearby wildlife areas provide opportunities for wildlife viewing and nature observation.[34] The desert terrain and mountain ranges surrounding the valley floor provide extensive opportunities for off-highway vehicle (OHV) use, rockhounding, desert hiking, and dispersed camping on public lands managed by the Bureau of Land Management (BLM).[35] The City of Blythe maintains a network of neighborhood parks, community spaces, and sports complexes that serve the localized urban population. PVID's 250-mile canal network and 142 miles of drains, while prominent visual features in the landscape, are active functional utility structures; they are strictly closed to the public and are not designated or maintained for public recreational use.[36]	The proposed Program is dismissed from further analysis regarding Recreation due to the following factors: • Recreational Facilities: The Program does not include the construction of growth-inducing developments that would bring new residents to the area. It also does not include the development or modification of any recreational facilities. Therefore, the Program would not increase the use or demand of existing public or private facilities. • Public Recreational Access: Proposed water management infrastructure improvements would be located within the interior of the PVID service area on existing agricultural parcels or within established PVID utility easements. Construction and operational maintenance activities would not block, detour, or alter public access roads to the Colorado River, BLM recreation areas, or existing parks. • Effects on the Colorado River: Conserved water would be managed entirely within the existing legal and operational framework of the Colorado River system and PVID's established diversion limits, and the program is intended to assist the Bureau of Reclamation and other Colorado River water users with improved Colorado River management in response to extreme shortages of water within the entire watershed. The Program would not cause

[34] County of Riverside. *Palo Verde Valley Area Plan.* September 2021.
[35] U.S. Bureau of Land Management. Accessed June 9, 2026. https://webmaps.blm.gov/program_apps/BLM_Natl_Recreation_Opportunities/
[36] City of Blythe. Accessed June 9, 2026. https://www.cityofblythe.ca.gov/88/Parks-Department

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		fluctuations in surface water elevations that would impede the safety or functionality of existing public boat launches, docks, or marinas within the local parks or the broader LCR MSCP management area which are affected by the naturally depleted water supply conditions. • Preservation of Open Space: By supporting the long-term economic viability of regional agriculture, the Program would preserve the open-space character contributing to the region's diverse recreational opportunities.
TRANSPORTATION (Conflict with Transportation Plans; Change in Vehicle Miles Traveled; Increase Transportation Hazards; Restrict Emergency Access)	The transportation network in the PVID service area is anchored by I-10, a major transportation corridor running east-west that connects the Palo Verde Valley with western Riverside County and Arizona. Essential north-south regional arterials include U.S. Highway 95, State Route 78 (SR-78), and Neighbors Boulevard. A systematic grid of secondary arterials and collector roadways serves both local agricultural and regional transit needs, including Midland Road, which travels northwest through the eastern portion of the valley and is designated as a Mountain Arterial. The surrounding rural roadway network is specifically designed to accommodate heavy agricultural machinery, including wide-axle tractors,	The proposed Program is dismissed from further analysis regarding Transportation due to the following factors: • Transportation Plans: The Program does not include any development that would permanently increase Average Daily Trips (ADT) or traffic volumes. Since the rural, agricultural nature of the regional transportation network would not change, the Program does not conflict with the long-range planning guidelines of the SCAG RTP, nor with the circulation elements of the county and city general plans. • Long-Term Operational Traffic: Because fewer crops would be planted, there would be a corresponding decrease in truck traffic transporting crops to regional processing centers. This would result in a slight, localized decrease in heavy truck traffic and

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
	specialized harvesters, and heavy-duty semi-trucks utilized for regional crop distribution.[37] The Blythe Municipal Airport is situated adjacent to the PVID service area on the Palo Verde Mesa. The airport hosts approximately 25,000 aircraft operations annually—predominately consisting of private aviation, business charters, and local recreational flights—with no active commercial airline service.[38] The Southern California Association of Governments (SCAG) is responsible for regional transportation planning and establishes long-range guidelines through its Regional Transportation Plan (RTP). Local transportation planning is governed by the General Plans of Riverside County, Imperial County, and the City of Blythe. Baseline traffic volumes across the PVID service area are generally low, operating at high Levels of Service (LOS) on the rural grid, though volumes fluctuate seasonally in alignment with agricultural harvesting cycles. Overall localized Vehicle Miles Traveled (VMT) are characteristic of a low-density, rural agricultural economy.[39]	agricultural equipment on county roads and major arterials like U.S. 95 and SR-78. • Construction Traffic: Temporary traffic related to utility improvements would be negligible. These activities are small-scale, localized, and would occur incrementally over time. Construction equipment would not be sufficient to degrade the LOS or cause localized congestion at any regional intersection. • Transportation Hazards: The Program does not involve the construction of new public roadways, realigned intersections, sharp geometric curves, or other hazardous design features. • Emergency Access: The Program would not physically alter the existing regional roadway grid, nor block designated emergency evacuation routes (such as I-10). Access for emergency vehicles would be maintained during infrastructure improvements, consistent with standard local agency encroachment permits and PVID safety protocols. • VMT Metrics: In accordance with California Senate Bill 743 (SB 743), transportation impacts are evaluated based on VMT. The Program would reduce active agricultural operations on participating fields; it would not generate new vehicle trips and is therefore below state and local VMT significance screening thresholds.

[37] County of Riverside. *Palo Verde Valley Area Plan, Circulation*. September 2021.
[38] County of Riverside. Airport Land Use Commission. *Blythe Airport*. 2020.
[39] County of Riverside. *Palo Verde Valley Area Plan, Circulation*. September 2021.

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		• Aviation Facilities: Program activities would not introduce any land changes that would interfere with flight paths or operations at the Blythe Municipal Airport.
UTILITIES & SERVICE SYSTEMS (New or Expanded Water, Wastewater Treatment, Stormwater Drainage, Electric Power, Natural Gas, Telecommunications Systems; Adequacy of Water Supply; Adequacy of Wastewater Treatment and Solid Waste Capacity and Reduction Goals)	Water: PVID is the primary agricultural water manager for the region, securing and distributing Colorado River water under its senior water rights. The City of Blythe provides domestic water service, drawing from municipal groundwater wells in the Palo Verde Valley groundwater basin. In rural areas, private domestic wells are used and are overseen by county health departments.[40] Wastewater: The City of Blythe operates the Blythe Regional Wastewater Reclamation Facility, with a rated design capacity of 2.4 million gallons per day (MGD).[41] In rural areas, septic tanks and leach fields are used for wastewater treatment; these are regulated by county health departments. Stormwater Drainage: PVID maintains an extensive network of open agricultural drains running parallel to irrigation canals. These collect surface tailwater runoff from flood-irrigated fields, ultimately returning to the Colorado River system or localized outfalls. Within the City of Blythe, stormwater is managed via street gutters, open	The proposed Program is dismissed from further analysis regarding Utilities and Service Systems due to the following factors: • Water Supply and Facilities: The Program does not propose any land use changes or features that would create a new demand for domestic potable water. Consequently, the Program would not require new or expanded municipal water entitlements, nor would it result in the construction or relocation of domestic potable water treatment facilities. • Wastewater Capacity and Treatment: The Program does not include the construction of new residential, commercial, or industrial developments that would introduce a permanent population or generate long-term domestic wastewater effluent. The Program components are limited to agricultural water management and therefore would not generate any effluent requiring treatment at the City of Blythe Regional Wastewater Reclamation Facility or alter the function of existing local wastewater treatment systems (septic tanks).

[40] County of Riverside. *Grace Solar Energy Center Environmental Impact Report.* SCH No. 2025010194. February 2026
[41] City of Blythe. Accessed June 9, 2026. https://www.cityofblythe.ca.gov/78/Waste-Water-Treatment-Plant

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	channels, and specialized retention/percolation basins. Electricity, Natural Gas, and Telecommunications: Electrical service throughout the PVID service area is provided primarily by Southern California Edison (SCE). Centralized natural gas, operated by the Southern California Gas Company (SoCalGas), is largely restricted to the City of Blythe. Rural agricultural operations and remote residences rely on bulk delivery of propane or diesel to power farm equipment and stationary machinery. Several large carriers (AT&T, Frontier Communications) provide telecommunications services. PVID staff use private radio systems for water routing coordination across remote sectors of the valley.[42] Solid Waste: Solid waste collection services within the program area are provided by private haulers under contract with local jurisdictions, or via self-hauling by agricultural operators. Regional infrastructure is managed by the Riverside County Department of Waste Resources. The Blythe Landfill is a Class III municipal solid waste facility permitted to accept agricultural waste, clean dirt, and standard mixed municipal solid waste, providing sufficient capacity for current agricultural and municipal baselines.[43]	• Stormwater Drainage: The Program does not propose the introduction of substantial new impervious surfaces that would generate additional stormwater runoff volumes. Modernization activities are designed to improve conveyance efficiency and would not disrupt or require the expansion of municipal or regional storm drain systems. • Solid Waste Capacity and Compliance: Once infrastructure improvements are installed or conservation agreements are active, long-term operations under the Program would match historical baselines and generate zero ongoing municipal solid waste. Therefore, the Program would not accelerate the consumption of the remaining design capacity at the Blythe Sanitary Landfill, maintaining full compliance with federal, state, and local solid waste management programs and reduction statutes. • Energy and Telecommunications Systems: Operational activities associated with the Program—such as automated water routing, monitoring, and regular canal maintenance—would rely exclusively on existing regional energy and telecommunication frameworks. The Program does not include any components that would require the extension, relocation, or expansion of centralized natural gas distribution lines, electrical substations, or commercial telecommunications networks. Infrastructure improvements would adhere to all

[42] County of Riverside. *Grace Solar Energy Center Environmental Impact Report.* SCH No. 2025010194. February 2026.
[43] County of Riverside. Department of Waste Resources. Accessed June 9, 2026. https://rcwaste.org/routine-waste/blythe-landfill

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
		applicable local safety and utility codes and would not conflict with state or local energy conservation plans.
WILDFIRE (Impair Emergency Response Plans; Exacerbate Wildfire Risks Due to Slope, Weather, or Wind; Exacerbate Wildfire Risks Due to Infrastructure; Expose People or Structures to Downslope or Downstream Risks)	The program area encompasses approximately 189 square miles spanning eastern Riverside County and northeastern Imperial County, comprising the flat alluvial topography of the Palo Verde Valley. The region experiences an arid desert climate with extreme summer heat and very low relative humidity. These conditions lead to dry agricultural vegetation, desert scrub, and dry riparian vegetation along the Colorado River, thereby increasing the potential for rapid fire spread under wind-driven conditions.[44] Fire protection and emergency response are managed through mutual-aid agreements between the Riverside County Fire Department/CAL FIRE (unincorporated Riverside County), the Blythe Fire Department (municipal core), and the Imperial County Fire Department (southern PVID extension). Federal agencies provide fire protection on Federal land along the Colorado River and on much of the Palo Verde Mesa.[45]	The proposed Program is dismissed from further analysis regarding Wildfire due to the following factors: • Emergency Response Plans: The Program involves infrastructure modernizations within existing PVID rights-of-way or historical agricultural footprints. These activities would not alter, block, or obstruct any public roadways or evacuation routes, nor would they interfere with emergency response frameworks between CAL FIRE, fire departments of Riverside and Imperial counties, the Blythe Fire Department, or federal agencies. • Exacerbate Wildfire Risks: The Program would not alter the physical or topographic characteristics of the landscape. The flat alluvial topography of the Palo Verde Valley inherently limits topographic fire acceleration. The Program does not contain elements that would exacerbate extreme fire weather, nor would it increase the baseline risk of weather-driven wildfire spread. The Program does not propose the installation of high-risk utility infrastructure and therefore would not introduce new programmatic ignition sources into the Moderate or High FHSZ.

[44] County of Riverside. *Palo Verde Valley Area Plan, Hazards.* September 2021.
[45] County of Riverside. *Grace Solar Energy Center Environmental Impact Report.* SCH No. 2025010194. February 2026.

Resource Area	Existing Conditions	Reason for No Impact or Less-Than-Significant Impact Determination
	CAL FIRE and the Office of the State Fire Marshal categorize lands into Fire Hazard Severity Zones (FHSZ) based on fuel loading, slope, and fire history. Due to extensive active irrigation networks, regular cultivation, and flat terrain, the vast majority of the PVID service area is identified as having no FHSZ. The Palo Verde Mesa is designated as a Moderate FHSZ. There is one location close to Blythe Municipal Airport that is a High FHSZ.[46] The Blythe Fire Department provides fire protection services to the incorporated city boundaries. While the rural agricultural landscape lacks a pressurized municipal hydrant network, PVID's extensive system of open canals and drainage channels provides a vital decentralized source of raw surface water accessible to regional suppression crews for water drafting and extraction.	• Downslope or Downstream Risks: The Program does not propose the construction of any occupied structures that would place new populations within or adjacent to wildland areas, therefore, it would not expose people or structures to significant post-fire downstream flooding or instability hazards. • Fuel Load and Agricultural Practices: While a localized increase in fallowed crops could temporarily increase the presence of dry agricultural vegetation, these areas would continue to be managed through standard, ongoing agricultural best management practices (such as mechanical disking or weed abatement) rather than being left as unmanaged wildland fuel loads.

[46] California Department of Forestry & Fire Protection. Office of the State Fire Marshal. Accessed June 9, 2026. https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones.

3.2 Agricultural Resources

3.2.1 Introduction

This section evaluates the potential effects of the proposed PVID Conserved Water Supply Program on agricultural resources within the PVID service area. Because PVID's service area is predominantly agricultural and the Program is focused on water conservation, irrigation infrastructure, long-term water supply security, and on-farm operations, this resource topic is central to the analysis of potential environmental effects.

3.2.1.1 Program Elements Not Applicable to the Resource Topic

Certain Program components would occur within existing PVID operational areas and would not change agricultural land designations, permanently remove farmland from production, or materially affect regional crop production capacity. These elements are therefore not expected to result in agricultural resource impacts and are not analyzed further in this section. These maintenance elements include year-round, ongoing maintenance and repairs on irrigation canals and drainage systems.

Because these elements would be limited to existing drains, canals, and other PVID operational facilities, they would not remove active farmland from production or convert agricultural land to non-agricultural use.

3.2.1.2 Program Elements Applicable to the Resource Topic

Several key Program components directly affect agricultural resources and are the focus of this impact analysis:

- **Voluntary Land Fallowing:** Multi-year or rotational water conservation agreements would temporarily remove selected parcels from active production. The analysis evaluates whether these temporary changes would constitute a formal or permanent conversion of farmland to non-agricultural use.
- **Canal Lining and Modernization:** Lining unpaved channels and constructing small regulating reservoirs would improve water savings beyond crop management. These improvements could require construction near fields and temporarily or permanently modify field access, irrigation turnouts, or historic cultivation patterns.
- **Water Allocation Adjustments:** Changes to regional water distribution rules aimed at improving delivery efficiency could affect cropping patterns, soil salinity management, and the long-term economic viability of agriculture.

- **Water Rights Protection and Allocation Agreements:** The Program relies on voluntary, compensated reductions in PVID's annual Colorado River diversions. The impact analysis would evaluate whether these temporary operational adjustments could legally or operationally impair PVID's long-term agricultural water entitlement or its ability to support future farming operations.

3.2.2 Analysis Methodology

The evaluation of potential impacts on agricultural resources was conducted by analyzing spatial data, regulatory frameworks, and regional farming baselines within the PVID service area. The methodology focuses on assessing how the Program's on-farm water conservation measures (including rotational land fallowing, deficit irrigation, early seasonal crop retirement, crop rotation, and crop switching) and infrastructure modernizations align with State and local resource preservation mandates.

The impact analysis utilizes thresholds of significance for evaluating Program effects on agricultural resources as defined in the CEQA Guidelines. These define the level of environmental change beyond which an impact would be considered significant under CEQA. Pursuant to the CEQA Guidelines, PVID has applied the Appendix G thresholds of significance for evaluating Program effects on agricultural resources.

The *2002 Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program EIR* provided relevant background information and prior environmental analysis for comparison. This PEIR evaluates whether implementation of the proposed Program would result in new significant impacts or substantially more severe impacts than previously analyzed.

The implementation of voluntary, temporary, and rotational land fallowing preserves the underlying agricultural land use framework. Because local zoning designations, senior water rights, and long-term agricultural capability remain entirely unchanged during idling cycles, temporary land management adjustments do not alter the baseline resource configuration.

The analysis was executed using the following technical sources and analytical steps:

- **Farmland Mapping and Classification Baseline:** Data from the California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) was reviewed to establish the baseline acreage and spatial distribution of Important Farmland within the PVID footprint.
- **Soil and Erosion Evaluation:** Soil characteristics were verified using the Natural Resources Conservation Service (NRCS) Soil Survey of the Palo Verde Area to calculate the distribution of Highly Erodible Land (HEL) and evaluate potential erosion risks from temporary land fallowing or reduced water applications.

- **Policy Consistency Review:** Active land conservation records were cross-referenced against local databases to evaluate active Williamson Act agreements. Local land-use consistency was assessed by reviewing the agricultural goals, objectives, and zoning ordinances contained within the Riverside County General Plan (Palo Verde Valley Area Plan), the Imperial County General Plan Agricultural Element, and the City of Blythe General Plan.
- **Operational Control Metrics:** Historical baseline data and acreage limits from the 2005 PVID/MWD Forbearance and Fallowing Program Agreement were analyzed to model maximum programmatic land-fallowing scenarios, crop rotation sequences, and community-level economic buffers.
- **Water Entitlement and Regulatory Framework Review:** Evaluated PVID's foundational priority water rights under the 1931 Seven-Party Agreement, statutory protections against water rights forfeiture under California Water Code Section 1011, and federal shortage allocation rules under the Bureau of Reclamation's current and Post-2026 Operational Guidelines.

3.2.3 Applicable Regulations

3.2.3.1 Federal Laws, Regulations, and Policies

The Farm Bill and Soil Designations

The role of the U.S. Department of Agriculture (USDA) is to strengthen the American agricultural economy through implementation of programs that assist farmers, including disaster assistance, crop insurance, conservation programs, and access to credit.[1] The Agricultural Improvement Act of 2018,[2] known as the Farm Bill, supports conservation and credit programs, which are typically administered by the Farm Service Agency (FSA) or Rural Development (RD).

For those farmers participating in USDA benefit programs, FSA offers voluntary conservation plans to help farmers and landowners protect environmentally sensitive land, restore disaster-damaged acreage, and maintain sustainable agricultural operations. These conservation plans are prepared by the Natural Resources Conservation Service (NRCS) and identify measures that reduce erosion of Highly Erodible Land (HEL) to a rate at which soil loss does not threaten sustained productivity of the land.[3] The HEL designation does not indicate that erosion is currently occurring; rather, it identifies soils that may be susceptible to erosion under certain management conditions.

[1] USDA. Accessed June 5, 2026. https://www.usda.gov/farming-and-ranching
[2] *Agricultural Improvement Act of 2018*, Public Law No. 115-334, amended by Pub. L. No. 119-21.
[3] USDA Farm Service Agency Conservation Programs. Accessed June 5, 2026. https://www.fsa.usda.gov/conservation-programs

3.2.3.2 State Laws, Regulations, and Policies

Farmland Mapping and Monitoring Program

The California Department of Conservation administers the Farmland Mapping and Monitoring Program (FMMP). The FMMP provides maps and statistical data to local governments and the public to monitor the conversion of the state's agricultural land to non-agricultural uses.[4] The FMMP updates its soil data every two years using aerial photography, computer mapping technology, public review, and field verification. Soil quality is categorized based on its suitability for agricultural production, using factors such as water storage capacity, climate, soil depth, and irrigation status. The following categories are known as "Important Farmland":

- **Prime Farmland:** Land with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed according to acceptable farming methods.
- **Farmland of Statewide Importance:** Land similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. More intensive management is required to achieve yields comparable to Prime Farmland.
- **Unique Farmland:** Land of lesser quality soils used for the production of the state's leading agricultural cash crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in certain California geographic regions.
- **Farmland of Local Importance:** Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Williamson Act Farmlands

The Williamson Act, also known as the California Land Conservation Act of 1965,[5] is the state's primary tool for preserving agricultural and open space land. The state government establishes the legal framework and rules for the program, while local county governments handle day-to-day administration and contract enforcement.

- **Program Framework:** The program enables private landowners to enter voluntary 10-year contracts with the county that restrict specific parcels of land to agricultural or related open space use. Contracted lands are assessed at a lower property tax rate.[6] Farmland Security Zone contracts are a special type of Williamson Act contracts that allow for 20-year contracts, with a corresponding further decrease in property tax rates.

[4] California Department of Conservation. *2016-2018 California Farmland Conversion Report*.
[5] California Government Code Sections 51200–51297.4
[6] California Revenue and Taxation Code Sections 421–430.5

- **Open Space Subvention Act of 1971[7]:** Until 2010, local governments were reimbursed by the state for lost property tax revenue. Those payments were eliminated in 2010.[8]

California Water Code Section 1011

California Water Code Section 1011 provides statutory protection for water rights holders who conserve water. Under this section, the voluntary non-use of water resulting from water conservation efforts or transfer agreements is legally deemed a reasonable, beneficial use of water. The statute ensures that such reduction in use does not constitute evidence of waste, and prevents any loss, forfeiture, or abandonment of the underlying water right.[9]

3.2.3.3 Local Laws, Regulations, and Policies

Local governments and special districts exercise direct control over land use and zoning. These local entities establish land use and zoning policies intended to preserve agricultural land uses and manage future development. For both Riverside and Imperial counties, agriculture has been, and continues to be, an important economic activity.

Riverside County General Plan

Within the unincorporated portion of the PVID service area, agricultural operations are governed by the Palo Verde Valley Area Plan, a component of the overall Riverside County General Plan designed to preserve the valley's agricultural land uses along the Colorado River.[10] The Plan entails:

- **Controls on Farmland Conversion:** The policies establish clear mandates to conserve productive agricultural areas and preserve prime land for high-value crops. Any proposed shift away from agricultural use triggers a rigorous review.
- **Policy Consistency:** The agricultural element mandates continued county participation in the Williamson Act and adherence to Riverside County's Right-to-Farm Ordinance.
- **Protection Against Incompatible Encroachment:** The plan discourages inappropriate land divisions near active farming operations and works to minimize conflicts between farming and nearby residential uses.

[7] *Open Space Subvention Act*, Government Code Section 16140 et. seq.
[8] California Department of Conservation. Accessed June 4, 2026. https://www.conservation.ca.gov/dlrp/wa/Pages/contracts.aspx
[9] California Water Code Section 1011.
[10] County of Riverside. *General Plan*. June 2024.

Imperial County General Plan

The southern end of the PVID service area is in Imperial County and governed by the Imperial County Agricultural Element.[11] The elements applicable to the PVID area are outlined below:

- **Growth Boundaries and Conversion Restrictions:** The element minimizes direct farmland loss by confining future urbanization to adopted Sphere of Influence (SOI) areas and prohibiting development patterns that isolate fields or split large holdings.
- **Right-to-Farm Policies:** The Agricultural Element includes policies intended to reduce land use conflicts between agricultural operations and nearby non-agricultural development.
- **Water Supply Policies:** The Agricultural Element includes policies supporting reliable irrigation water supplies for agricultural production.

Local Williamson Act Administration

While the Williamson Act is established under California state law, day-to-day administration, contract approval, and enforcement are handled directly by Riverside County.

- **Land Conservation Contracts:** Landowners can enter voluntary, rolling 10-year land conservation contracts with the County.
- **Tax Relief Calculations:** In exchange for this restriction, the county assessor calculates property taxes based on the land's actual agricultural income value rather than its potential development market value.

City of Blythe General Plan and Urban Growth Boundaries

The City of Blythe represents the urban core of the Palo Verde Valley. Its local planning policies are designed to prevent urban growth from degrading adjacent agricultural lands. The City utilizes its General Plan and specific Sphere of Influence boundaries to direct urban growth inward or toward designated expansion corridors.

Palo Verde Irrigation District (PVID)

The major functions of the District are to divert and distribute irrigation water from the Colorado River and to provide agricultural drainage. In recent years, the PVID has been improving the efficiency of the water delivery and drainage systems.

- **Water Rights and Delivery:** As outlined in Chapter 2, PVID holds some of the most senior, secure water rights among California's Colorado River contractors (under the 1931 Seven-Party Agreement). The district is responsible for diverting, delivering, and tracking

[11] County of Imperial. *General Plan*. October 2015.

irrigation water across roughly 91,000 acres of valley land, as well as maintaining the extensive network of canals and drainage ditches necessary to prevent soil waterlogging and salinity buildup.

- **Conservation Frameworks:** PVID directly manages regional water conservation and forbearance partnerships—such as the long-term fallowing programs coordinated alongside urban utilities and the U.S. Bureau of Reclamation.

3.2.4 Existing Conditions

The PVID service area encompasses approximately 189 square miles of highly productive agricultural land across eastern Riverside County and northeastern Imperial County. Most of this acreage is classified under the California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Because the regional economy and landscape are defined by continuous cultivation, any programmatic modification to water delivery networks, water availability, or farming cycles directly affects agricultural resource preservation, Williamson Act contracts, and the active conversion or maintenance of important farmland.

A variety of crops are grown in the valley, including alfalfa, Bermuda and other grass, cotton, wheat, watermelons, cantaloupes, honeydews, specialty melons, lettuce, onions, and garlic. Predominant crops on the Mesa are citrus and dates. In 2024, the annual value of crops produced within the district was $236 million[12] (not including the Imperial County portion of PVID). The Palo Verde Valley typically experiences a long, hot growing season that is ideal for agriculture. Mild winters, with a minimum of frost, permit year-round crops.

3.2.4.1 PVID Water Rights and Irrigated Agricultural Baseline

The environmental baseline of the PVID service area is fundamentally defined by its secure, long-standing irrigated agricultural economy, sustained by some of the most senior water rights on the Colorado River (Priority 1 rights under the 1931 Seven-Party Agreement). This exceptionally reliable water supply has fostered a highly productive, continuously cultivated system across about 91,000 acres of valley land. Because the regional economic and physical landscape is uniquely dependent on the continuity of this water delivery network, this established irrigation baseline serves as the foundation for evaluating whether programmatic conservation measures would adversely affect agricultural resource preservation or alter long-term cultivation capacity.

These Priority 1 rights are contractual and legal entitlements that cannot be forfeited or abandoned as a result of voluntary participation in a water conservation program. California Water Code Section 1011 provides explicit protection against the forfeiture of water rights due to non-

[12] County of Riverside Agricultural Commissioner. *2024 Agriculture Production Report*. February 26, 2026.

use resulting from a transfer or conservation agreement, stipulating that deliberate under-diversion pursuant to such an agreement is legally deemed a reasonable and beneficial use of water. Federal law similarly ensures that diversion reductions under conservation programs do not constitute abandonment of federal water service contract entitlements. PVID's full Priority 1, 3b, and 6b entitlements are preserved and remain fully available for exercise in any year that PVID is not operating under an active conservation or fallowing agreement.

Under the current shortage tier framework (Tier 1, 2026), PVID's Priority 1 and Priority 3b rights are not subject to mandatory curtailment. Under the 2007 Interim Guidelines[13] and 2019 Drought Contingency Plans (DCPs)[14], California's Priority 1 through 3a uses are protected from shortage curtailments through Tier 3 (Emergency) conditions at Lake Mead. Priority 6b rights held by PVID for Mesa lands represent a more junior entitlement that could be subject to curtailment in extreme shortage conditions; however, this risk is independent of the Program and would apply regardless of Program participation. Furthermore, under Post-2026 operational frameworks (as described in the August 2026 Bureau of Reclamation Final EIS)[15], the protection of senior water rights—including PVID's Priority 1 entitlement—is a fundamental principle of all five operational alternatives analyzed by Reclamation. The Post-2026 framework is expected to establish shortage allocation mechanisms that respect existing legal entitlements while requiring proportionate contributions from all water users consistent with their priority status.

Federal Programs in the PVID Area

No federal agricultural supply-control or land-retirement subsidies (such as USDA set-aside programs) are currently active within the Program area. If traditional crop set-aside programs are implemented by the federal government in the future, participants in the proposed Program would be legally ineligible to enroll those same portions of fallowed land into a federal framework.

The Palo Verde Valley's soils are alluvial, deposited by Colorado River floods, and range from fine-grained clays to silty loams and light sandy soils, with sandy loam predominant. The Soil Survey of Palo Verde Area maps 154,500 acres in 16 soil series. Most valley soils are well drained, with slopes under 1 percent and little or no runoff. Low rainfall and level ground limit water erosion, but the valley is susceptible to wind erosion.[16] About 58 percent of these soils are classified as HEL. These soils are listed in Table 3.2-1; a field is designated as HEL if at least one-third of the field contains HEL soils.[17,18]

[13] U.S. Bureau of Reclamation. *Record of Decision: Colorado River Interim Guidelines*. December 2007.
[14] U.S. Bureau of Reclamation. *Lower Colorado River Basin Drought Contingency Plan*. May 2019.
[15] U.S. Bureau of Reclamation. *Post-2026 Operational Guidelines and Strategies Final EIS*. August 2026.
[16] Palo Verde Irrigation District. *PVID Land Management, Crop Rotation, and Water Supply Program Final EIR*. SCH No. 2001101149. October 2003.
[17] USDA. Soil Conservation Service. *Soil Survey of Palo Verde Area, California*. Sept 1974.
[18] Palo Verde Irrigation District. *Draft Environmental Impact Report for the Proposed Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program*. May 2002.

Table 3.2-1. Highly Erodible Soils in the Palo Verde Valley Area

Soil Type	Potentially Exempted Soil Types[a]
Aco gravelly loamy sand	Aco sandy loam
Carrizo gravelly sand	Chuckwalla very gravelly silt loam
Orita fine sand	Cibola fine sandy loam
Orita gravelly loamy sand	Gilman fine sandy loam
Rositas fine sand, 0 to 2% slopes	Holtman fine sandy loam
Rositas fine sand, 2 to 9% slopes	Imperial fine sandy loam
Rositas fine sand, wet, 0 to 2% slopes	Indio very fine sandy loam
	Meloland fine sandy loam
	Orita gravelly fine sandy loam
	Ripley very fine sandy loam

a. These can be exempted from the HEL designation if they are being farmed with at least two crops per year, because moisture associated with crop irrigation minimizes the potential for erosion.

Important Farmland Designations in the PVID Area

The PVID service area contains four distinct FMMP classifications, which are all categorized as "Important Farmland." The distribution of these designated lands across the PVID footprint highlights the valley floor's high concentration of high-quality agricultural soils. See Figure 3.2-1.[19] Table 3.2-2 shows the most recent FMMP biennial report, with Riverside and Imperial counties, along with total California agricultural acreage conversion amounts.[20] Out of 12 million acres statewide of Important Farmland, about 58,000 acres (0.5 percent) were lost from the previous biennial mapping. In Riverside and Imperial counties, approximately 1.4 and 1.2 percent, respectively, of Important Farmland, was lost to other uses.

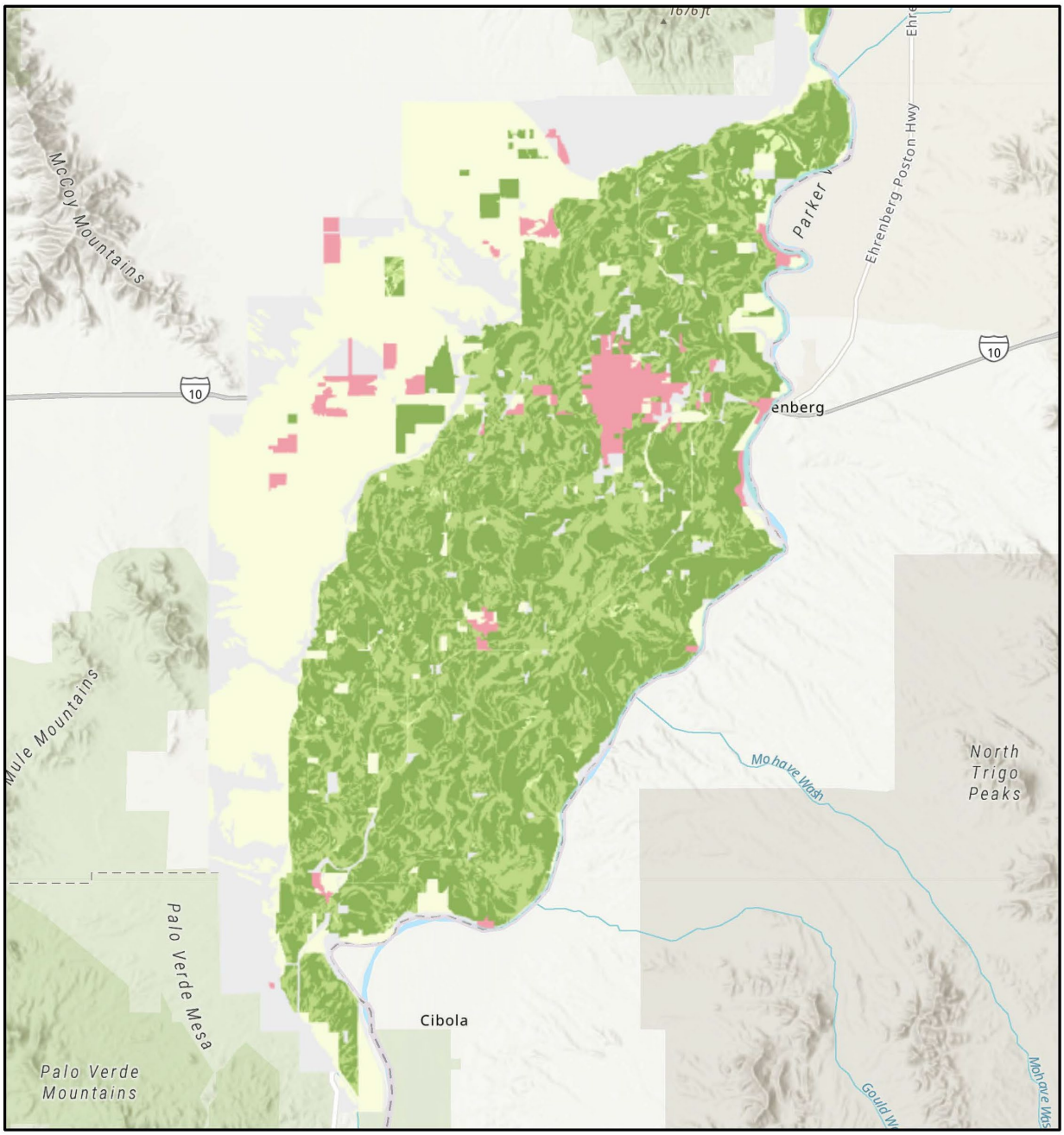
Table 3.2-2. Important Farmland Conversion in Riverside County, Imperial County, and the State of California

	Riverside County		Imperial County		State of California	
	2016	**2018**	**2016**	**2018**	**2016**	**2018**
Prime Farmland	117,486	116,926	190,206	189,163	32,566	32,121
Farmland of Statewide Importance	43,757	43,610	297,272	291,596	5,031,481	4,993,077
Unique Farmland	32,566	32,121	2,071	1,905	2,544,481	2,514,475
Farmland of Local Importance	226,029	221,201	38,923	39,711	1,404,250	1,417,639
Total Important Farmland	**419,838**	**413,858**	**528,472**	**522,375**	**12,195,639**	**12,138,493**
Net Change from 2016	-5,980 acres		-6,097 acres		-58,207 acres	
% Change	**-1.4%**		**-1.2%**		**-0.5%**	

[19] California Department of Conservation. *California Important Farmland Finder, 2022 Data*. Accessed June 2026. https://maps.conservation.ca.gov/DLRP/CIFF/

[20] California Department of Conservation. 2016-2018 California Farmland Conversion Report.

Figure 3.2-1. Important Farmland in the PVID Area



6/5/2026

1:272,284

0 2 4 8 mi

0 3 6 12 km

Most Recent

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Farmland of Local Importance
- Other Land
- Urban and Built-Up Land
- Water Area
- World_Hillshade

Farmland Mapping and Monitoring Program, Division of Land Resource Protection, California Department of Conservation, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Esri, CGIAR, USGS

PVID/MWD Forbearance and Fallowing Program Agreement

In 2005, PVID and the Metropolitan Water District (MWD) agreed to a program that would pay farmers to annually set aside a portion of their land, rotate their crops, and transfer saved water to urban Southern California. The MWD board of directors approved a 35-year program that would provide up to 3.63 million-acre feet of water over the term of the program. An acre-foot of water is nearly 326,000 gallons, about the annual amount used by two typical families in and around their homes.

The PVID/MWD program is open to all land eligible for Priority 1 water (from the 1931 Seven Party Agreement) with a history of irrigated crop production for at least two out of the five years (1999-2003) before enrollment. This program is limited to approximately 29 percent (about 26,500 acres) of the total Priority 1 lands fallowed at full subscription. Fallowing is allocated proportionately among landowners based on their maximum commitment, and annual fallowing targets are set by Metropolitan. The average fallowed land over the 35 years will equal at least 12,000 acres per year (approximately 13 percent of irrigated Valley lands).[21]

Landowners may not fallow more than 35 percent of their total farmland in the District. Designated acreage must be fallowed for a minimum of twelve consecutive months and a maximum of five consecutive years, after which the landowner must return the land to active production and at least one crop must be produced.[22]

3.2.5 Impact Assessment on Agricultural Resources

This section discusses the potential impacts that could occur if the proposed Program is approved and instituted in the PVID service area. For purposes of CEQA, a significant impact under Appendix G occurs when Important Farmland is converted to a non-agricultural use. The proposed Program would not redesignate agricultural land, approve non-agricultural development, cancel Williamson Act contracts, or otherwise authorize urban or industrial land uses. Temporary idling or rotational fallowing does not constitute conversion to a non-agricultural use because the underlying land use designation, zoning, irrigation entitlement, and long-term agricultural capability remain unchanged. Accordingly, the proposed on-farm conservation measures—including voluntary, temporary, and rotational land fallowing, deficit irrigation, early seasonal crop retirement, crop rotation, and crop switching—would occur seasonally or on a short-term basis without structurally altering the agricultural land base.

[21] Palo Verde Irrigation District. August 16, 2004. *Term Sheet for Forbearance and Fallowing Program Agreement*. https://pvid.org/mwdprogram.php

[22] The Metropolitan Water District of Southern California. August 26, 2025. *Fallowing Agreement for Contract Year 2026/2027*.

3.2.5.1 Criteria for Determining Significance

Thresholds of significance define the level of environmental change beyond which an impact would be considered significant under CEQA. Pursuant to the CEQA Guidelines, PVID has applied the following Appendix G thresholds of significance for evaluating Program effects on agricultural resources. The following impact criteria are defined in the CEQA Guidelines, Appendix G:

Agriculture and Forestry Resources: *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:*

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?* (**Note:** This criterion is not applicable to this water conservation project and is therefore not analyzed below.)

3.2.5.2 CEQA Threshold A

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The proposed Program would complement the existing PVID/MWD Forbearance and Fallowing Program by introducing a broader range of flexible conservation measures. The Program would not result in the permanent or structural conversion of Important Farmland to non-agricultural use. The proposed on-farm conservation measures – including voluntary land fallowing, deficit irrigation, early seasonal crop retirement, crop rotation and crop switching – would occur seasonally or for an entire year. These lands would include those participating in the existing fallowing program with MWD, lands not requested by MWD in any given year, and lands above

and beyond the acreage now included in the MWD program. Although the proposed Program may include conservation measures on acreage not currently enrolled in the MWD program, participating lands would remain in agricultural use and would not be converted to non-agricultural uses. This comprehensive program would rely on operational flexibility instead of relying solely on long-term fallowing.

Under full subscription, the PVID/MWD program caps maximum fallowing at approximately 29% (about 26,500 acres) of total Priority 1 lands, with an anticipated 35-year average of at least 12,000 fallowed acres per year, and this would continue until the end of the 35-year period. While selected fields would be temporarily removed from active crop production, the majority of the PVID's acres would remain in active irrigated production. This land idling does not alter the underlying resource configuration for the following reasons:

- **Rotational Safeguards:** Participating landowners are strictly prohibited from long-term fallowing more than 35% of their individual farmland within the District. Designated acreage can participate in long-term fallowing for a maximum of five consecutive years. Following this cycle, the landowner is legally required to return the land to active production during which at least one crop must be grown.
- **Erosion Protections:** Although 58% of the soils in the Palo Verde Area are classified as Highly Erodible Land (HEL), under the state classification metrics, lands farmed with at least two crops per year maintain moisture profiles that minimize erosion potential. The rotational nature of the fallowing contracts is intended to minimize long-term soil degradation or permanent wind/water erosion from destroying the soil classification. Potential soil impacts resulting from Program implementation are limited to temporary wind or water erosion associated with temporarily fallowed fields and localized construction activities. These temporary physical effects are effectively addressed and minimized through the agricultural resource protection measures identified below. Because these operational controls minimize the likelihood of substantial or permanent topsoil loss, they support the dismissal of Geology and Soils from further detailed analysis in this PEIR (See Table 3.1).
- **Indirect Farmland Conversion via Water Supply Reductions:** Because long-term agricultural production in the PVID service area relies entirely on water security, a critical consideration is whether the Program's compensated reduction in annual Colorado River diversions would indirectly cause permanent farmland conversion by diminishing PVID's long-term legal water entitlements. As established in Section 3.2.6 (Existing Conditions), voluntary participation in the program does not result in the legal forfeiture, waste, or abandonment of PVID's Priority 1 entitlements under either California Water Code Section 1011 or federal law.

- **Infrastructure Improvements:** Program elements such as canal lining and modernization of unlined channels may result in localized construction disturbance near agricultural fields and could temporarily or permanently modify specific field access points or irrigation turnouts. However, these improvements would enhance long-term water delivery efficiency and help protect the broader water-right baseline; they would not facilitate farmland conversion and would maintain irrigation service to agricultural lands. Construction of regulating reservoirs on existing farmland would remove limited acreage from active crop production; however, these reservoirs would be dedicated agricultural infrastructure elements designed to support continued agricultural production by optimizing delivery efficiency. Because these facilities directly sustain long-term farming operations, they would not represent a conversion of Important Farmland to a non-agricultural use, and the affected acreage would remain consistent with the surrounding irrigated agricultural landscape.

Operationally, the Program incorporates structured annual water budgeting to guarantee that PVID retains sufficient diversion authority in any given year to meet the water demands of non-fallowed, actively irrigated lands. Conservation agreements specify the quantity of water to be conserved and the corresponding acreage to be fallowed, ensuring that PVID's obligation to deliver water to non-participating landowners is fully maintained. Because the underlying water-right baseline remains intact and active agricultural fields are fully insulated from delivery reductions, the Program would not cause an indirect conversion of Important Farmland. Because fallowed land must return to active cultivation, and infrastructure modernization preserves systemic irrigation capability, direct and indirect impacts regarding farmland conversion are less than significant.

Finding: Less than Significant Impact

The Program incorporates standard, mandatory land-management practices and operational requirements as part of the formal Project Description. Because these practices support soil conservation, weed management, and agricultural coordination as built in components of the Program, separate CEQA mitigation measures are not required to maintain impacts at a less-than-significant level. These Best Management Practices (BMPs) do not preempt other measures required by federal, state, or local agencies for farmland within their jurisdiction, but would be implemented along with those presented here.[23]

- **BMP AG-1: Soil Stabilization and Wind Erosion Control.** To protect soil resources within the Palo Verde Valley and to maintain the landowner's eligibility for USDA benefits (excluding existing programs that fund the reduction or elimination of production of any

[23] Palo Verde Irrigation District. *Landowner Agreement for Fallowing in the Palo Verde Irrigation District*. August 2004.

agricultural crop), each landowner participating in the Program shall implement wind erosion control measures, which may include the following operational options:

- **Stubble Residue and Sod Remnants:** Maintain sufficient post-harvest stubble or sod remnants to lower wind speeds at the soil surface and provide a root system to hold soil in place and reduce wind-driven particulate matter.
- **Clod Plowing:** This method is used when a crop does not leave an adequate stubble residue (such as cotton and many vegetable or melon crops). Clod plowing must occasionally be repeated following rainfall. The maximum continuous period that any single episode of clod plowing would be used is three years.[24]
- **Surface Management:** Apply soil binders (such as mulch or manure) that create a rough soil surface configuration to interrupt wind flow patterns.
- **Cover Cropping:** If natural precipitation is adequate, seeding shallow rooted cover crops provides additional wind erosion resistance. Fields undergoing deficit irrigation or seasonal early retirement are inherently compliant with wind erosion standards because they retain existing crop root structures and partial canopy cover.

- **BMP AG-2: Integrated Weed and Pest Management.** To prevent idled or modified acreage from becoming biological vectors that compromise neighboring active fields, landowners shall manage weeds and pests in close coordination with the Riverside and Imperial County Agricultural Commissioners.
  - **Spread Prevention:** Utilize chemical, biological, or mechanical control methods to prevent the spread of noxious plants, minimize their consumptive water use, and mitigate the transmission of plant diseases or insect vectors.
  - **Integrated Pest Management (IPM):** On fallowed fields and within other PVID service areas, operations shall follow localized IPM strategies to monitor and eradicate noxious weeds and invasive vegetation (such as salt cedar or invasive grasses) while minimizing environmental chemical runoff.
- **BMP AG-3: Construction Coordination and Access Maintenance.** During canal lining and the construction of regulating reservoirs, PVID and its contractors shall coordinate construction schedules directly with affected landowners to minimize operational disruption. Contractors would ensure that temporary construction activities do not

[24] Clod plowing refers to the practice of tilling a field when it is wet so that large, damp clumps of soil are produced. These wet clumps break down into clods of soils that have a low susceptibility to wind erosion because they contain a relatively hard crust that minimizes detachment of soil particles.

indefinitely block active field access roads or permanently impair operational irrigation turnouts. Any turnouts or drainage pathways modified during modernization would be reconstructed or modified to maintain agricultural service consistent with project design requirements.

- **BMP AG-4: Annual Water Rights and Budgeting Review.** Prior to each Program operating year, PVID shall conduct an annual water rights legal review and water budget analysis to confirm: (1) the quantity of water to be conserved and the acreage to be fallowed; (2) the adequacy of the remaining diversion allocation to meet the water demands of all non-participating irrigators; (3) the consistency of conservation volumes with the operative conservation agreement(s); and (4) the projected end-of-year Lake Mead elevation accounting for PVID's conservation contribution. This review shall be documented in PVID's annual water accounting report submitted to the U.S. Bureau of Reclamation.

3.2.5.3 CEQA Threshold B

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Implementation of the proposed Program would not conflict with local agricultural zoning controls or active Williamson Act land conservation contracts. Both the Riverside and Imperial County General Plans feature agricultural frameworks designed to prevent urban encroachment and preserve contiguous blocks of farmland. Riverside County is guided by the Palo Verde Valley Area Plan and enforces an Agriculture Foundation Component that restricts non-agricultural land use shifts. Imperial County's Agricultural Element mandates strict growth boundaries confined to established Spheres of Influence (SOI). On-farm conservation measures, canal modernization, regulating reservoirs, and enhanced PVID maintenance are inherently supportive of these local structures, and would remain consistent with agricultural land use designations and policies intended to support ongoing agricultural production.

Within the PVID service area, Williamson Act land preservation contracts occur on only 481 acres[25] within the Riverside County portion of the Valley. These consist exclusively of parcels crossed by electrical transmission lines.[26] Imperial County no longer participates in Williamson Act contracts.

Because the Program operates in harmony with the agricultural designations of both General Plans and does not interfere with the minimal remaining Williamson Act acreage, no conflict exists.

Finding: Less than Significant Impact

[25] Palo Verde Irrigation District. *Personal communication with J.R. Echard, Manager*. May 28, 2026.
[26] City of Blythe. *General Plan 2025*. March 2007.

3.2.6 Cumulative Impacts

The geographic scope for cumulative agricultural analysis encompasses the entirety of Riverside County, Imperial County, and the broader lower Colorado River agricultural zone. This agricultural region is currently facing unprecedented stressors that threaten the long-term stability of traditional farming operations.

- **Colorado River Water Supply Uncertainty:** The lower Colorado River basin is experiencing sustained hydrologic stress, characterized by structural deficits, variable snowpack, and historically low storage levels in Lake Mead and Lake Powell. As the Bureau of Reclamation and basin states negotiate post-2026 operational guidelines, regional water security faces significant long-term uncertainty. While PVID's Priority 1 water rights under the 1931 Seven-Party Agreement provide exceptional legal security, the broader regional pressure to conserve water and adapt to a more volatile supply framework represents a severe cumulative constraint on the agricultural zone. Within this cumulative context, the Program does not compound regional water scarcity; rather, it establishes a structured, proactive mechanism to improve distribution efficiency and support system-wide stabilization goals while fully maintaining the valley's underlying agricultural water entitlements.
- **Agricultural Economic Pressures:** Farmers across this agricultural region are operating under increasingly more difficult economic conditions. These include escalating input costs (fuel, fertilizer, compliance, and labor), fluctuating market prices for primary regional crops, and competitive pressure from global markets.
- **Land Use Conversion:** Driven by difficult water and economic realities, the regional baseline has seen a steady, permanent loss of Important Farmland to non-agricultural uses. Between the 2016 and 2018 biennial mapping cycles, Riverside County lost 5,980 acres (-1.4%) of its Important Farmland base, while Imperial County lost 6,097 acres (-1.2%).

The proposed Program's water allocation adjustments, canal lining, and voluntary fallowing agreements would not contribute incrementally to this negative cumulative trend. Unlike urban sprawl or solar conversions, which permanently strip the land of its agricultural utility, the proposed Program would serve as an operational and economic buffer. The voluntary conservation agreements would provide participating landowners with a predictable, alternative revenue stream that helps to offset volatile crop prices and rising input costs.

- Additionally, because all participating acreage remains strictly within its protective agricultural zoning, retains its full irrigation entitlements, and is legally mandated to return to active crop production after a maximum of five years, the Program effectively avoids facilitating farmland conversion. By modernizing canal delivery networks and safeguarding

the District's water-right baseline without converting a single acre to urban use, the Program would proactively mitigate regional stressors. Therefore, the Program's incremental contribution to cumulative agricultural resource impacts is cumulatively less than significant.

Finding: Less than Significant Impact

3.2.7 Conclusions for Agricultural Resources

The proposed Program would execute operational facilities maintenance, drain maintenance, voluntary rotational fallowing, and canal lining across the PVID service area. Because the proposed Program would not directly or indirectly convert Important Farmland to non-agricultural use, would not conflict with agricultural zoning or Williamson Act contracts, and would not result in cumulatively considerable farmland conversion impacts, and BMPs will be implemented as required conditions of Program approval, agricultural resource impacts are determined to be less than significant.

3.3 Air Quality

3.3.1 Introduction

This section evaluates the impacts to air quality that may result from the proposed PVID Conserved Water Supply Program within the Palo Verde Valley. The analysis describes the applicable regulations, characterizes the existing air quality in the Palo Verde Valley, identifies criteria used for determining the significance of environmental impacts, assesses the Project's potential direct, indirect, or cumulative impacts related to air quality – including short-term construction activities for canal lining and regulating reservoirs and includes measures to avoid and/or substantially reduce potentially significant impacts. This section evaluates criteria air pollutant emissions associated with implementation of the proposed Program. Greenhouse gas emissions are addressed separately (see Section 3.10) and are not evaluated in this section.

Information contained in this section is based on publicly available data and reports from the California Air Resources Board (CARB), U.S. Environmental Protection Agency (EPA), Mojave Desert Air Quality Management District (MDAQMD), Imperial County Air Pollution Control District (ICAPCD), and City of Blythe.

3.3.1.1 Program Elements Not Applicable to the Resource Topic

Certain Program components would occur within existing PVID operational areas and would not change existing operations or permanently remove farmland from production. These elements include operational facilities maintenance, which are year-round, ongoing maintenance and repairs on irrigation canals and drainage systems. Because these elements would be limited to existing drains, canals, and other PVID operational facilities, they would not change baseline air quality conditions that would result in potential air quality impacts. These activities are therefore not expected to result in air quality impacts and are not analyzed further in this section.

3.3.1.2 Program Elements Applicable to the Resource Topic

Several key Program components could directly affect air quality and are the focus of this impact analysis:

- **Voluntary Land Fallowing and Early Crop Termination:** Multi-year or rotational water conservation agreements would temporarily remove selected parcels from active production. The analysis evaluates whether these temporary changes would result in localized air quality impacts related to soil erosion (fugitive dust and wind erosion).
- **Canal Lining and Regulating Reservoirs:** Lining unpaved channels and constructing small regulating reservoirs would improve water savings beyond crop management. These improvements would require localized grading and earthmoving, resulting in short-term exhaust and dust emissions from construction equipment. Following construction, the

long-term operation of the lined canals and reservoirs would have no potential to result in significant adverse changes in local or regional air quality.

3.3.2 Analysis Methodology

The *2002 Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program EIR* provided relevant background information and historical environmental baselines for comparison. This PEIR evaluates whether implementation of the proposed Program would result in new significant impacts or substantially more severe impacts than previously analyzed.[1]

The air quality analysis includes a review of criteria pollutant[2] emissions, including carbon monoxide (CO),[3] nitrogen oxides (NO_x), sulfur dioxide (SO_2), volatile organic compounds (VOC) evaluated as reactive organic gases (ROG),[4] coarse particulate matter (less than 10 micrometers; PM_{10}), and fine particulate matter (less than 2.5 micrometers; $PM_{2.5}$).[5] A qualitative assessment of air quality effects related to canal lining and reservoir construction is provided, combined with identification of the Best Management Practices applied by the District to all construction activities. This evaluation uses a qualitative analysis because this is a program-level PEIR, and the project-specific construction details, scheduling timelines, and localized equipment configurations for future canal lining and reservoir projects are not yet known. Detailed quantitative emissions modeling would be conducted, as necessary, during subsequent tiering and site-specific environmental reviews when definitive engineering plans are established.

3.3.3 Applicable Regulations

3.3.3.1 Federal Laws, Regulations, and Policies

Criteria Air Pollutants

The 1970 federal Clean Air Act (CAA), last amended in 1990, is the primary federal law addressing national air pollution control efforts. The EPA is responsible for setting National Ambient Air

[1] Palo Verde Irrigation District, *Draft Environmental Impact Report for the Proposed Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program*, May 2002.

[2] Criteria air pollutants are those for which the United States Environmental Protection Agency (USEPA) and California Air Resources Board (CARB) have established National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) under the Federal Clean Air Act (CAA).

[3] CO is a non–reactive pollutant that is a product of incomplete combustion of organic material and is mostly associated with motor vehicles and use of wood–burning stoves and fireplaces.

[4] VOC means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which involves atmospheric photochemical reactions resulting in a precursor of ozone formation. ROGs are any reactive compounds of carbon, excluding methane, CO, CO_2 (carbonic acid), metallic carbides or carbonates, ammonium carbonate, and other exempt compounds. The terms VOC and ROG are often used interchangeably.

[5] PM_{10} and $PM_{2.5}$ consist of airborne particles that measure 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs, causing adverse health effects.

Quality Standards (NAAQS) for major air pollutants; establishing hazardous air pollutants (HAP) standards; approving State Implementation Plans (SIPs); and issuing mobile (motor vehicles) and stationary source emission standards. Under the CAA, NAAQS are established for key criteria pollutants: ozone (O_3), nitrogen dioxide (NO_2), CO, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describes acceptable air quality conditions designed to protect public health and welfare. The CAA requires the EPA to reassess these standards at least every 5 years to determine whether they are adequate to protect public health. States with areas that exceed the NAAQS must prepare a SIP demonstrating how those regions will attain the NAAQS within mandated time frames.

Federal General Conformity

Under the CAA, federal agencies supporting or granting approval of a project or other activity must demonstrate that such actions do not interfere with state and local plans for attainment with the NAAQS. Both MDAQMD and ICAPCD have adopted the federal general conformity regulations which apply to any general federal actions that are funded or approved under by the agencies.[6,7] Under the general conformity regulations, both the direct and indirect emissions associated with a federal action must be evaluated.

3.3.3.2 State Laws, Regulations, and Policies

Criteria Air Pollutants

The CAA delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. [8] In California, air quality management and regulation has been legislatively granted to the California Air Resources Board (CARB), with subsidiary responsibilities assigned to regional and county-level air quality management districts and air pollution control districts. CARB established the California Ambient Air Quality Standards (CAAQS),[9] which are generally more restrictive than the NAAQS. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The applicable NAAQS and CAAQS are presented in Table 3.3-1.[10,11]

[6] Imperial County Air Pollution Control District. (2022). CEQA Air Quality Handbook; Guidelines for the Implementation of the California Environmental Quality Act of 1970, as amended; (revised June 7, 2022).

[7] Mojave Desert Air Quality Management District (MDAQMD). California Environmental Quality Act (CEQA) and Federal Conformity Guidelines. February 2020.

[8] U.S. Environmental Protection Agency (USEPA). 2023. *Six Common Air Pollutants*, https://www.epa.gov/criteria-air-pollutants. Accessed June 2026.

[9] California Air Resources Board. Ambient Air Quality Standards. https://ww2.arb.ca.gov/our-work/programs/outdoor-air-quality-standards. Accessed June 2026.

[10] U.S. Environmental Protection Agency (USEPA). 2023. *Six Common Air Pollutants*, https://www.epa.gov/criteria-air-pollutants. Accessed June 2026.

[11] California Air Resources Board. Ambient Air Quality Standards. https://ww2.arb.ca.gov/our-work/programs/outdoor-air-quality-standards. Accessed June 2026.

The portion of Riverside County where the Project is located is designated as non-attainment for the federal 1997, 2008, and 2015 8-hour ozone standards. For state standards, the Project area is in non-attainment ozone and PM_{10}. All other criteria pollutants are designated as in attainment or unclassified (Table 3.3-1). Imperial County is either attainment or unclassified for all NAAQS) standards except for the ozone standard. This non-attainment is with respect to the 1997, 2008, and 2015 8-hour ozone standards.

California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code forbids the discharge of any air contaminants or other materials that could cause injury or nuisance to the public, or that cause injury or damage to business or property. This section also applies to sources of objectionable odors.

Table 3.3-1: Ambient Criteria Pollutants Concentration Data, Palo Verde Valley

Pollutant	Parameter	Primary level	Secondary Level	NAAQS	CAAQS
Carbon Monoxide (CO)	8 hours	9 ppm	-	Attainment/ Unclassified	Attainment
	1 hour	35 ppm	-		
Lead (Pb)	Rolling 3-month avg	0.15 µg/m^3	0.15 µg/m^3	Attainment/ Unclassified	Attainment
Nitrogen Dioxide (NO_2)	1 hour	100 ppb	-	Attainment/ Unclassified	Attainment
	1 year	53 ppb	53 ppb		
Ozone (O_3)	8 hours	0.070 ppm	0.070 ppm	Non-attainment	Non-attainment
Particulate Matter ($PM_{2.5}$)	1 year	12.0 µg/m^3	15.0 µg/m^3	Attainment/ Unclassified	Attainment
	24 hours	35 µg/m^3	35 µg/m^3		
Particulate Matter (PM_{10})	24 hours	150 µg/m^3	150 µg/m^3	Unclassified	Non-attainment
Sulfur Dioxide (SO_2)	1 hour	75 ppb	-	Attainment/ Unclassified	Attainment
	3 hours	-	0.5 ppm		
Visibility Reducing Particles	8 hour (10am-6pm)	Extinction coefficient of 0.23/km	-	No Standard	Unclassified
Sulfates (SO_4)	24 hour	25 µg/m^3	-	No Standard	Attainment
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	-	No Standard	Unclassified
Vinyl Chloride	24 hour	0.01 ppm	-	No Standard	Unclassified

3.3.3.3 Local Laws, Regulations, and Policies

Mojave Desert Air Quality Management District & Imperial County Air Pollution Control District

While CARB is responsible for the regulation of mobile emissions sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing

standards and regulating stationary sources. PVID extends across two air basins including the Mojave Desert Air Basin in Riverside County under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD), and the Salton Sea Air Basin in southern District area within Imperial County, under the jurisdiction of the Imperial County Air Pollution Control District (ICAPCD).[12] Both basins are in attainment with or unclassified for all federal air quality standards but are designated as being in non-attainment with state standards for ozone and PM_{10}.

Both districts operate monitoring stations in their respective basins, develop rules and regulations for stationary sources and equipment, prepare emissions inventory and air quality management planning documents, and conduct source testing and inspections. Their regulations include control measures and strategies to be implemented to attain the CAAQS and NAAQS. Applicable rules govern emissions that would result from mobile, area, and stationary sources during construction and for operation of related infrastructure such as stationary gasoline or diesel-fueled water pumps within PVID.

Rules applicable to fugitive dust control are intended to ensure that the NAAQS for PM_{10} will not be exceeded within the Planning Area and require implementation of control measures contained in their respective federal PM_{10} Attainment Plan.[13] Fugitive dust rules are not applicable to farm operations but would be applicable to construction of the Program's regulating reservoirs and canal lining projects. Standard requirements include a Dust Control Plan, signage and fencing requirements, as well as surface watering and stabilization with chemicals, gravel and possibly asphaltic pavement to eliminate visible fugitive dust from vehicular travel and wind erosion. Other rules that could be applicable to construction activities pertain to sulfur content of liquid fuels and use of solvents with a goal to reduce Sulphur oxides and VOC emissions.

Riverside and Imperial County General Plans

The Riverside County General Plan[14] includes an Air Quality Element. The Imperial County General Plan addresses air quality in its Conservation and Open Space Element.[15] General Plan policies relevant to the Conserved Water Supply Program pertain to compliance with local air district rules and regulations, use of applicable pollution control measures, compliance with measures to reduce fugitive dust emanating from construction sites, and implementation of control measures for wind erosion of soil.

[12] Imperial County Air Pollution Control District. (2022). Rules and Regulations.

[13] Mojave Desert Air Quality Management District (MDAQMD). *Final Mojave Desert Planning Area Federal PM10 Attainment Plan*. July 31, 1995. https://www.mdaqmd.ca.gov/home/showpublisheddocument/176/636305689057870000. Accessed June 2026.

[14] County of Riverside, *General Plan, Chapter 9, Air Quality Element*; (revised July 17, 2018).

[15] County of Imperial, *General Plan, Conservation and Open Space Element*, March 8, 2016.

City of Blythe General Plan 2025

The City of Blythe General Plan 2025 Open Space and Conservation Element includes guiding and implementing policies that seek continued maintenance of the high quality of air enjoyed by residents. The air quality policies applicable to the proposed Program specifically address construction-related fugitive dust emissions to control such emissions as follows:

- During clearing, grading, earth-moving, or excavation operations, fugitive dust emissions shall be controlled by regular watering, paving of construction roads or other dust-preventive measures.
- All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering, with complete coverage, shall occur at least twice daily, preferably in the late morning and after work is done for the day.
- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 15 mph averaged over a 1-hour period.
- All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- The area disturbed by demolition, clearing, grading, earth moving, or excavation operations shall be minimized at all times.
- Portions of the construction site to remain inactive longer than a period of 3 months shall be seeded and watered until a vegetative cover is grown.
- All on-site roads shall be paved as soon as feasible or watered periodically or chemically stabilized.

In addition, project development (such as canal lining and regulating reservoir construction) that would result in construction-related exhaust emissions is required to minimize such emissions by maintaining equipment engines in good conditions and in proper tune according to manufacturer's specifications and, during smog season (May through October), by not allowing construction equipment to be left idling for long periods.[16]

3.3.4 Existing Conditions

Air quality is affected by the rate, amount, and location of pollutant emissions and the associated meteorological conditions that influence pollutant movement and dispersal. Atmospheric conditions, including wind speed, wind direction, stability, and air temperature, in combination with local surface topography determine the effect of air pollutant emissions on local air quality.

[16] City of Blythe, *General Plan 2025, Open Space and Conservation Element*. March 2007.

During the summer the Palo Verde Valley is generally influenced by a Pacific Subtropical High cell that sits off the coast, inhibiting cloud formation and resulting in significant warming. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. The Valley averages between three and seven inches of precipitation per year (from 16 to 30 days with at least 0.01 inches of precipitation). Both air basins are classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least three months with maximum average temperatures over 100°F. The region is characterized by extreme fluctuations of daily temperatures, strong seasonal winds, and clear skies. January is the coldest month, with a mean low temperature of 37°F. July is the hottest month, with a mean high temperature of 108°F.

Hourly meteorological data from Blythe Airport from 2015, 2016, 2017, 2019 and 2020 were available and is shown in Figure 3.3-1.[17] Wind directions are predominately from the south and north with a low frequency of calm wind speed conditions (approximately 1.1 percent) The average annual wind speed is 8.7 miles per hour (3.9 meters per second). In this region, wind speeds tend to be higher during the summer months and during the daytime.

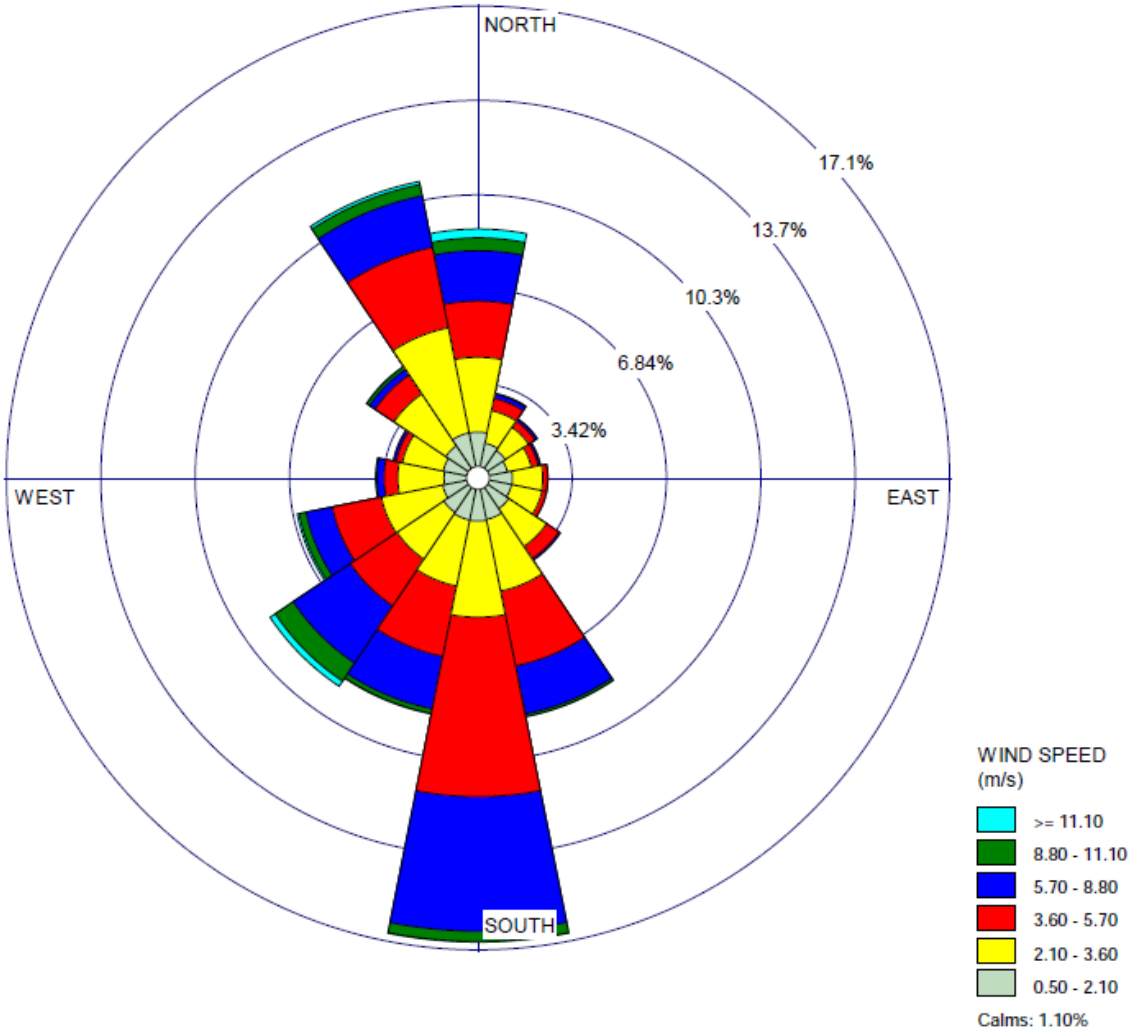
3.3.5 Impact Assessment

This section discusses the potential air quality impacts that could occur if the proposed Program is approved and instituted in the PVID service area. Each element of the Program would conform to all applicable federal, state, and local air quality standards. Under this PEIR, a project is conforming if it complies with all applicable air district rules, regulations, and control measures. Conversely, a project is non-conforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. Potential impacts include both direct and indirect effects, which are categorized into short-term construction emissions and long-term operational adjustments detailed below. Indirect impacts are the result of changes that would not occur without the project. For this conservation program, indirect impacts on air quality are minimal as there are no long-term emissions increases related to implementation of the program elements.

- **Construction Activities:** Canal lining and regulating reservoir construction (such as grading and excavation) would generate short-term criteria pollutant emissions, including temporary heavy-duty equipment exhaust, delivery vehicle exhaust, and localized fugitive dust (PM_{10} and $PM_{2.5}$). Because these activities are short-term, scattered across a large geographic footprint, and bound by mandatory regional dust control rules (MDAQMD/ICAPCD Rule 403), construction emissions would be subject to Regulatory Compliance Measures (RCM) AQ-1 and RCM AQ-2. Through mandatory compliance with these rules, the construction phase meets the criteria for a conforming action.

[17] California Air Resources Board, Air Dispersion Modeling and Risk Tool Meteorological Files, March 22, 2022, https://www.arb.ca.gov/toxics/harp/metfiles2.htm

Figure 3.3-1. Palo Verde Valley Annual Wind Rose (Blythe Airport)



- **Operational Activities:** Long-term Program operations do not introduce new stationary emissions sources or generate permanent increases in regional vehicle miles traveled (VMT; see Section 3.1). Operational modifications are limited to water conveyance infrastructure optimization and on-farm conservation measures involving voluntary, temporary, and rotational land fallowing and early crop termination. When agricultural fields are temporarily idled, the lack of active crop cover can increase the potential for localized wind erosion and fugitive dust (PM_{10}). To proactively address this issue at the source, the Program embeds standard, mandatory land-stabilization protocols directly into the project framework as built-in operational commitments. These practices, such as maintaining crop residue, clod plowing, and cover cropping, are described as formal project commitments under CEQA Threshold 2 below. Long-term Program operations would minimize the generation of fugitive dust, prevent localized nuisances, and ensure that operational activities remain conforming with regional air quality goals.

3.3.5.1 Criteria for Determining Significance

Thresholds of significance define the level of environmental change beyond which an impact would be considered significant under CEQA.[18] Pursuant to the CEQA Guidelines, PVID has applied the following Appendix G thresholds of significance for evaluating Program effects on air quality. The following impact criteria are defined in the CEQA Guidelines, Appendix G:

Air Quality: *Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the proposed Project:*

a) Conflict with or obstruct implementation of the applicable air quality plan?

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

c) Expose sensitive receptors to substantial pollutant concentrations?

d) *Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

3.3.5.2 CEQA Threshold A

a) Conflict with or obstruct implementation of the applicable air quality plan?

Both the MDAQMD and ICAPCD have adopted fugitive dust control measures and stationary source regulations within their applicable regional air quality plans to address the attainment and maintenance of State and federal ambient air quality standards. The proposed Program is designed to operate in compliance with these local rules, as well as the General Plan policies of Riverside County, Imperial County, and the City of Blythe.

The Program would align with regional air quality planning goals:

- **Construction Emissions:** Short-term construction activities for canal lining and regulating reservoirs would not conflict with regional attainment pathways or increase the frequency or severity of an ambient air quality violation. Activities will implement standard, mandatory dust-suppression and vehicle exhaust control using RCM AQ-1, RCM AQ-2,, which would fully comply with applicable air district rules.
    - **RCM AQ-1: Fugitive Dust Control under MDAQMD/ICAPCD Rule 403.** The Construction Contractor will obtain a Construction Permit from the applicable air

[18] Association of Environmental Professionals (AEP), *California Environmental Quality Act, 2026 Statute and Guidelines*.

district (MDAQMD or ICAPCD) for a fugitive dust control program. This program shall include, but not be limited to the following:

- ❖ Water shall be applied at least two times daily, preferably in the mid-morning, afternoon, and after work is done for the day, to exposed surfaces including graded and disturbed areas in sufficient quantity to prevent generation of dust plumes. Traffic speeds on unpaved roads shall be limited to 15 miles per hour.
- ❖ Operations on unpaved surfaces shall be suspended when winds exceed 25 miles per hour.
- ❖ On-site stockpiles shall be covered or watered at least twice per day.
- ❖ Areas disturbed by demolition, clearing, grading, earth moving, or excavation operations shall always be minimized.
- ❖ Portions of any construction site that remain inactive longer than a period of three months shall be seeded and watered until a vegetative cover is grown.
- ❖ All on-site roads shall be paved as soon as feasible or watered periodically or chemically stabilized.

- **RCM AQ-2: Heavy-Duty Idling Limits.** The Construction Contractor shall control exhaust emissions during construction by maintaining equipment engines in good condition and in proper tune according to manufacturer's specifications to ensure minimum emissions under normal operations and during smog season (May through October).
- **BMP AQ-1: Equipment Maintenance.** All construction vehicles, both on- and off-site, and construction equipment idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of California Code of Regulations). The construction contractor shall provide awareness training to equipment operators regarding this idling limit.

- **Operational Emissions:** The Program would not interfere with regional PM_{10} control strategies by integrating proactive land-stabilization commitments directly into landowner agreements.[19] These soil conservation measures, detailed under CEQA Threshold 2, ensure that voluntary, temporary, and rotational land fallowing operates in accordance with regional air quality goals.

[19] Palo Verde Irrigation District, Landowner Agreement for Fallowing in the Palo Verde Irrigation District, August 2004.

Because both short-term construction and long-term land management activities are structured to meet applicable localized dust and emission control requirements, the proposed Program would not conflict with or obstruct the implementation of any regional air quality plan. Therefore, the project would result in a less than significant impact.

Finding: Less than Significant Impact

3.3.5.3 CEQA Threshold B

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The PVID service area is located within regions designated as non-attainment for PM_{10} standards and state/federal ozone standards. Potential Program contributions to these non-attainment criteria pollutants are evaluated based on the following:

- **Construction Emissions:** Short-term emissions of PM_{10}, $PM_{2.5}$, NO_x and VOCs would occur during heavy equipment usage for canal lining and regulating reservoir construction. These would be controlled through mandatory compliance with RCM AQ-1, RCM AQ-2, and BMP AQ-1.
- **Operational Emissions:** For fields participating in voluntary, temporary, and rotational land fallowing, the primary air quality consideration is the potential for localized wind erosion to generate fugitive dust emissions (PM_{10}) while fields are temporarily idled.

  As detailed in section 3.2 Agricultural Resources, the Program incorporates standard land-management practices and operational requirements as part of the on-farm management measures involving fallowing and early crop termination. These built-in commitments support soil conservation and weed management, eliminating the need for formal CEQA mitigation:

  - **BMP AG-1: Soil Stabilization and Wind Erosion Control** that may include stubble residue and sod remnants, clod plowing, surface management, and cover cropping.
  - **BMP AG-2: Integrated Weed and Pest Management,** including spread prevention and Integrated Pest Management (IPM).
  - **BMP AG-3: Construction Coordination and Access Maintenance** for canal lining and construction of regulating reservoirs.

Neither construction activities nor long-term conservation practices would result in a cumulatively considerable net increase of non-attainment pollutants. Construction activities are localized and

minimal, and dust-minimizing and land management conservation practices are integral to the landowner agreements as standard conditions of Program participation.

Finding: Less than Significant Impact

3.3.5.4 CEQA Threshold C

c) Expose sensitive receptors to substantial pollutant concentrations?

Poor air quality can have greater adverse effects on sensitive land uses such as schools, children's daycare centers, hospitals, and convalescent homes because these population groups have increased susceptibility to respiratory ailments. Those in residential areas are also more sensitive to air quality conditions because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. People engaged in strenuous work or exercise also have increased sensitivity to poor air quality. The CARB has identified the following people as most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and those with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive population groups.

The Conserved Water Supply Program would not expose sensitive receptors within the Palo Verde Valley to new or substantial pollutant concentrations. Specific sensitive receptors within the project region include residences, schools, parks, and medical facilities located primarily within and adjacent to the City of Blythe.

- **Construction Emissions:** The vast majority of programmatic construction activities related to canal lining and regulating reservoir construction would occur in rural agricultural areas well away from these sensitive receptors. Mandatory compliance with RCM AQ-1 and RCM AQ-2 ensures that short-term dust emissions and exhaust will be minimized at the source.
- **Operational Emissions:** Fields participating in voluntary, temporary, and rotational land fallowing are subject to project requirements outlined in landowner agreements, including implementing BMP AG-1 to minimize wind erosion and dust production.

Thus, impacts during construction and operation would not expose sensitive receptors to substantial pollutant concentrations, and this potential impact is less-than-significant.

Finding: Less than Significant Impact

3.3.5.5 CEQA Threshold D

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Any project with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact. The types of development that pose potential odor problems include some types of agricultural production and food processing, dairies, rendering, refineries, chemical plants, wastewater treatment plants, landfills, composting facilities, and solid waste transfer stations.

The proposed Program would not introduce industrial processing, manufacturing, waste handling, or other odor-generating uses to the region. Program elements are restricted to water conveyance modernizations and voluntary, temporary, and rotational land fallowing.. Short-term diesel exhaust from construction equipment would be localized, transient, and minor. None of the project elements have the potential to generate substantial odors or other emissions affecting a substantial number of people within the Palo Verde Valley and this potential impact is determined to be less than significant.

Finding: Less than Significant Impact

3.3.6 Cumulative Effects

The geographic scope for the cumulative air quality analysis encompasses the Mojave Desert Air Basin (Riverside County portion) and the Salton Sea Air Basin (Imperial County portion), within the broader lower Colorado River region. This regional airshed experiences ongoing baseline air quality challenges, driven by its non-attainment status for State and federal ozone standards, as well as State non-attainment status for PM_{10}.These ambient conditions are a result of cumulative regional factors, including:

- **Regional Transport:** Upwind pollutant transport from coastal and urban areas.
- **Transportation Corridors:** Heavy commercial and passenger vehicle exhaust along the Interstate 10 corridor and regional trucking routes.
- **Routine Agriculture:** Basin-wide agriculture operations, including tilling, harvesting, and localized heavy equipment use.
- **Wind-Blown Dust:** Fugitive dust from wind across open desert landscapes.

The proposed Program's minor, short-term construction activities would not contribute a cumulatively considerable increment to these regional totals. During the construction phase, localized grading and excavation for canal lining and regulating reservoirs would be minor, transient, and strictly regulated at the source by implementing RCM AQ-1, RCM AQ-2, and BMP AQ-1.

Over the long term, on-farm conservation measures would also not contribute a cumulatively considerable increment to the regional totals. Long-term operations do not generate new

stationary source emissions or permanently increase vehicle miles traveled. While voluntary, temporary, and rotational land fallowing removes active crop cover, the mandatory implementation of BMP AG-1 ensures that participating fields are stabilized through stubble retention, clod plowing, and cover cropping.

By embedding these regulatory compliance measures and agricultural best management practices directly into the Program framework, the project prevents localized emissions from compounding the regional airshed burden. Therefore, the Program's incremental contribution to regional air quality impacts would not be cumulatively considerable.

Finding: Less than Significant Impact

3.3.7 Conclusions for Air Quality

The proposed Program would involve operational facilities maintenance, drain maintenance, voluntary, temporary, and rotational land fallowing, and construction of regulating reservoirs and canal lining across the PVID service area. Because the proposed Program would not directly or indirectly result in producing significant emissions, localized and regional air quality effects would not be significant and would not contribute to compounding air quality effects of other sources in the region.

By relying on mandatory compliance with existing regional air district regulations (Regulatory Compliance Measures) and built-in project commitments (Best Management Practices) rather than creating new CEQA mitigation measures, all potential direct, indirect, and cumulative air quality impacts are concluded to be less than significant.

3.4 Biological Resources

3.4.1 Introduction

This section describes existing vegetation, wildlife, and sensitive species within the Project area and evaluates potential project-related impacts to those resources. The analysis includes an assessment of potential impacts to sensitive species (as defined by Appendix G of the CEQA Guidelines, as amended), including migratory bird species and sensitive natural communities. This section relies upon information published in federal, State, and local documents and includes information on critical habitat and wetlands.

Biological reconnaissance surveys were conducted by J. Himes on September 3 and November 4-5, 2026, to observe and confirm vegetation communities and habitat conditions previously reported throughout the District. Once locations are identified for development of regulatory reservoirs, project-level CEQA documentation would be prepared. This documentation would include site-specific biological surveys and assessments for review by California Department of Fish & Wildlife (CDFW) and U.S. Fish & Wildlife Service (USFWS), as applicable. This Program EIR establishes the baseline, analytical framework, and mitigation measures applicable to such tiered review.

3.4.2 Analysis Methodology

Database searches and a literature review were conducted to assist in determining the potential occurrence of sensitive species in the project vicinity, and in evaluating existing vegetation and wildlife resources (see Appendix B). Online databases searched and documents reviewed include the following:

- CDFW California Natural Diversity Database (CNDDB)
- California Native Plant Society's (CNPS) online inventory of rare and endangered plants
- USFWS National Wetland Inventory Mapper
- USFWS Information for Planning and Consultation Resource List (IPaC)
- FEMA floodplain maps
- Current and historical USGS topographical maps
- Current and historical Google Earth aerial photographs
- Lower Colorado River Multi-Species Conservation Program technical reports (2022-2025)

- Palo Verde Irrigation District EIR, PVID/MWD Land Management, Crop Rotation and Water Supply Program.[1]
- Assessment of Biological Resources Associated with Palo Verde Valley Agricultural Drains for the Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program.[2]
- Final Environmental Impact Report/Environmental Impact Statement for the Proposed Devers-Palo Verde #2 Transmission Line Project.[3]

3.4.3 Applicable Regulations

Federal, state, and local laws and regulations applicable to biological resources in the project vicinity are identified and summarized below.

3.4.3.1 Federal Laws, Regulations, and Policies

Endangered Species Act

The federal Endangered Species Act (ESA) of 1973 provides a program for the conservation and protection of endangered and threatened plants and animals and the habitats in which they are found. Section 7 of the ESA directs federal agencies to use their legal authorities to carry out conservation programs for listed species. It also requires these agencies to ensure that any actions they fund, authorize, or carry out are not likely to jeopardize the survival of any endangered or threatened species, or to destroy or adversely modify its designated critical habitat (if any).

Additional protection is authorized by Section 9 of the ESA, which makes it illegal to take, import, export, or engage in interstate or international commerce of listed animals except by permit for certain conservation purposes. "Take" is defined by the ESA as to harm, harass, wound, trap, collect, kill or the attempt to engage in such activity.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) governs the obligation of the United States under international treaties and conventions for the protection of migratory birds. The MBTA governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs,

[1] Palo Verde Irrigation District, Metropolitan Water District, 2003. Environmental Impact Report. *PVID/MWD Land Management, Crop Rotation and Water Supply Program*.

[2] Helix Environmental Planning, Inc. 2002. Assessment of Biological Resources Associated with Palo Verde Valley Agricultural Drains for the Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program. March 2002.

[3] State of California Public Utilities Commission/Bureau of Land Management. 2007. Final Environmental Impact Report/Environmental Impact Statement for the Proposed Devers-Palo Verde #2 Transmission Line Project.

parts and nests. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, any migratory birds, their eggs, parts, and nests, except as authorized under a valid permit by the USFWS.

Bald and Golden Eagle Protection Act

Two species of eagles that are native to the United States, bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*), were granted protection within the United States under the Bald and Golden Eagle Protection Act to prevent the species from becoming extinct. The Bald and Golden Eagle Protection Act prohibits the take, possession, and commerce of bald eagles and golden eagles. Under the act and subsequent rules published by USFWS, take may include actions that injure an eagle or affect reproductive success (productivity) by substantially interfering with normal behavior or causing nest abandonment. USFWS can authorize incidental take of bald and golden eagles for otherwise lawful activities.

Clean Water Act

The Clean Water Act (CWA) was established in 1972 as the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under the CWA, the EPA has implemented pollution control programs such as setting wastewater standards for industries. The EPA has also developed national water quality criteria recommendations for pollutants in surface waters.

It is unlawful under the CWA to discharge any pollutant from a point source, which is a discrete conveyance such as a pipe or man-made ditch, into navigable waters unless a permit is obtained. The National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. Compliance monitoring under the NPDES Program encompasses a range of techniques in order to address the most significant problems and to promote compliance among the regulated community.

Noxious Weed Act (7 U.S.C. Sections 2801 et seq.)

The Noxious Weed Act "seeks to control the spread of noxious weeds which interfere with the growth of useful plants, clog waterways, cause disease, or have other adverse effects upon man or his environment and which are therefore detrimental to agriculture and commerce." "Noxious weed" is defined as any living stage (including seeds and reproductive parts) of any parasitic or other plant of a kind, or subdivision of a kind, which is of foreign origin, is new to or not widely prevalent in the United States, and can directly or indirectly injure crops, other useful plants, livestock, or poultry or other interests of agriculture, including irrigation, navigation, fish, and wildlife resources of public health.

3.4.3.2 State Laws, Regulations, and Policies

California Endangered Species Act

The California Endangered Species Act (CESA) enacted in 1970 and subsequently amended, conserves and protects plant and animal species at risk of extinction. The CDFW has the responsibility for maintaining a list of threatened and endangered species.[4] CDFW also maintains a list of "candidate species," which are species formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. In addition, CDFW maintains lists of "species of special concern," which serve as "watch lists." Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present on a project site and determine whether the proposed project could have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any proposed project that may affect a candidate species.

California Fish and Game Code

Under Sections 3503, 3503.5, and 3511 of the California Fish and Game Code (CFGC), it is unlawful to take, possess or cause destruction of birds, nests, and eggs. Fully protected birds may not be taken or possessed without a specific permit. Section 3505.3 protects all birds of prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 4150 of the CFGC prohibits take or possession of all nongame mammals or parts thereof.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) enacted in 1977 and implemented by the CDFW, prohibits the killing or possession of California rare, threatened, or endangered plant species without authorization or permit by CDFW. All state department and governing agencies are required to use their authority to enforce conservation of rare or endangered plant species.

Migratory Bird Protection

The CFGC prohibits take, possession, or the needless destruction of the nest or egg of any bird, except as otherwise provided by the CFGC or related regulation. CFGC Section 3503.5 makes it unlawful to take, possess, or destroy birds of prey (in the orders Falconiformes and Strigiformes), or to take, possess, or destroy the nest or eggs of any such bird. Section 3513 prohibits take or possession of any migratory nongame bird, as designated in the federal MBTA. CFGC Section 3513 provides for the adoption of the provisions of the federal MBTA (described above).

[4] California Fish and Game Code Section 2070.

Furbearers Protection

Protected Furbearers (14 CCR 460). Section 460 in Title 14 of the California Code of Regulations (CCR) specifies that several furbearing mammals, including desert kit fox (*Vulpes macrotis arsipus*), may not be taken at any time. CDFW, in general, may permit capture or handling of these species for scientific research, but not in other circumstances.

3.4.3.3 Local Laws, Regulations, and Policies

Various local laws, regulations, and policies apply to activities occurring on privately owned lands.

Colorado River Basin Water Quality Control Board Basin Plan

The Basin Plan outlines requirements for discharges of irrigated agricultural lands in the Palo Verde Valley (Order R7-2019-0030-05, adopted Nov. 17, 1993, and amended January 8, 2019).

Riverside County General Plan

The Riverside County General Plan includes policies addressing biological resources within the Land Use (LU) and Multipurpose Open Space (OS) Elements, as follows.[5]

- **Policy LU 9.1.** Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values.
- **Policy LU 9.2.** Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and federal and state regulations such as CEQA, NEPA [the National Environmental Policy Act], the Clean Air Act, and the Clean Water Act.
- **Policy LU 24.1.** Cooperate with the CDFW, USFWS, and any other appropriate agencies in establishing programs for the voluntary protection, and where feasible, voluntary restoration of significant environmental habitats.
- **Policy OS 18.1.** Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCPs (Multiple Species Habitat Conservation Plans) and through implementing related Riverside County policies.

Palo Verde Valley Area Plan

The Project is located within the Palo Verde Valley Area Plan,[6] which contains policies that guide the physical development and land uses within the Palo Verde Valley Area. The following policy in the Habitat Conservation Element is applicable to the Project.

[5] County of Riverside. General Plan: Land Use Element and Multipurpose Open Space Element. 2021 and 2015.

- **Policy PVVAP 12.1.** Protect biological resources in the Palo Verde Valley planning area through adherence to the Environmentally Sensitive Lands, Wetlands and Floodplain and Riparian Area Management sections of the General Plan Multipurpose Open Space Element.

City of Blythe General Plan

The City of Blythe General Plan,[7] conservation strategy focuses on habitat conservation as the most effective way to protect individual special status species, minimize impacts on sensitive biological resources, and preserve plant and animal diversity.

3.4.4 Existing Conditions

3.4.4.1 Vegetation Communities

The Project site lies within the Sonoran Desert ecoregion. As shown in Figures 2-2, 2-3, and 2-4, the Project site includes land actively in agricultural production, and previously disturbed areas associated with roads, drains, canals, and other infrastructure. Residential (developed) lands within the communities of Blythe, Ripley, and Palo Verde are not part of the District or the Project site. Riparian areas along the Colorado River are outside of the Project site.

Vegetation communities within the Project area include agricultural lands, disturbed areas, and vegetation associated with delivery canals, the outfall drain, and irrigation drains. Natural, federally protected wetlands are not present within the Project site. The District contains an estimated 244 miles of canals, including 56 miles of lined canals, and 141 miles of irrigation drains that convey return water. Canals are very well maintained for water delivery and generally lack vegetation other than annual volunteers. Vegetation communities are described in more detail below.

While only agricultural areas are included in the fallowing program, Table 3.4-1 lists vegetation observed or known to occur in the project vicinity[8]. Landscape vegetation including pine, eucalyptus, oleander, and date palm is also common around the farm residences and is not included in Table 3.4-1.[9,10]

[6] County of Riverside. *Palo Verde Valley Area Plan*. September 2021.
[7] City of Blythe. *General Plan 2025*. March 2007.
[8] Helix Environmental Planning, Inc. 2002. *Assessment of Biological Resources Associated with Palo Verde Valley Agricultural Drains for the Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program*. March 2002.
[9] Himes Consulting, LLC. September 3 and November 4-5, 2026, biological reconnaissance surveys.
[10] Helix Environmental Planning, Inc. 2002. *Assessment of Biological Resources Associated with Palo Verde Valley Agricultural Drains for the Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program*. March 2002.

Table 3.4-1. Vegetation Found in the Project Area

Common Name	Scientific Name
Arrowweed	*Pluchea sericea*
Athel tamarisk	*Tamarix athylla*
Bermuda grass	*Cynodon dactylon*
Berlandier's wolfberry	*Lycium berlandieri*
Big saltbush	*Atriplex lentiformis*
Brittlebush	*Encelia farinosa*
Buckwheat	*Eriogonum sp.*
Bulrush	*Scirpus sp.*
Burrobrush	*Hymenoclea salsola*
Canada spikesedge	*Eleocharis geniculata*
Catclaw	*Acacia greggii*
Cattail	*Typha spp.*
Cattle saltbush	*Atriplex polycarpa*
Cheeseweed mallow	*Malva parviflora*
Chinchweed	*Pectis papposa*
Common reed	*Phragmites australis*
Coyote melon	*Cucurbita palmata*
Creosotebush	*Larrea tridenta*
Desert globemallow	*Sphaeralcea ambigua*
Desert horse purslane	*Trianthema portulacastrum*
Desert milkweed	*Asclepias erosa*
Desert shaggymane	*Podaxis pistillaris*
Devil's spineflower	*Chorizanthe rigida*
Fremont's cottonwood	*Populus fremontii*
Fourwing saltbush	*Atriplex canescens*
Galleta grass	*Hilaria rigida*
Goodding's willow	*Salix gooddingii*
Grama Grass	*Bouteloua spp.*
Honey mesquite	*Neltuma glandulosa*
Honeysweet	*Tidestromia oblongifolia*
Horseweed	*Erigeron canadensis*
Indian rushpea	*Hoffmannseggia glauca*
Iodine bush	*Allenrolfea occidentalis*
Jimsonweed	*Datura wrightii*
Johnsongrass	*Sorghum halapense*
Mediterranean grass	*Schismus barbatus*
Mexican fan palm	*Washingtonia robusta*
Mohave seablite	*Sueda nigra*
Nettle-leaved goosefoot	*Chenopodiastrum murale*
Ocotillo	*Fouquieria splendens*
Paloverde	*Cercidium floridum*
Parry's false prairie clover	*Marina parryi*
Pencil cholla	*Opuntia ramosissima*

Common Name	Scientific Name
Prairie sunflower	*Helianthus petiolaris*
Ratany	*Krameria grayi*
Russian thistle	*Salsola tragus*
Sahara mustard	*Brassica tournefortii*
Salt cedar	*Tamarix ramossisima*
Saltbush	*Atriplex canescens*
Silver cholla	*Cylindropuntia echinocarpa*
Sixweeks three-awn	*Aristida adscensionis*
Spanish needle	*Palafoxia arida*
Sprangletop	*Diplachne fusca*
Stinknet	*Oncosiphon piluiferum*
Smoke tree	*Psorothamnus spinosus*
Staghorn cholla	*Opuntia echinocarpa*
Teddy-bear cholla	*Opuntia bigelovii*
Thomas's wild buckwheat	*Eriogonum thomasii*
Unicorn plant	*Proboscidea althaeifolia*
White bursage	*Ambrosia dumosa*

Agriculture

Agricultural lands have been the dominant land cover type in the Palo Verde Valley for about a century and is one of the most productive year-round farming regions in the United States. Irrigated agricultural lands encompass up to more than 99,000 acres in active production at any given time. Principal crops include alfalfa (*Medicago sativa*), irrigated grass hay and bermuda grass (*Cynodon dactylon*), cotton (*Gossypium hirsutum*), wheat (*Triticum aestivum*), Sudan grass (*Sorghum drummondii*), and specialty vegetable crops including cantaloupes, watermelons, lettuce, onions, and garlic. Agricultural lands are an altered habitat and are not described by CDFW or the California Native Plant Society. Farming practices in these areas include soil disking, plowing, and/or herbicide application, as well as routine maintenance and disturbance associated with ongoing management, including crop rotation and fallowing.

Disturbed Areas

Disturbed and ruderal habitats occur throughout the District along roadsides, canal banks, and within and adjacent to former and fallowed agricultural parcels. These habitats are characterized by non-native annual grasses and forbs, including filaree (*Erodium* spp.), red brome (*Bromus rubens*), wild oat (*Avena fatua*), and tumble mustard (*Sisymbrium altissimum*), with some revegetation of native plants possible.

District Canal and Drain Vegetation

District canals and drains include some limited emergent marsh (generally *Typha* sp.), arrow weed shrubs, and salt cedar scrub vegetation as described below. These areas are found as

linear features (one to two trees wide) between the agricultural fields, draining to the outfall ditch. The District's ongoing drain maintenance and repair activities, including clearing, regrading, and repairs, limit the formation of mature riparian communities along some of the drains, favoring the establishment of vegetation types that can rapidly recolonize disturbed areas. Canals are well-maintained with access roads on each side and generally lack vegetation. Canals are also routinely drained each January for maintenance. Ongoing operations and maintenance that impact vegetation associated with District facilities, including periodic bank repair, desilting, and bankline protection, are conducted under the terms of the LCR MSCP and CDFW Permit No. 2081-2005-008-06.

Atriplex Shrubland Alliance. Allscale (*Atriplex polycarpa*) shrubland alliance occurs in some areas along the upper slope of the irrigation drains. This widely spaced scrub vegetation can also include saltbush *(Atriplex canescens),* Mediterranean grass *(Schismus barbatus),* Russian thistle *(Salsola tragus*), and Mojave seablite *(Sueda nigra).*

Arrow Weed Shrubland Alliance. A narrow linear strip of arrow weed (*Pluchea sericea*) shrubland alliance occurs along most of the agricultural drains and is a volunteer in recently cleared areas in the District.

Tamarix spp. Shrubland Alliance. Non-native tamarix, or salt cedar, principally *Tamarix ramosissima*, has extensively colonized disturbed riparian areas, drain banks, and former agricultural lands throughout the Lower Colorado River corridor and the District. Tamarix now constitutes the dominant shrubby riparian vegetation along large portions of the Colorado River and along District irrigation drain banks. Arrow weed is typically present in this community.

Typha Herbaceous Alliance. Pockets of freshwater emergent marsh, dominated by cattail (*Typha sp.)*, occur in the District within some of the agricultural drains (return water), in the western outfall drain, and to a limited extent within canals. Within agricultural areas, this association also includes arrow weed on the outside edges of the drains.

Outside the Project area, along the Colorado River, in backwater areas and managed areas adjacent to the Colorado River, emergent marsh areas also include California bulrush (*Schoenoplectus californicus*) and hardstem bulrush (*S. acutus*) alliances, as well as common reed (*Phragmites australis*), and other wetland plants such as spikesedge (*Eleocharis* sp.).

Nearby Native Riparian Woodland Communities

Although outside of the Project site, nearby native riparian communities occur within the Palo Verde Ecological Reserve, within the oxbow area south of Blythe, as well as large tracts within the Cibola National Wildlife Refuge (CNWR), and other managed areas within the District. These areas include Sonoran Cottonwood Willow Riparian Forest communities. Dominant plant species in the native riparian woodland community include Fremont cottonwood (*Populus fremontii*),

Goodding's black willow (*Salix gooddingii*), sandbar willow (*Salix exigua*), screwbean mesquite (*Strombocarpa pubescens*), honey mesquite (*Neltuma glandulosa*), and velvet mesquite (*Neltuma velutina*). Associated understory species include seepwillow (*Baccharis salicifolia*), coyote willow (*Salix exigua*), arrowweed (*Pluchea sericea*), common reed (*Phragmites australis*), and native forbs.

3.4.4.2 Wildlife

The Colorado River is a major resource for birds travelling along the Pacific Flyway, as well as for mammals, reptiles, and insects in the region. Agricultural fields generally provide fewer resources to most wildlife than native habitats. The open fields do allow wildlife to move through the area and provide seasonal foraging habitat for wildlife. Wildlife detected or reported from the project vicinity is listed in Table 3.4-2.[11,12,13]

Table 3.4-2. Wildlife Detected or Known to Occur in the Project Vicinity

Common Name	*Scientific Name*
Mammals	
Beaver	*Castor canadensis*
Black-tailed jackrabbit	*Lepus californicus*
Bobcat	*Felis rufus*
Cactus mouse	*Peromyscus eremicus*
Colorado River cotton rat	*Sigmodon arizonae plenus*
Coyote	*Canis latrans*
Deer mouse	*Peromyscus maniculatus*
Desert cottontail	*Sylvilagus auduboni*
Desert kit fox	*Vulpes macrotis arsipus*
Desert pocket mouse	*Chaetodipus penicillatus sp.*
Desert woodrat	*Neotoma lepida*
Grasshopper mouse	*Onychomys torridus*
Mule deer	*Odocoileus hemionus*
Raccoon	*Procyon lotor*
Round-tailed ground squirrel	*Spermophilus tereticaudus*
Striped skunk	*Mephitis mephitis*
Birds	
American avocet	*Recurvirostra americana*
American coot	*Fulica americana*
American pipit	*Anthus rubescens*
Belted kingfisher	*Megaceryle alcyon*

[11] Helix Environmental Planning, Inc. 2002. *Assessment of Biological Resources Associated with Palo Verde Valley Agricultural Drains for the Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program*. March 2022.

[12] Himes Consulting, LLC. September 3 and November 4-5, 2026, biological reconnaissance surveys.

[13] Hill, J. 2022. *Post-Development Monitoring of Rodent Populations, 2021 Annual Report*. Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada.

Common Name	***Scientific Name***
Black-crowned night heron	*Nycticorax nycticorax*
Black phoebe	*Sayornis nigricans*
Black-tailed gnatcatcher	*Polioptila melanura*
Blue-gray gnatcatcher	*Polioptila caerulea*
Burrowing owl	*Athene cunicularia*
Cattle egret	*Bubulcus ibis*
Common raven	*Corvus corax*
Common yellowthroat	*Geothlypis trichas*
Crissal thrasher	*Toxostoma crissale*
Double-crested cormorant	*Nannopterum auritum*
Dunlin	*Calidris alpina*
European starling	*Sturnus vulgaris*
Eurasian collared dove	*Zenaida asiatica*
Gambel's quail	*Callipepla gambelli*
Great horned owl	*Bubo virginianus*
Great egret	*Ardea alba*
Greater sandhill crane	*Grus canadensis tabida*
Great-tailed grackle	*Quiscalus mexicanus*
House finch	*Haemorhous mexicanus*
House sparrow	*Passer domesticus*
Horned lark	*Eremophila alpestris*
Killdeer	*Charadrius vociferus*
Ladder-backed woodpecker	*Dryobates scalaris*
Least sandpiper	*Calidris minutilla*
Lesser nighthawk	*Chordeiles acutipennis*
Lincoln sparrow	*Melospiza lincolnii*
Loggerhead shrike	*Lanius ludovicianus*
Longbilled dowager	*Limnodromus scolopaceus*
Mourning dove	*Zenaida macroura*
Northern harrier	*Circus cyaneus*
Northern house wren	*Troglodytes aedon*
Northern mockingbird	*Mimus polyglottus*
Orange-crowned warbler	*Leiothylpis celata*
Osprey	*Pandeon haliaetus*
Phainopepla	*Phainopepla nitens*
Pied-billed grebe	*Podilymbus podiceps*
Red-tailed hawk	*Buteo jamaicensis*
Red-winged blackbird	*Agelaius phoeniceus*
Rough-winged swallow	*Stelgidopteryx ruficollis*
Ruby-crowned kinglet	*Corthylio calendula*
Savannah sparrow	*Passerculus sandwichensis*
Song sparrow	*Melospiza melodia*
Turkey vulture	*Cathartes aura*
Verdin	*Auriparus flaviceps*
Western kingbird	*Tyrannus verticalis*
Western meadowlark	*Sturnella neglecta*

Common Name	*Scientific Name*
White-crowned sparrow	*Zonotrichia leucophyrs*
White-faced ibis	*Plegadis chihi*
White-winged dove	*Zenaida asiatica*
Yellow-rumped warbler	*Setophaga coronata*
Reptiles	
Desert horned lizard	*Phyrnosoma platyrhinos*
Desert iguana	*Diposaurus dorsalis*
Desert tortoise	*Gopherus agassizii*
Long-tailed brush lizard	*Urosaurus graciosus*
Side-blotched lizard	*Uta stansburiana*
Sidewinder	*Crotalus cerastes*
Western whiptail	*Aspidoscelis tigris*
Zebra–tailed lizard	*Callisaurus draconoides*
Invertebrates	
Asian clam	*Corbicula fluminea*
Cabbage white	*Pieris rapae*
Orange sulfur	*Colias eurytheme*

Fish species also occur in the District canals and drains that move in from the connected Colorado River system. Common species in canals and Colorado River backwaters observed during 2026 surveys and reported in catches throughout the District canal system and local backwaters include bluegill (*Lepomis macrochirus*), redear sunfish (*L. microlophus*), green sunfish (*L. cyanellus*), largemouth bass (*Micropterus nigricans*), smallmouth bass (*M. dolomieu*), spotted bass (*M. punctulatus*), striped bass (*Morone saxatilis*), flathead catfish (*Pylodictis olivaris*), channel catfish (*Ictalurus punctatus*), western mosquitofish (*Gambusia affinis*), common carp (*Cyprinus carpio*), black bullhead (*Ameiurus melas*), yellow bullhead (*A. natalis*), tilapia (*Oreochromis* spp.), grass carp (Ct*enopharyngodon idella*), rock bass (*Ambloplites rupestris*), and white crappie (*Pomoxis annularis*).[14] Canals are routinely drained for maintenance every January.

3.4.4.3 Sensitive Plant and Wildlife Species

Sensitive species observed in the project vicinity during 2026 reconnaissance surveys consist of the black-tailed gnatcatcher (*Polioptila melanura*), loggerhead shrike (*Lanius ludovicianus*), great egret (*Ardea alba*), great blue heron (*A. herodias*), and white-faced ibis (*Plegadis chihi*). The USFWS was contacted for a list of federally listed, proposed, and candidate species which may occur in the Project area through their IPaC system. A records search of the CNDDB and the CNPS Online Inventory of Rare and Endangered Plants was conducted for the following USGS 7.5-minute quadrangles: Big Maria Mts. SW, CA, Blythe, CA, Blythe NE, CA, Cibola, AZ, La Paz Mountain, AZ, McCoy Wash, CA, Mule Wash, CA, Palo Verde, CA, Ripley, CA, and Thumb Peak,

[14] Fishbrain AB, 2026. Fishing App. Version 11.68.0. fishbrain.com.

CA. These species are provided in Table 3.4-3 below, with species covered under the LCR MSCP identified with an asterisk. Species lists are provided in Appendix B. Species with a high or moderate potential to occur in the project vicinity are discussed in more detail below.

Table 3.4-3. Sensitive Species That May Occur in the Project Area

Common Name	Scientific Name	Status	
Federal and State Listed Species		***Federal***	***State***
*Arizona Bell's vireo	*Vireo bellii arizonae*	--	SE
*Bonytail chub	*Gila elegans*	FE	SE
*California black rail	*Laterallus jamaicensis coturniculus*	--	ST/FP
Colorado pikeminnow (extirpated)	*Ptychocheilus lucius*	FE	SE/FP
*Elf owl	*Micrathene whitneyi*	--	SE
*Gila woodpecker	*Melanerpes uropygialis*	--	SE
*Gilded Flicker	*Colaptes chrysoides*	--	SE
Greater sandhill crane	*Antigone canadensis tabida*	--	ST
*Mojave Desert tortoise	*Gopherus agassizii*	FT	SE
Monarch butterfly	*Dannaus plexippus*	PT	S
*Razorback Sucker	*Xyrauchen texanus*	FT	SE/FP
Sonoran Pronghorn	*Antilocarpa americana sonoriensis*	EXPN	extirpated
*Southwestern Willow Flycatcher	*Empidonax traillii extimus*	FE	SE
*Western Yellow-Billed Cuckoo	*Cocyzzus americanus occidentalis*	FT	SE
*Yuma Ridgeway's Rail	*Rallus obsoletus yumanensis*	FE	ST/FP
Sensitive Species		***Federal***	***State***
American badger	*Taxidea taxus*		SSC
Arizona myotis	*Myotis occultus*		SSC
Black-tailed gnatcatcher	*Polioptila melanura*		WL
Brown-crested flycatcher	*Myiarchus tyrannulus*		WL
Burrowing owl	*Athene cunicularia*		CE/SSC
*California leaf-nosed bat	*Macrotus californicus*		SSC
Cave myotis	*Myotis velifer*		SSC
*Colorado River cotton rat	*Sigmodon arizonae plenus*		SSC
Colorado Valley woodrat	*Neotoma albigula venesta*		S1S2
Crissal thrasher	*Toxostoma crissale*		SSC
Couch's spadefoot	*Scaphiopus couchii*		SSC
Golden eagle	*Aquila chrysaetos*		S/FP
Great blue heron	*Ardea herodias*		S
Great egret	*Ardea alba*		S
Hoary bat	*Lasiurus cinereus*		LC
LeConte's thrasher	*Toxostoma lecontei*		CT/SSC
Loggerhead shrike	*Lanius ludovicianus*		SSC
Lowland leopard frog	*Lithobates yavapaiensis*		SSC
Lucy's warbler	*Leiothlypis luciae*		SSC
Merlin	*Falco columbarius*		WL
Mountain plover	*Anarhynchus montanus*		SSC
Pallid bat	*Antrozous pallidus*		SSC
Pallid San Diego pocket mouse	*Chaetodipus fallax pallidus*		S3S4

Common Name	Scientific Name	Status	
Pocketed free-tailed bat	*Nyctinomops femorosaccus*		SSC
Sonoran Desert toad	*Incilius alvarius*		SSC
Sonoran mud turtle	*Kinosternon sonoriense*		SSC
*Sonoran yellow warbler	*Dendroica petechia sonorana*		SSC
*Summer tanager	*Piranga rubra*		SSC
*Townsend's big-eared bat	*Corynorhinus townsendii*		SSC
*Vermilion flycatcher	*Pyrocephalus rubinus*		SSC
*Western yellow bat	*Lasiurus xanthinus*		SSC
Yellow-breasted chat	*Icteria virens*		SSC
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*		SSC
White-faced ibis	*Plegadis chihi*		WL
Plants		***Federal***	***State***
Abrams' spurge	*Euphorbia abramsiana*		S2
Alverson's foxtail cactus	*Escobaria alversonii*		S3
Angel trumpets	*Acleisanthes longiflora*		S1
Bitter hymenoxys	*Hymenoxys odorata*		S2
Borrego milk-vetch	*Astragalus lentiginosus var. borreganus*		S4
California ditaxis	*Ditaxis serrata var. californica*		S2?
California satintail	*Imperata brevifolia*		S3
Darlington's blazing star	*Mentzelia puberula*		S2
Desert beardtongue	*Penstemon pseudospectablis ssp.*		S3
Desert unicorn-plant	*Proboscidea althaeifolia*		S4
Dwarf germander	*Teucrium cubense ssp. depressum*		S1
Emory's crucifixion thorn	*Castela emoryi*		S2S3
Harwood's milk-vetch	*Astragalus insularis var. harwoodii*		S2
Ribbed cryptantha	*Johnstonella costata*		S4
Saguaro	*Carnegeia gigantea*		S1
Sand evening-primrose	*Chylismia arenaria*		S2S3
Spiny abrojo	*Condalia globose var. pubescens*		S3
Torrey's box-thorn	*Lycium torreyi*		S3
Utah vine milkweed	*Funastrum utahense*		S4
Wiggin's cholla	*Opuntia wigginsii*		S1?
Winged cryptantha	*Johnstonella holoptera*		S4

*Covered by Lower Colorado River Multi-Species Conservation Program

Special Status Codes: CE = Candidate Endangered (State); CT = Candidate Threatened (State); EXPN = Experimental Population, Non-Essential; FE = Federally Endangered; FP = CDFW Fully Protected; FT = Federally Threatened; LC = Least Concern; PT = Proposed Threatened (Federal); S = CDFW Sensitive; S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; S4 = Apparently Secure (Uncommon); SE = State Endangered; SSC = CDFW Species of Special Concern; ST = State Threatened; WL = CDFW Watchlist; ? = Uncertain.

Plant Species

No State or federally listed plant species are known to occur within the Project site. Rare or uncommon plant species listed in Table 3.4-3 above have the potential to occur in the project vicinity. These plant species are known from desertscrub or sandy habitats but are not expected

to occur in agricultural areas. Bitter hymenoxis (*Hymenoxys odorata*) is known from disturbed roadsides but has not been reported from within the District since 1975.[15]

Wildlife Species

Invertebrates

The Monarch butterfly (*Danaus plexippus*) is proposed to be federally listed as a threatened species. Monarch butterflies migrate in the spring from overwintering sites in California and Mexico. Suitable breeding habitat for monarch butterflies includes open fields and meadows with both nectar plants and the milkweed host plants required by larvae. Adult monarch butterflies feed on nectar from blooming nectar plants. The species has not been reported from the area,[16] and milkweed plants do not occur within the previously disturbed or agricultural fields of the Project site.

Fishes

The razorback sucker (*Xyrauchen texanus*), a State and federally listed endangered species, occurs within this stretch of the Colorado River, and has been reported from the District's intake canal and outfall drain. Habitat includes slow backwaters of medium and large streams and rivers. Native fish monitoring was conducted in Reach 4 below the Palo Verde Diversion Dam in 2022.[17] There were 1,043 unique razorback suckers identified in Reach 4 through passive integrated transponder (PIT) scanning. The razorback sucker population estimate for 2021 was 1,162.

The bonytail chub (*Gila elegans*), a state and federally listed endangered species, has the potential to occur, but is unlikely to occur, in the project vicinity. Critical habitat for the species is not designated in the project vicinity. There are no known wild populations of the species.[18] Since 2006, the U.S. Bureau of Reclamation has conducted annual augmentation stocking of bonytail chub as part of the LCR MSCP, mostly in Lake Mohave and Lake Havasu. In addition, 1,128 bonytail were stocked within Reaches 4 and 5.[19] Native fish monitoring conducted in

[15] California Natural Diversity Database. 2026. California Natural Diversity Database search results. (See Appendix B)

[16] Western Milkweed Mapper 2026. Partnership of the Xerces Society, Idaho Department of Fish and Game, Washington Department of Fish and Wildlife, National Fish and Wildlife Foundation, and US Fish and Wildlife Service. https://www.monarchmilkweedmapper.org.

[17] Marsh & Associates, LLC. 2023. *Reach 4/5 Native Fish Monitoring, 2022 Annual Report*. Lower Colorado River Multi-Species Program Technical Report. March 7.

[18] Dowling, T.E., M.J. Osborne, T.F. Turner, B.R. Kesner, P.C. Marsh, and T.J. Krabbenhoft. 2026. *Genetic Monitoring of Native Fishes, 2024 Annual Report*. Submitted to the Lower Colorado River Multi-Species Conservation Program, Boulder City, Nevada, by Wayne State University, Detroit, Michigan, under Agreement No. R20AC00004.

[19] Bureau of Reclamation. 2025. Fisheries – Native Fish Augmentation Program. Bonytail FY 2024. https://www.lcrmscp.gov/activities/fisheries. Accessed February 12, 2026.

Reach 4 below the Palo Verde Diversion Dam identified 12 bonytail in 2022.[20] There were no bonytail recaptures for a population estimate.

Reptiles & Amphibians

Couch's spadefoot (*Scaphiopus couchii*), a California species of special concern, may occur in the District, as it was reported from the vicinity of Palo Verde in 1989 and 2002. The species is found in desert areas and edges of agricultural fields with temporary rain pools that last at least 7 days[21]. The species spends most of its life underground and emerges briefly during spring and summer rains. The Mojave desert tortoise (*Gopherus agassizii*), a federally threatened and State endangered species, is known to occur in desertscrub areas to the west of State Route 95 but would not occur in the agricultural areas in the Palo Verde Valley or the Colorado River riparian areas.

Birds

Nine federally or state-listed bird species and 18 sensitive bird species are known to occur or have the potential to occur within the project vicinity. The listed bird species are:

- Arizona Bell's vireo
- California black rail
- Elf owl
- Gila woodpecker
- Gilded flicker
- Greater sandhill crane
- Southwestern willow flycatcher
- Western yellow-billed cuckoo
- Yuma Ridgeway's rail

Five-year riparian bird surveys were recently conducted along the lower Colorado River as part of the MSCP included surveys within the Palo Verde Ecological Reserve (located within the District), the Cibola Valley Conservation Area (located across from the District in Arizona) and the CNWR Unit #1 (located across the southern portion of the District in Arizona).[22] These surveys found Arizona Bell's vireo (*Vireo bellii arizonae*) and the Gila woodpecker (*Melanerpes uropygialis*), both state endangered species, at all of these locations. Arizona Bell's vireo inhabits dense, low riparian vegetation and remnant thickets along the lower Colorado River and

[20] Marsh & Associates, LLC. 2023. *Reach 4/5 Native Fish Monitoring, 2022 Annual Report*. Lower Colorado River Multi-Species Program Technical Report. March 7.

[21] California Natural Diversity Database. 2026. California Natural Diversity Database search results.

[22] Great Basin Bird Observatory. 2023. *Riparian Bird Surveys in the Lower Colorado River Region*, 2022 Annual Report. Submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada, by the Great Basin Bird Observatory, Reno, Nevada, under Contract No. 140R3019C0007.

associated wetlands and has also been reported from the vicinity of the inlet channel.[23] Although not found to be breeding within the Reserve, potential breeding habitat for the Gila woodpecker consists of cavities within riparian trees, especially cottonwood, and saguaros. Large tracts of planted cottonwood trees in the southern part of the District provide suitable habitat for the woodpecker, as well as other riparian areas along the River. The narrow, linear tamarix and arrow weed scrub associated with irrigation drains do not provide suitable habitat for the Gila woodpecker or Arizona Bell's vireo, although they may provide stopover habitat. In addition, scattered palms throughout the District may provide stopover habitat for the Gila woodpecker.

The California black rail (*Laterallus jamaicensis coturniculus*), a State threatened and fully protected species, has a low potential to occur, although could occur in well-developed freshwater marshes along the Colorado River in the project vicinity, such as the oxbow. The species was detected in the Hart Mine Marsh within the Cibola Wildlife Refuge (about 5 river miles downstream of the southern end of the District, on the Arizona side) in 2014 and 2020, but not in 2022.[24]

The elf owl (*Micrathene whitneyi*) was detected in the vicinity of Walter's camp (about 7 river miles downstream of the District) in 1987 and again in 2001 in an area of mesquite, paloverde, and salt cedar.[25] The species nests in cottonwood-willow and mesquite riparian habitat. Based on lack of recent detections in the project vicinity, the elf owl has a low potential to occur in the project area. The irrigation drains and canals do not provide suitable habitat for the elf owl. Potential habitat could occur in the restoration areas in the project vicinity.

The gilded flicker (*Colaptes chrysoides*) is a State endangered species that nests in cavities in willows, cottonwoods, and in yucca trees or saguaro. This species was reported from the vicinity of Three-Fingers Lake in 2010 as well as nesting in a cottonwood tree at McIntyre RV Resort, east of Ripley, along the Colorado River in 2012.[26] The species could occur in riparian or adjacent desertscrub areas in the project vicinity. The agricultural fields and irrigation drains and canals do not provide suitable habitat for the gilded flicker.

The greater sandhill crane (*Antigone canadensis tabida*) is a state threatened species that can find wintering and stopover habitats within the District agricultural fields and adjacent Colorado

[23] California Natural Diversity Database. 2026. California Natural Diversity Database search results.
[24] Great Basin Bird Observatory. 2023. *Riparian Bird Surveys in the Lower Colorado River Region*, 2022 Annual Report. Submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada, by the Great Basin Bird Observatory, Reno, Nevada, under Contract No. 140R3019C0007.
[25] California Natural Diversity Database. 2026. California Natural Diversity Database search results.
[26] Ibid.

River wetland areas. A large flock was observed in District alfalfa fields in 2002.[27] The District is a documented wintering ground for the species, where they benefit from the high calorie content of major winter crops (such as alfalfa, wheat, and barley) together with the open nature of the agricultural lands[28] which is similar to their natural habitat of open grasslands and wet meadows.

The southwestern willow flycatcher (*Empidonax traillii extimus*) is federally endangered and State endangered species. The species inhabits dense stands of cottonwood-willow riparian vegetation along the Colorado River. The southwestern willow flycatcher is well documented from the project vicinity downstream of Ehrenberg Bridge (2005), at Three-Fingers Lake (2010), and each year as non-residents in the Palo Verde Ecological Reserve from 2018 to 2023.[29,30] The species was not detected in the Palo Verde Ecological Reserve or the CNWR in 2024.[31] The riparian vegetation along the ditches in the Project site does not provide suitable nesting habitat for the species but could provide migratory stopover habitat.

The western yellow-billed cuckoo (*Cocyzzus americanus occidentalis*), a federally threatened and State endangered species, nests in riparian vegetation, including cottonwood-willow trees, and in mesquite bosques. The species is well documented from the project vicinity, including at Three-Fingers Lake, in riparian vegetation along the Colorado River (restoration areas to the south of the Project area), at Goose Flats, Ehrenberg, and the CNWR, and in more recent surveys, found to be nesting in the Palo Verde Ecological Reserve from 2019-2022.[32,33] The riparian vegetation along the ditches within the Project site does not provide suitable nesting habitat for the species but could provide migratory stopover habitat.

Yuma Ridgeway's rail (*Rallus obsoletus yumanensis*), a federally endangered and State listed threatened and fully protected species, inhabits freshwater marsh areas along the Colorado

[27] Helix Environmental Planning, Inc. 2002. Assessment of Biological Resources Associated with Palo Verde Valley Agricultural Drains for the Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program. March.

[28] Rosenberg, K. V., Ohmart, R. D., Hunter, W. C., & Anderson, B. W. 1991. Birds of the lower Colorado River Valley. University of Arizona Press.

[29] California Natural Diversity Database. 2026. California Natural Diversity Database search results.

[30] McLeod, M.A. and A.R. Pellegrini. 2024. *Southwestern Willow Flycatcher Surveys and Monitoring Along the Lower Colorado River and Tributaries, 2023 Annual Report*. Submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada, by SWCA Environmental Consultants, Flagstaff, Arizona, under contract No. 140R3022C0006.

[31] McLeod, M.A. and A.R. Pellegrini. 2026. *Southwestern Willow Flycatcher Surveys and Monitoring Along the Lower Colorado River and Tributaries, 2024 Annual Report*. Submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada, by SWCA Environmental Consultants, Flagstaff, Arizona under contract No. 140R3022C0006.

[32] California Natural Diversity Database. 2026. California Natural Diversity Database search results.

[33] Southern Sierra Research Station. 2023. *Yellow-billed Cuckoo Surveys on the Lower Colorado River and Tributaries, 2019 to 2022 Summary Report*. Submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada, by D. Tracy, C.L. Squibb, P. Lorch, S.E. McNeil, J.R. Stanek, and M.J. Whitfield under Reclamation contract No. R14PD0004.

River. The rail was documented from a backwater of the River off of 10th Ave. as well as other unknown locations within the District. Yuma Ridgeway's rail was recorded at the Hart Mine Marsh in the CNWR (about 5 river miles downstream of the southern end of the District) in 2022 surveys[34] and is reported from the vicinity of Three-Fingers Lake and Cibola Lake.[35] Although breeding habitat does not occur within the District drains or canals, pockets of emergent marsh vegetation could provide stopover habitat for the species.

Sensitive bird species with the potential to occur in the project vicinity include:

- Black-tailed gnatcatcher
- Brown-crested flycatcher
- Burrowing owl
- Crissal thrasher
- Golden eagle
- Great blue heron
- Great egret
- LeConte's thrasher
- Lucy's warbler
- Loggerhead shrike
- Merlin
- Sonoran yellow warbler
- Summer tanager
- Yellow-breasted chat
- Yellow-headed blackbird
- White-faced ibis
- Vermilion flycatcher

Riparian bird species of special concern, including the black-tailed gnatcatcher (*Polioptila melanura*), brown-crested flycatcher (*Myiarchus tyrannulus*), crissal thrasher (*Toxostoma crissale*), Lucy's warbler (*Leiothlypis luciae*), Sonoran yellow warbler (*Dendroica petechia sonorana*), summer tanager (*Piranga rubra*), vermilion flycatcher (*Pyrocephalus rubinus*), and yellow-breasted chat (*Icteria virens*), were all found in recent surveys (2019-2023) that included the Palo

[34] Great Basin Bird Observatory. 2023. *Riparian Bird Surveys in the Lower Colorado River Region, 2022 Annual Report*. Submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada, by the Great Basin Bird Observatory, Reno, Nevada, under Contract No. 140R3019C0007.

[35] California Natural Diversity Database. 2026. California Natural Diversity Database search results.

Verde Ecological Reserve, Cibola Valley Conservation Area, and the CNWR.[36] These species are common birds along the lower Colorado River riparian areas and may frequent the irrigation drains within the District. The Crissal thrasher (*Toxostoma crissale*) is typically associated with native desert areas.

Western burrowing owls (*Athene cunicularia hypugaea*), a candidate State endangered species and a California species of concern, are found in desertscrub, grasslands, and agricultural lands. They utilize rodent burrows, including those of ground squirrels, common in agricultural areas. Burrowing owls feed mostly on insects but also eat small mammals, reptiles, birds and carrion. Burrowing owls are fairly common and are well documented throughout the agricultural lands of the Palo Verde Valley, especially within the canal banks.[37]

The golden eagle (*Aquila chrysaetos*) is a State sensitive and fully protected species. This species is a rare visitor along the Colorado River in the Project area and is reported from cliffs in the Big Maria Mountains in 2012, to the northwest of the Project vicinity.[38]

Great blue herons (*Ardea herodias*) and great egrets (*A. alba*) are fairly common along the Colorado River, where they can be observed wading or standing in shallow waters to forage. Prey species include fish, amphibians, and small mammals. A great egret was observed on the banks of the outlet canal in September 2026. A great blue heron was observed in the Palo Verde Lagoon (outfall drain) in November 2026. Both species forage throughout the District's irrigation canals and drains.

The desertscrub areas of the project vicinity provide suitable habitat for Le Conte's thrasher (*Toxostoma lecontei*), which also has been documented from desert wash habitat northwest of Palo Verde in 2012.[39] The species is likely to occur in the project vicinity but is unlikely to visit the open agricultural fields or linear riparian vegetation associated with the irrigation drains of the Project site.

The loggerhead shrike *(Lanius ludovicianus*) was observed at the Palo Verde County Park in 2026 reconnaissance surveys, and within the Project area in 2002,[40] and is reported from the Cibola

[36] Great Basin Bird Observatory. 2025. *Riparian Bird Surveys in the Lower Colorado River Region, 2023 Annual Report and 2019–2023 Summary Report*. Submitted to the Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada, by the Great Basin Bird Observatory, Reno, Nevada, under Contract No. 140R3019C0007.

[37] California Natural Diversity Database. 2026. California Natural Diversity Database search results.

[38] Ibid.

[39] Ibid.

[40] Helix Environmental Planning, Inc. 2002. Assessment of Biological Resources Associated with Palo Verde Valley Agricultural Drains for the Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program. March.

NWR and Palo Verde Mesa in 2005.[41] The species inhabits riparian woodlands as well as desertscrub habitat and prefers open country for hunting. Considered a common resident of Palo Verde Valley, the species was observed along irrigation drains[42] and are likely to occur in the Project site.

The merlin (*Falco columbarius*) is a small falcon native to North America that occurs in deserts, as well as farms and ranches, and feeds on small birds and large insects such as dragonflies. The species was reported hunting from agricultural fields in the vicinity of Palo Verde in 2012[43] and is likely to occur in the Project vicinity.

The yellow-headed blackbird (*Xanthocephalus xanthocephalus*) occurs primarily as a seasonal migrant and winter resident in the Colorado River valley.[44] Yellow-headed blackbirds breed in marshes with tall emergent vegetation and can forage in uplands or agricultural fields. This species is reported from the Palo Verde Mesa in 2012[45] and is likely to occur in the Project vicinity.

The white-faced ibis (*Plegadis chihi*) was observed in the flooded agricultural fields south of Ripley during September 2026 biological surveys. The species inhabits marsh areas and shallow water and may occur along the Colorado River and within District fields or irrigation ditches.

Mammals. Eleven mammals that are California species of special concern may occur in the project vicinity. The American badger (*Taxidea taxus*) and the Colorado River cotton rat (*Sigmodon arizonae plenus*) are reported from the District and are likely to occur in the area.[46] The badger (*Taxidea taxus*) is associated with open desert habitats and edges of agricultural areas with high rodent populations. In 2012, an American badger was found northwest of Palo Verde in native desertscrub, about one mile west of active agricultural fields.[47] The Colorado River cotton rat inhabits marsh, floodplain, and agricultural areas along the Colorado River. The species was found during surveys in the Palo Verde Ecological Reserve in 2007-2009 and 2015, but not in 2021.[48,49] The following six bat species are also California species of special concern

[41] California Natural Diversity Database. 2026. California Natural Diversity Database search results.
[42] Helix Environmental Planning, Inc. 2002. Assessment of Biological Resources Associated with Palo Verde Valley Agricultural Drains for the Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program. March.
[43] California Natural Diversity Database. 2026. California Natural Diversity Database search results.
[44] 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.
[45] California Natural Diversity Database. 2026. California Natural Diversity Database search results.
[46] Ibid.
[47] Ibid.
[48] Ibid.

and are reported from the Palo Verde Ecological Reserve and other nearby areas along the Colorado River:

- Cave myotis
- California leaf-nosed bat
- Pallid bat
- Western yellow bat
- Yuma myotis
- Pocketed free-tailed bat

In addition, the Arizona myotis and Townsend's big-eared bat have the potential to occur in the vicinity. These bat species are typically associated with desert habitats, cliffs or rock outcrops, and areas where water is available, and all would be expected to forage in this portion of the Colorado River and possibly agricultural areas.

3.4.4.4 Special Habitat Management Areas

USFWS Designated Critical Habitat for the Razorback Sucker

Critical habitat for the razorback sucker is designated along the Colorado River and its 100-year floodplain from the confluence of the Pariah River to Hoover Dam, including Lake Mead, and from Parker Dam to Imperial Dam.[50] With the exception of the intake structure on the Colorado River, the agricultural lands within the Project site are not located within designated critical habitat for the razorback sucker.

Lower Colorado River Multi-Species Conservation Program (LCR MSCP)

The Lower Colorado River Multi-Species Conservation Program[51] (LCR MSCP) is a 50-year cooperative effort between Federal and non-federal entities, approved by the Secretary in April 2005 and is in effect through 2055. The program has been developed and implemented by a partnership of State, Federal, and other public and private stakeholders in Arizona, California, and Nevada with interests in managing the water and related resources of the LCR. The MSCP covers listed and other selected special status species (covered species) that may be impacted by current and future anticipated Federal discretionary actions and related non-federal activities on the lower Colorado River (covered actions). When established in 2005, the Biological Opinion

[49] Hill, J. 2022. *Post-Development Monitoring of Rodent Populations, 2021 Annual Report.* Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation, Boulder City, Nevada.

[50] U.S. Fish & Wildlife Service. 1994. Final Rule. Determination of Critical Habitat for the Colorado River Endangered Fishes: Razorback Sucker, Colorado Squawfish, Humpback Chub, and Bonytail Chub. Federal Register Vol. 59, No. 54. March 21.

[51] 2026, U.S. Bureau of Reclamation. *Post-2026 Operational Guidelines and Strategies Final EIS*. July 2026, and *Record of Decision*, August 2026.

(BO) issued by USFWS for the LCR MSCP provided Endangered Species Act[52] (ESA) compliance for the effects of covered actions throughout the term of the MSCP (2055).

The LCR MSCP is a habitat-based conservation plan developed with intent to avoid, minimize, and fully mitigate the incidental take of the covered species from the implementation of the covered activities to the maximum extent practicable. The plan is also intended to contribute to the recovery of species listed as threatened or endangered under the ESA, as amended (ESA), and reduce the likelihood for future listing of unlisted covered species along the LCR, extending from Lake Mead to the Southerly International Boundary (SIB) with Mexico (see Figure 3.4-1).

The LCR MSCP also supports a Section 2081 permit from the CDFW for incidental take of species by California's covered activities in compliance with CESA. District operations and maintenance activities are conducted under the terms of the LCR MSCP and CDFW Permit No. 2081-2005-008-06.

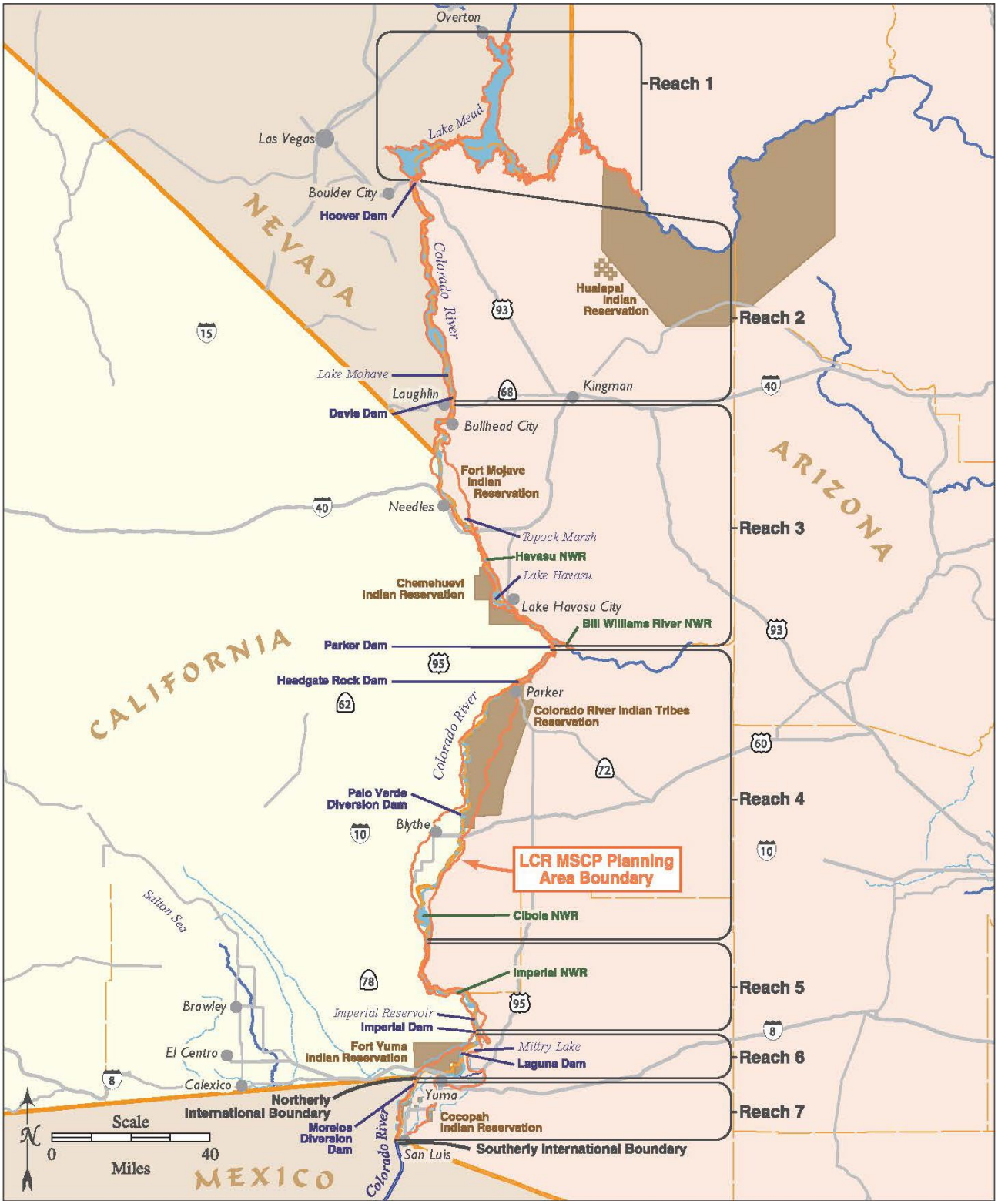
The LCR MSCP and BO were amended in 2018 addressing potential effects to the northern Mexican garter snake. In 2022, to accommodate implementation of the 2019 Lower Basin Drought Contingency Plans (DCP) and the 2014 Lower Basin Memorandum of Understanding (MOU), an additional BO was issued for the LCR MSCP increasing coverage for annual flow reductions from Hoover Dam to Parker Dam up to 1.574-million-acre feet (MAF). A new BO was issued for the LCR MSCP in 2024 to allow for annual flow reductions in a range of 2.083 MAF up to 3.0 MAF through January 31, 2028. Reduced flows are the total of reduced water releases from Hoover Dam including reduced water released for deliveries to the Lower Division States, conserved water to be stored in Lake Mead ("Intentionally Created Surplus"), and other related conservation activities.

The LCR MSCP identified, and is mitigating for, impacts on the covered species and their habitats from the flow reductions described above. The analyses completed in 2005 and 2022 estimated these impacts to include the potential loss of up to 2,008 acres of cottonwood-willow habitat, 140 acres of marsh habitat, and 414 acres of backwater habitat. The analysis completed for the 2024 BO estimated additional impacts resulting in the potential loss of 41 acres of marsh habitat and 109 acres of backwater habitat. To offset these impacts, conservation measures developed from 2005 through 2024, have been and continue to be implemented including:

- Creation and long-term management of 5,940 acres of cottonwood-willow habitat, 568 acres of marsh habitat, and 484 acres of backwater habitat,

[52] 1973, U.S. Department of the Interior, U.S. Fish and Wildlife Service, *Endangered Species Act of 1973* (as amended through the 108th Congress).

Figure 3.4-1. Lower Colorado River MSCP Area and River Reaches



- Stocking of 660,000 razorback sucker and 620,000 bonytail over the term of the LCR MSCP; and
- A suite of additional avoidance and minimization measures, monitoring and research measures, and species-specific conservation measures.

The MSCP currently manages 18 conservation areas along the Colorado River, four of which are located in the vicinity of the District, including the Palo Verde Ecological Reserve (within the District), the Pretty Water Conservation Area (located just south of the District), the CNWR Unit #1 (located in Arizona, east of the District), and the Cibola Valley Conservation Area (located in Arizona, east of the District). These habitats are being actively developed and managed with an intent to provide enhanced habitat values compared to the habitat areas that may be impacted.

Reclamation and USFWS are now actively engaged in an amendment process expected to take two to three years to extend the 2024 BO for the LCR MSCP to provide long term coverage for reduction in flows of up to 3.0 MAF that may result from additional activities under the Preferred Alternative selected by Reclamation in its recently adopted Post-2026 Operational Guidelines. The new BO and MSCP amendment will account for changes in river management dictated by ongoing drought hydrologic conditions and to provide management flexibility – including potential future water transfers. These combined actions will require ongoing consultation processes, including reinitiating Section 7 consultation, with a goal to provide coverage through the life of the LCR MSCP (2055) for additional activities that may be taken.

The District has been an active participant and permittee in the existing LCR MSCP since 2005, with substantial LCR MSCP habitat mitigation project lands located within or adjacent to PVID lands. Additional lands within the District have already been acquired for the expansion of these habitat projects as will be determined in this new LCR MSCP amendment process and the related EIS/EIR documentation. As the senior water rights holder for Colorado River water among California agencies, the District is a co-lead agency for the joint NEPA and CEQA documentation for this current MSCP amendment process and the related BO.

The MSCP amendment process was formally initiated in October 2026. First steps are underway to complete an inventory of all actions and activities to be included for LCR MSCP coverage. Alternatives to be considered include the scope of requested species coverage to include either only the legal minimum of listed species, or whether to analyze and mitigate for additional currently unlisted species to minimize future consultation should they become listed. Baseline data collection includes land cover for upland species and identification of canopy height to identify areas with tall cottonwood and willow trees, marsh and backwater mapping and assessment of predicted changes, evaluation of Yuma Ridgeway's rail and southwestern willow flycatcher habitat, and locations for all covered species.

The request submitted in October 2026 included an extension of coverage under the 2024 SEIS BO until September 30, 2029, to allow sufficient time to complete the HCP Amendment process. Reclamation coordinated with USFWS on the extension process, and determined that due to their ongoing consultation processes, re-initiation of formal consultation is not required. The proposed amendment will not request any changes to the proposed action, level of coverage, or conservation measures will not change the area where effects will occur, and habitat types present and potentially affected are well known. There is no proposed change in incidental take, and the requested amendment does not include additional take.

Palo Verde Ecological Reserve

The 1,900-acre Palo Verde Ecological Reserve is located outside but adjacent to the Project area. The reserve was designated in 2007 to protect habitat along the Colorado River in support of threatened and endangered species and is a Lower Colorado River Multi-Species Conservation Area managed cooperatively with the CDFW. Formerly active farmland used for crops such as alfalfa and milo was converted to irrigated tracts of dense sandbar cottonwood, willow, and mesquite groves. Hunting, including deer, rabbit, dove, quail, and waterfowl, is permitted. Irrigation water for these lands is ordered through and delivered by the District through two pump platforms. This conservation area has extensive water delivery infrastructure consisting of concrete-lined irrigation canals, irrigation drainage ditches, gates, and access roads, maintained by the District.

Pretty Water Conservation Area

Pretty Water Conservation Area is a 566-acre restoration site managed for upland and native species under the Lower Colorado River (LCR) Multi-Species Conservation Program (MSCP). Pretty Water is located south of the District, between the outfall drain and the Colorado River. Primary habitat at Pretty Water features over 22,500 planted honey mesquite trees.

The Cibola National Wildlife Refuge

The 18,444-acre CNWR occurs to the south of the District, in the vicinity of the District's outfall drain, and to the east of the District, across the Colorado River in Arizona. CNWR was established in 1964 as mitigation for the straightening, channelization, and armoring of the banks of the Colorado River by the U.S. Bureau of Reclamation to prevent flooding. The purpose of the refuge is to protect and recreate the marshes, backwaters, and meanders that historically provided wintering grounds for migratory waterfowl and other wildlife.[53] The CNWR includes two conservation areas, located across the River in Arizona, that are part of the LCR MSCP.

[53] U.S. Fish & Wildlife Service. 2026. Cibola National Wildlife Refuge. https://www.fws.gov/refuge/cibola. Accessed September 15.

Other Parks and Recreation Areas

Other public parks and recreational areas within and adjacent to the District (not part of the Project site) include Goose Flats, Palo Verde County Park, Oxbow Recreation and Wildlife Area (BLM), and Mayflower Regional Park.

3.4.5 Impact Assessment on Biological Resources

This section discusses the potential impacts that could occur if the proposed Program is approved and instituted in the PVID service area. For purposes of CEQA, a significant impact under Appendix G occurs when a project has a significant effect on a special status species or habitat. Potential impacts to biological resources include impacts from on-farm conservation measures, including fallowing, and future district infrastructure improvements. Other on-farm conservation measures, such as early crop termination, crop rotation, and crop switching, have historically occurred throughout the Palo Verde Valley on existing agricultural lands and have no potential to result in significant impacts to biological resources.

3.4.5.1 Criteria for Determining Significance

Thresholds of significance define the level of environmental change beyond which an impact would be considered significant under CEQA. Pursuant to the CEQA Guidelines, the District has applied the following Appendix G thresholds of significance for evaluating Program effects on biological resources. The following impact criteria are defined in the CEQA Guidelines, Appendix G:

Biological Resources: *Would the project:*

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?* (**Note:** The proposed Program would not affect this resource, and this criterion is not analyzed below.)

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

3.4.5.2 CEQA Threshold A

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Fishes

As draining of canal segments is a routine part of annual canal maintenance under the terms of the LCR MSCP and CDFW Permit No. 2081-2005-008-06, no effect would occur to bonytail chub or razorback sucker from the Program. The mitigation measures identified in the MSCP and CDFW permit would continue to be implemented as part of this Program to avoid impacts to listed fishes.

In addition, surface water elevation of the canals would not be affected as a result of the proposed Program. Construction of a regulatory reservoir would utilize the existing intake structure with no new intakes from the Colorado River proposed.

Reptiles & Amphibians

Potential impacts to Couch's spadefoot include the loss of potential standing water in agricultural fields from fallowing. At least 79 percent of the fields within the proposed Program would remain unaffected by Program fallowing. When considered cumulatively with the MWD fallowing program, up to 50 percent of agricultural fields within the District would remain unaffected. In addition, because fallowing would not convert agricultural lands to nonagricultural uses, the affected fields would remain available for future agricultural production and would be expected to return to active crop rotation following the applicable fallowing period. Substantial agricultural acreage would continue to be available for foraging, including at least 50,000 acres within the District, as well as agricultural lands across the Colorado River in the surrounding region Given the temporary and rotational nature of the proposed fallowing

and the continued availability of substantial agricultural areas within the District and in the region, this potential impact to Couch's spadefoot would be less than significant.

Birds

As the Program is expected to have a negligible effect on surface water levels in irrigation canals and drains within the District, fallowing would not result in a reduction in drain or canal vegetation currently used as migratory stop over habitat by any sensitive bird species. As canals are drained, repaired, and upgraded as part of routine operations and maintenance, impacts to marsh habitat from canal draining as part of bankline improvement (concrete lining) would be conducted in compliance with and under the terms of CDFW Permit No. 2081-2005-008-06 including limits and reporting of marsh species impacts. Given the very small amount of marsh habitat within the linear canal habitat and availability of large marsh areas associated with the Colorado River in the region, and existing permits and associated mitigation measures in place, potential impacts to listed rail species from canal lining are anticipated to be less than significant and would not constitute a "take" under the CFGC.

Potential impacts to the greater sandhill crane, white-faced ibis, and yellow-headed blackbird include a reduction in foraging habitat and availability of standing water in the District agricultural fields. Indirect impacts could also occur to the merlin in fallowed fields due to a reduction in prey. At least 79 percent of the fields within the proposed Program would remain unaffected by Program fallowing. When considered cumulatively with the MWD fallowing program, up to 50 percent of agricultural fields within the District would remain unaffected. In addition, because fallowing would not convert agricultural lands to nonagricultural uses, the affected fields would remain available for future agricultural production and would be expected to return to active crop rotation following the applicable fallowing period. Substantial agricultural acreage would continue to be available for foraging, including at least 50,000 acres within the District, agricultural lands across the Colorado River in the surrounding region, and higher-value riparian habitats along the Colorado River corridor and at managed wildlife refuges. The on-farm conservation measures are therefore expected to result in a less-than significant impact on the greater sandhill crane, white-faced ibis, yellow-headed blackbird, merlin, and other species that may utilize habitat provided by participating agricultural fields.

As burrowing owls are fairly common throughout the agricultural lands of the Palo Verde Valley, potential impacts to the species from future infrastructure development could occur. To protect burrowing owls and their habitat, Mitigation Measures (MM) BIO-6 through BIO-9 would be implemented as part of this Program for site-specific projects, outlined below:

- Conduct a habitat assessment survey in accordance with CDFW 2012 guidelines to evaluate the project site for habitat, suitable burrows, sign, and owls, with a 150-meter buffer.

- If suitable burrows, burrow surrogates, sign, or previous reports within 3 years are found within the survey area, complete breeding or non-breeding season surveys based on CDFW protocol.
- Complete canal lining only in areas 100 feet or more away from occupied burrows.
- If occupied burrows occur within 100 to 500 feet away from the construction area, only proceed with construction from September to January (non-breeding season).
- Develop and implement a Burrowing Owl Awareness Program for the District.

Based on implementing MM BIO-5 through BIO-9, the Program is therefore expected to result in a less than significant impact on the burrowing owl and its habitat.

Mammals

No direct impacts would occur to the American badger, Colorado River cotton rat, or sensitive bat species from the proposed on-farm conservation measures. Potential indirect effects include a potential for reduction in active agricultural field foraging habitat. For the American badger, impacts would be limited to a potential for prey reduction (including rodents, small vertebrates, and ground-nesting birds) associated with agricultural areas. At least 79 percent of the fields within the proposed Program would remain unaffected by Program fallowing. When considered cumulatively with the MWD fallowing program, up to 50 percent of agricultural fields within the District would remain unaffected. In addition, because fallowing would not convert agricultural lands to nonagricultural uses, the affected fields would remain available for future agricultural production and would be expected to return to active crop rotation following the applicable fallowing period. Substantial agricultural acreage would continue to be available to wildlife, including 50,000 acres in the valley, agricultural lands across the Colorado River, and higher value natural riparian habitats along the Colorado River corridor and at managed wildlife refuges. Thus, the temporary and rotational nature of the proposed fallowing is expected to result in minor effects on wildlife that forage in agricultural fields, including American badger prey and the Colorado River cotton rat. On-farm conservation measures would also result in no change to the availability of habitat associated with drain vegetation. Indirect impacts to sensitive bat species are not anticipated to occur from on-farm conservation measures as these species forage largely along the Colorado River and associated riparian areas.

Construction of a potential regulatory reservoir in the Palo Verde Valley would occur on previously disturbed land or existing agricultural fields. A reservoir would therefore not directly impact native habitat. Construction of the reservoir may permanently remove agricultural fields within the reservoir footprint from crop production and availability of associated foraging habitat; however, these potential impacts to sensitive species would be less than significant

based on the discussion outlined above and with the implementation of MM BIO-1 through BIO-9.

- **MM BIO-1: CDFW Permit No. 2081-2005-008-06 Mitigation Measures.** Operation and maintenance of this Program to remain in compliance with the existing CDFW Permit, including annual acres of marsh habitat impacted, avoiding the breeding season for activities, reporting, and all other measures.
- **MM BIO-2. Conduct Biological Surveys and Habitat Mapping.** During site-specific CEQA processes, conduct biological surveys and habitat mapping in specific locations considered for regulatory reservoirs.
- **MM BIO-3. Limit Canal Lining Activity Areas.** During construction, limit construction activities for canal lining to existing maintained canals and adjacent access roads with no additional disturbance or removal of adjacent vegetation.
- **MM BIO-4: Equipment Cleaning.** Before and during construction activities, clean all construction-related equipment (power or high-pressure cleaning) prior to entering the project site to minimize the potential for introduction of invasive species.
- **MM BIO-5: Follow Wildlife Impact Avoidance Measures During Construction.** During construction activities, the following would be conducted:
    - A maximum 15 mile per hour speed limit will be followed for construction-related vehicles.
    - Construction activities will only be conducted during daylight hours to avoid the use of night lighting.
    - Only water or non-toxic agents will be used for dust suppression on unpaved surfaces. All trash and food-related waste for construction workers will be contained in vehicles.
- **MM BIO-6: Pre-Construction Burrowing Owl Habitat Assessment Surveys.** Prior to canal lining and during CEQA for site-specific regulatory reservoir projects, pre-construction burrowing owl habitat assessment surveys will be conducted by a qualified biologist in accordance with CDFW 2012[54] guidelines prior to disturbance of canal banks or areas proposed for construction.
- **MM BIO-7: Pre-Construction Burrowing Owl Surveys.** If suitable burrows, burrow surrogates, sign, or previous reports within 3 years are found within the survey area,

[54] California Department of Fish and Game (now Wildlife). *Staff Report on Burrowing Owl Mitigation*. March 7, 2012.

complete breeding or non-breeding season surveys based on CDFW protocol. These would be conducted prior to canal lining and during CEQA for site-specific regulatory reservoir projects.

- **MM BIO-8: Burrowing Owl Avoidance.** Conduct canal lining only in areas 100 feet or more away from occupied burrows. If occupied burrows occur within 100-500 feet of the construction area, only proceed with construction from September to January (non-breeding season).
- **MM BIO-9: Develop and Implement a Burrowing Owl Awareness Program.** Upon Program approval, develop and implement a Burrowing Owl Awareness Program for site-specific construction projects and farm workers throughout the District.

Finding: Less than Significant with Mitigation Measures

3.4.5.3 CEQA Threshold B

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

On-farm Conservation Measures

As discussed in the Hydrology section (Section 3.6), monitoring of surface water levels in existing irrigation drains over more than 20 years has shown no reduction in surface water levels since the existing MWD fallowing program began in 2003. The continued maintenance of surface water levels is attributed to the high groundwater table and the relatively small reduction in irrigation runoff associated with fallowing. As described in Section 3.6, fallowing up to 21 percent of existing agricultural lands under the District's program, and cumulatively up to 50 percent of agricultural lands when combined with the MWD fallowing program, is expected to have a negligible effect on surface water levels in irrigation drains within the District. Accordingly, effects on drain vegetation resulting from fallowing-related changes in surface water levels are expected to be negligible.

Other potential effects of fallowing on vegetation resources include reduced pesticide application, which could reduce pesticide-related effects on vegetation in adjacent areas, including the Palo Verde Ecological Reserve, and a potential increase in windblown dust. However, based on the field disking practices required as part of the fallowing program, potential impacts to off-site vegetation from windblown dust are expected to be negligible.

District Infrastructure Improvements for Water Conservation

Future concrete lining of canal segments could affect marsh vegetation within the canals through temporary canal draining, vegetation clearing, and grading activities. Approximately

188 miles of unlined canals occur throughout the District. The District currently drains canals and upgrades bankline protection as needed as part of its ongoing operations under the terms of CDFW Permit No. 2081-2005-008-06. As part of this agreement, the District reports an annual total of impacts to marsh vegetation. The District would remain in compliance with the terms and conditions of the existing CDFW Permit as part of this Program, including reporting annual impacts to marsh habitat in canals and remain below total annual acres permitted for non-flow activity operations and maintenance. Activities for canal lining would be restricted to existing canals and adjacent access roads, with no removal of additional trees or nearby vegetation outside canals, as described in MM BIO-3.

To further reduce potential impacts to vegetation within canals, high-pressure equipment cleaning, as described in MM BIO-4, would be implemented to minimize the potential introduction and spread of invasive plant species during construction activities.

Construction of a potential regulatory reservoir in the Palo Verde Valley would occur exclusively on previously disturbed land or existing agricultural fields. Accordingly, the reservoir would not directly convert intact native habitat within its footprint. However, construction of the reservoir and associated canals could result in the removal of vegetation that has been re-established in previously disturbed areas, as well as vegetation associated with agricultural field margins or other disturbed areas. To evaluate and minimize potential impacts to existing vegetation, site-specific vegetation surveys and habitat mapping would be conducted as described in MM BIO-2. These surveys would identify vegetation within the proposed construction footprint and inform measures to avoid or minimize disturbance, where feasible.

With implementation of MM BIO-1 through BIO-4, the proposed Program would result in less-than-significant impacts to vegetation resources, including drain and canal vegetation and vegetation within the footprint of a regulatory reservoir.

Finding: Less than Significant with Mitigation Measures

3.4.5.4 CEQA Threshold D

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Existing agricultural fields in the Palo Verde Valley provide limited wildlife habitat, primarily as foraging opportunities for resident and migratory wildlife. Non-irrigated fields generally support little to no vegetation and would continue to provide open conditions between plantings. Implementation of the proposed Program, both individually and cumulatively with the MWD fallowing program, would temporarily reduce the availability of standing surface water in participating agricultural fields and temporarily reduce crop-related foraging opportunities for

wildlife. Most wildlife species that utilize cultivated lands are accommodated to farming activities, including disking, cultivation, crop rotation, and field flooding, and are capable of utilizing a range of agricultural conditions.

Regulatory Reservoir. Construction of a regulatory reservoir within the District would occur on previously disturbed land or existing agricultural fields. The reservoir would not convert native habitat within its footprint. Construction could result in temporary disturbance and permanent loss or alteration of wildlife habitat associated with existing agricultural uses. Construction of a reservoir may permanently remove agricultural fields from crop production and availability of associated foraging habitat.

Construction activities, including vegetation removal, grading, and excavation could result in direct wildlife mortality. Temporary construction noise, equipment operation, vehicle traffic, and human activity could temporarily displace wildlife from the construction area and adjacent lands. The magnitude of impacts would depend on the size of the reservoir, the existing conditions of the affected lands, and the presence of wildlife using those areas during construction. Operation of the reservoir would result in a conversion in land use and the introduction of an open water feature. Depending on water depth, shoreline configuration, water level fluctuations, and operational practices, the reservoir could provide new foraging or resting opportunities for waterbirds, bats, and other wildlife.

Avoidance and minimization measures for a proposed regulatory reservoir as part of this Program include conducting preconstruction biological surveys, wildlife avoidance mitigation, and other sensitive biological resources protection measures as described in MM BIO-1 through BIO-5 above. Temporarily disturbed areas outside the permanent reservoir footprint would be required to be restored as appropriate. If site-specific biological review confirms that the affected lands do not support sensitive biological resources or other important wildlife habitat, and appropriate avoidance and minimization measures are implemented, impacts to common wildlife species would be expected to be less than significant.

As the fallowed fields and potential regulatory reservoir would retain their open nature, the proposed Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or migratory wildlife corridors, or impede the use of any nearby native wildlife nursery sites.

Finding: Less than Significant with Mitigation Measures

3.4.5.5 CEQA Threshold E

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

In consideration of the discussion above, the proposed Program would have a less than significant impact on plant communities and the wildlife that utilize those communities as habitat. The proposed Program would, therefore, be consistent with Riverside County, Imperial County and City of Blythe general plan policies that call for the preservation and protection of sensitive plant communities, habitat and wildlife.

As previously mentioned, the City of Blythe Comprehensive General Plan policy includes the maintenance of large blocks of cultivated agricultural lands. Part of the fallowing program includes a systematic rotation back into cultivation to ensure the remaining active farmlands continuously sustain large blocks of agriculture. Non-irrigated fields would be left in an open state rather than converted to non-agricultural use. Non-irrigated fields would retain some foraging value for wildlife. The development of a regulatory reservoir may convert agricultural fields to open water use; however, this acreage is estimated to be less than 75 acres which is overall a negligible percent of the District agricultural fields that would not result in habitat fragmentation. Therefore, the proposed Program would be consistent with the Blythe General Plan in terms of biological resources.

Finding: Less than Significant with Mitigation Measures

3.4.5.6 CEQA Threshold F

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The proposed Program would follow the mitigation measures outlined in the LCR MSCP and CDFW Permit No. 2081-2005-008-06 and would continue to provide irrigation to managed conservation areas in the vicinity to continue to support the long-term goals of the MSCP. The Program would not directly impact any nearby habitat management areas and may reduce pesticide spraying in the vicinity of these conservation areas. Therefore, the proposed Program would be consistent with the LCR MSCP in terms of biological resources.

Finding: Less than Significant with Mitigation Measures

3.4.6 Cumulative Effects

The analyses presented above include consideration of the cumulative effects of the proposed Program and the existing and ongoing MWD fallowing program in the Palo Verde valley. As the combined Programs are not expected to impact irrigation drain surface water levels and associated drain vegetation, potential impacts to drain habitat would be negligible. The addition of a regulatory reservoir would add cumulatively to the agricultural facilities in the region;

however, proposed reservoir(s) would be intentionally placed in previously disturbed habitat or existing agricultural fields, and no native habitat would be disturbed.

As described in detail above, Reclamation and USFWS are now engaged in an amendment process expected to take two to three years to extend the 2024 BO for the LCR MSCP to provide long term coverage for reduction in flows of up to 3.0 MAF that may result from additional activities under the Preferred Alternative selected by Reclamation in its recently adopted Post-2026 Operational Guidelines. The new BO and MSCP amendment will account for changes in river management dictated by ongoing drought hydrologic conditions and to provide management flexibility – including potential future water transfers. These combined actions will require ongoing consultation processes, including reinitiating Section 7 consultation, with a goal to provide coverage through the life of the LCR MSCP (2055) for additional activities that may be taken, and further address potential cumulative effects on the Lower Colorado River.

For these reasons, and with continued implementation of the mitigation measures and best management practices currently employed by the District, implementation of the Program is not expected to result in potentially adverse cumulative effects related to biological resources.

3.4.7 Conclusions for Biological Resources

The proposed Program involves operational facilities maintenance, drain maintenance, voluntary, temporary, and rotational land fallowing, canal lining, and potential construction of a regulatory reservoir across the PVID service area. Fallowed fields would not be converted to non-agricultural uses and would return to crop rotation, and at least 79 percent of Program fields (50 percent when combined with the MWD fallowing program) would remain in active production at any time. As a result, substantial foraging habitat would remain available for special-status species. More than 20 years of monitoring indicate that fallowing has a negligible effect on surface water levels in District drains and canals, so drain and canal vegetation used by sensitive species would be maintained. Canal lining would continue to be conducted under the terms of CDFW Permit No. 2081-2005-008-06 and the LCR MSCP. Regulatory reservoirs would be sited on previously disturbed land or existing agricultural fields, would not remove native habitat, and would be subject to site-specific biological surveys during subsequent CEQA review.

With implementation of MM BIO-1 through BIO-9, including preconstruction surveys, construction limits, wildlife avoidance measures, and burrowing owl protections, impacts to special-status species, sensitive natural communities, wildlife movement, local biological resource policies, and adopted habitat conservation plans, potential impacts on biological resources would be less than significant. The Program would not contribute to cumulatively considerable effects on biological resources, and PVID's continued participation in the ongoing LCR MSCP amendment would support long-term coverage for river operations. No biological resource impacts were found to be significant and unavoidable.

3.5 Cultural and Tribal Cultural Resources

3.5.1 Introduction

This section evaluates the potential environmental impacts of the proposed PVID Conserved Water Supply Program on cultural, historical, archaeological, and tribal cultural resources (TCRs) within the PVID service area at a program level in contrast to a project-specific and site-specific level. Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. Significant resources are those resources that have been found eligible for listing on the California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP). A resource may also be considered a "historical resource" for the purposes of CEQA at the discretion of the lead agency; (14 CCR Section 15064.5(a)(4)). Tribal Cultural Resources (TCRs) are defined sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe.

For purposes of this Program EIR, the assessment is made at a general level, with discussion of the detailed cultural and tribal resources assessments and methods that will be required to support approval of site-specific infrastructure construction in the future when specific canal segments are identified for lining and locations, sizes and footprints of regulating reservoirs are determined. Standard mitigation measures for the protection of cultural and tribal resources that will be applied to future infrastructure projects are also identified.

3.5.1.1 Program Elements Not Applicable to the Resource Topic

On-farm conservation measures such as seasonal fallowing, deficit irrigation, early crop termination, and crop switching would occur on land that has been farmed for decades, and no previously undisturbed land would be impacted by these measures. These elements therefore have no potential to result in impacts to cultural or tribal resources and are not analyzed further in this section. Changes to regional water distribution for related transfers would not permanently shift local farming distributions. This Program element would not have direct or indirect impacts on cultural or tribal cultural resources.

3.5.1.2 Program Elements Applicable to the Resource Topic

The Program components that require evaluation regarding potential impacts to cultural and tribal cultural resources are those involving ground disturbance beyond normal farming operations. Canal lining of targeted segments of existing earthen canals and construction of regulating reservoirs would occur within the existing footprint of the PVID water delivery system and on previously disturbed agricultural lands immediately adjacent to current infrastructure. Canal lining would involve improvements to already operational channels (many of which have undergone prior maintenance and modifications), while regulating reservoirs would utilize the

historic canal system and adjacent lands downstream of the Palo Verde Diversion Dam. No expansion into undisturbed native soils or previously unfarmed areas is proposed. While these actions could involve localized earthmoving, all work would be confined to areas with a long history of disturbance from irrigation operations.

3.5.2 Analysis Methodology

The evaluation of potential impacts on cultural and tribal cultural resources was conducted by analyzing historical records, regional ethnographic baselines, and archaeological databases within the 189-square-mile (131,298-acre) PVID service area. The methodology focuses on identifying whether the Program's structural modifications or agricultural adjustments would physically damage, alter, or degrade resources listed in or eligible for the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR) or resources designated as sacred or significant by local Native American tribes.

The analysis was conducted using the following technical sources and analytical steps:

- **Historical and Archaeological Records Review:** A review of local cultural resources data and literature was conducted to assess the baseline sensitivity of the Palo Verde Valley. This included cross-referencing listings in the NRHP, the CRHR, and California Historical Landmarks. A California Historical Resources Information System (CHRIS) records search was not obtained for this Program-level analysis; instead, publicly available listings were reviewed. A CHRIS records search, along with a pedestrian survey conducted by a qualified archaeologist, where warranted, would be conducted for site-specific projects as individual locations for canal lining and regulating reservoirs are identified.
- **Tribal Consultation:** In March 2026, tribal consultation letters, in accordance with Assembly Bill 52 (AB 52), were sent to six geographically and culturally affiliated Native American tribes to solicit direct tribal input regarding traditional cultural landscapes and resource sensitivity. These included: Agua Caliente Band of Cahuilla Indians (ACBCI), Cabazon Band of Mission Indians, Colorado River Indian Tribes, Morongo Band of Mission Indians, Soboba Band of Luiseño Indians, and Twenty-Nine Palms Band of Mission Indians.

  A response from ACBCI requesting formal consultation was received on March 25, 2026[1]; however, this letter was misplaced in email files and discovered in October while the administrative record for this Draft Program EIR was being compiled. The District contacted ACBCI on October 27 after locating the letter. On November 9, ACBCI accepted the District's offer to begin formal government-to-government consultation. Consultation

[1] Agua Caliente Band of Cahuilla Indians. *Correspondence Regarding AB 52 Consultation for the PVID Conserved Water Supply Program*. March 25, 2026.

is ongoing at the time of Draft Program EIR publication (November 18) and results of that consultation will be reported in the Final Program EIR in early 2027.

- **Built Environment Evaluation:** A California Built Environment Resource Directory (BERD) search was conducted for Eastern Riverside County and Northeastern Imperial County. The BERD is a database maintained by the California Office of Historic Preservation (OHP) that documents historical cultural resources.

3.5.3 Applicable Regulations

3.5.3.1 Federal Laws, Regulations, and Policies

National Historic Preservation Act of 1966

The NHPA established a national preservation program to identify and protect historic and archaeological resources. Section 106 of the NHPA mandates that federal agencies evaluate potential effects on historic properties for any project requiring federal funding, permits, or approvals (such as coordination with the U.S. Bureau of Reclamation). The NRHP provides an inventory of sites, buildings, objects, etc., that have significance at the national, state, or local level.[2]

Native American Graves Protection and Repatriation Act (NAGPRA)

The NAGPRA governs the treatment and protection of Native American human remains and cultural items on federal or tribal lands. The law requires consultation and collaboration with Native American Tribes.[3]

3.5.3.2 State Laws, Regulation, and Policies

California Environmental Quality Act (CEQA)

CEQA requires lead agencies to identify, evaluate, and mitigate impacts to unique archaeological resources [Public Resources Code (PRC) Section 21083.2], historical resources (PRC Section 21084.1), and tribal cultural resources (PRC Section 21084.2-21084.3).

Assembly Bill 52 (AB 52)

AB 52 requires public agencies to formally consult with Native American tribes.[4] The bill recognizes "Tribal Cultural Resources" (TCRs) as a distinct environmental resource category requiring protection under CEQA (PRC Section 21074). This section of CEQA defines "Tribal cultural resources":

[2] *National Historic Preservation Act of 1966*, Public Law (P.L.) No. 89-665, as amended by P.L. No. 96-115. 54 United States Code (U.S.C.) §300101, et seq.
[3] Native American Graves Protection and Repatriation Act of 1990. P.L. No. 101-601. 25 U.S.C. §§ 3001-13
[4] California Assembly Bill 52 (Chapter 532, Statutes of 2014).

- *"Tribal cultural resources" are either of the following:*

  (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

  (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

  (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

  (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

- *A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.*

- *A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).*

California Register of Historical Resources

The State Historical Resources Commission has established the CRHR to assist state and local agencies, private groups, and citizens with identifying, evaluating, and protecting California's architectural, historical, archaeological, and cultural resources.[5]

State Laws Pertaining to Human Remains

California Public Resources Code Sections 5097.9 to 5097.991 outline the process for handling inadvertent discoveries of Native American human remains and associated grave items on state, private, or non-federal public lands.[6] If human remains are accidentally found outside of a dedicated cemetery, California Health and Safety Code Section 7050.5 requires that excavation work be stopped until the county coroner can determine whether those remains are those of a Native American. If the remains are determined to be of Native American origin, the California

[5] California Office of Historic Preservation. *California Register of Historical Resources*. Accessed June 17, 2026. https://ohp.parks.ca.gov/?page_id=21238

[6] California Public Resources Code Sections 5097.9-5097.991, as amended.

Native American Heritage Commission (NAHC) must be notified within 24 hours. The disposition of Native American burials falls within the jurisdiction of the NAHC.[7]

3.5.3.3 Local Laws, Regulations, and Policies

Riverside County General Plan

The Riverside County General Plan Multipurpose Open Space Element contains cultural resource preservation policies requiring site records checks, tribal consultation, and the preservation of historic-era structures and archaeological landscapes along the Colorado River corridor.[8]

Imperial County General Plan

The Imperial County General Plan Conservation and Open Space Element includes protective guidelines with archaeological resource monitoring and historical preservation controls within the unincorporated county boundaries.[9]

City of Blythe General Plan

The City of Blythe General Plan Open Space and Conservation Elements establish localized urban growth management boundaries to preserve surrounding cultural and agricultural spaces, with administrative directives requiring archaeological site controls for municipal expansions.[10]

3.5.4 Existing Conditions

Encompassing roughly 189 square miles across eastern Riverside and northern Imperial counties, the Conserved Water Supply Program includes nearly all of the Palo Verde Valley centered around the City of Blythe. This hot, dry desert landscape is characterized by a sweeping riverine valley floor and elevated desert mesas flanking the Colorado River. Because the region features a continuous history of human occupation spanning over 10,000 years, the current agricultural footprint directly overlies rich prehistoric, ethnographic, and historic resource settings. Although a century of farming and modern activity have heavily disturbed the surface, archaeologists note that the flat terrain and low-salt soil chemistry of the valley floor create a stable environment that reduces the chemical decay and physical movement of deeply buried objects. This environment also supports hardy native plants like creosote bush and mesquite, alongside riparian trees and desert-adapted wildlife which local Native American groups historically relied on for food, medicine, and tools.[11]

[7] California Health and Safety Code Section 7050.5, as amended.
[8] County of Riverside. *General Plan—Multipurpose Open Space Element*. December 2015.
[9] County of Imperial. *General Plan—Conservation and Open Space Element*. March 2016.
[10] City of Blythe. *General Plan 2025—Open Space and Conservation Elements*. March 2007.
[11] City of Blythe. *Watt EV Commercial Truck Charging Facility and Solar Field*. Cultural Resources Survey Report. September 2023.

3.5.4.1 Prehistoric Setting

Over 12,000 years, human survival in Southern California's desert regions has been defined by adapting to a shifting climate, directly shaping the lifestyles of the Native American groups encountered by early explorers. During the earliest prehistoric era (12,000 to 7,000 years ago), nomadic groups camped near lakes to hunt large game and gather seasonal plants. As the climate dried during the middle era (7,000 to 1,500 years ago), hunter-gatherers shifted toward resources like seeds and acorns, adopting grinding tools and establishing base camps near mountain water. By the final prehistoric era (1,500 to 150 years ago), intense droughts forced a pivot toward farming on the Colorado River floodplains, making pottery, and using the bow and arrow. The historical tribes of the area—including the river-based Quechan, Halchidhoma, and Mojave, as well as the Chemehuevi and Cahuilla—mirrored these ancient patterns, balancing floodplain agriculture with long-distance hunting and gathering across the desert floor and high mountains.

Throughout history, a permanent network of footpaths served as the foundation for travel, trade, and spiritual practices across this landscape. Originally used in prehistory to connect water springs and tool-making quarries, these trails became routes for long-distance trade, allowing tribes to swap desert pottery for coastal seashells and interact with neighboring groups. Because Spanish missionaries never established a foothold in this remote desert, these tribes preserved their languages and traditions well into the modern era. Their religious beliefs, daily knowledge, and tribal identities were shaped entirely by the geography, relying on personal dreams and spoken song cycles to navigate the land. Today, the desert still retains physical markers of this heritage, from ancient rock art and shrines to discarded pottery fragments.[12]

3.5.4.2 Historic Setting

The history of the Palo Verde Valley is tied directly to the Colorado River. Between 1852 and 1877, steamboats traveled the river to supply local gold and silver mines and U.S. Army posts, transferring goods to wagon lines that traveled inland. In the 1870s, surveyor Oliver Calloway identified the valley's farming potential and partnered with investor Thomas Blythe, who bought 40,000 acres and filed the area's first water rights in 1877. They built the first canal system to irrigate local pastures, but development stopped in the early 1880s after Calloway was killed in a dispute and Blythe died without a will, leaving his property tied up in court.

Agriculture resumed in 1904 when new investors bought the Blythe land and built the foundation of the modern canal network. To handle recurring flood damage and drainage issues from the river, local land users organized separate levee and drainage groups, eventually consolidating them into the single Palo Verde Irrigation District in 1923. The valley faced severe financial

[12] County of Riverside. *Grace Solar Energy Center EIR*. SCH No. 2025010194. February 2026.

hardships and bond defaults during the 1930s, but the completion of Hoover Dam in 1935 regulated the river's flow and ended the threat of major floods, making farming a stable industry.[13]

3.5.4.3 Cultural Resources in and around the PVID Service Area

National Register of Historic Places

In Riverside County, there are three NRHP-listed sites near, but not within, the PVID service area:

1. **Archaeological Sites CA-RIV-504 and CA-RIV-773:** This pair of protected Native American archaeological resources are in the vicinity of Blythe. Their exact locations are restricted to qualified researchers and tribal members.[14]
2. **Blythe Intaglios (NRHP #75000452):** This unique site was created by the activities of early civilizations. The Blythe Intaglios or "Giant Figures," are geoglyphs located on a terrace above the Colorado River about 15 miles north of Blythe. These giant intaglios consist of six distinct figures in three locations, including a human figure at each location and an animal figure at two locations. The largest human figure measures 171 feet from head to toe. Their age is between 450 and 2,000 years old.[15] These are also listed as a California Historical Landmark (No. 101; Giant Desert Figures).
3. **McCoy Spring Archaeological Site (NRHP #82002226):** This site is located to the west of Blythe and contains over 2,000 petroglyph boulders and ancient trail networks. Its exact location is restricted to qualified researchers and tribal members.[16]

There are several NRHP-listed sites in Imperial County, but none within the PVID service area.

California Register of Historical Resources

There are various designations of historical resources in the CRHR, including Historical Landmarks and Points of Historical Interest. There are several CRHR listed resources in and around the PVID service area.[17]

1. **Site of Blythe Intake, State Historical Landmark:** This is the site of the first irrigation canal to feed water to the Palo Verde Valley in 1877 and is located just north of the City of Blythe.

[13] Palo Verde Irrigation District. *History of the Palo Verde Valley*. Accessed June 18, 2026. https://www.pvid.org/history.php
[14] National Park Service. *National Register of Historic Places*. Accessed June 19, 2026. https://www.nps.gov/subjects/nationalregister/database-research.htm
[15] Bureau of Land Management. *Blythe Intaglios*. Accessed June 18, 2026. https://www.blm.gov/visit/blythe-intaglios
[16] National Park Service. *National Register of Historic Places*. Accessed June 19, 2026. https://www.nps.gov/subjects/nationalregister/database-research.htm
[17] California State Parks. *California Historical Resources, Riverside County*. Accessed June 23, 2026. https://ohp.parks.ca.gov/ListedResources

2. **Wiley's Well, State Point of Historical Interest:** Located west of Blythe, outside of the PVID service area, this is a natural artesian well in the desert off Interstate 10.
3. **Blythe Ferry Crossing, State Point of Historical Interest:** Known as "Taylor's Ferry," this was used for transportation between California and Arizona prior to permanent bridges.

Within the boundaries of the City of Blythe, there are several areas of archaeological sensitivity, as well as historic-era buildings that may be eligible for inclusion on the CRHR. Additionally, there are many historic-era canals and ditches in the PVID service area. There are no identified CRHR in the Imperial County portion of the PVID service area.

Tribal Resources in and around the PVID Area

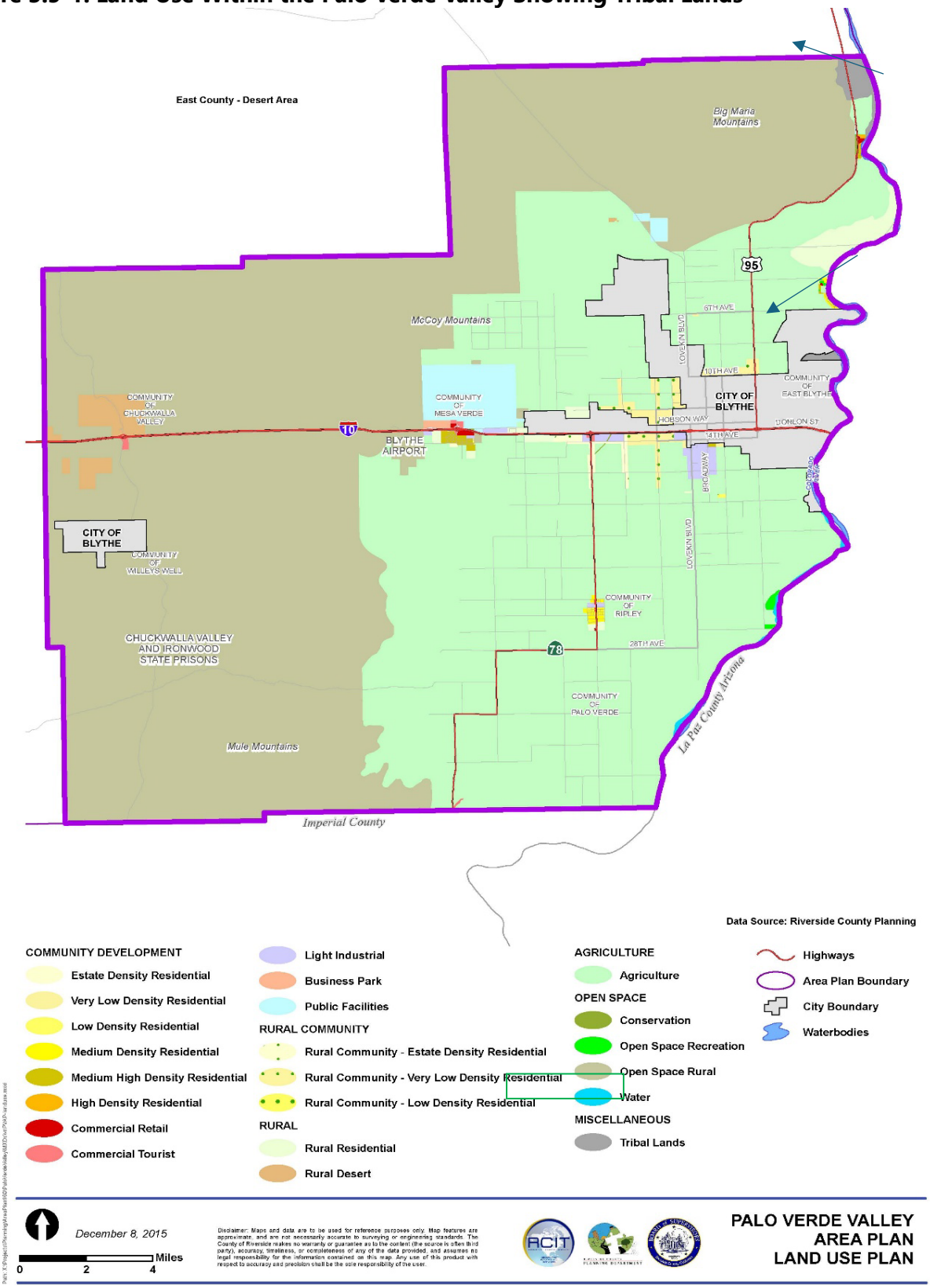
Currently, there are six tribes known to have traditional and cultural affiliation to the PVID service area. Additionally, as shown in Figure 3.5-1,[18] there are two areas of Colorado River tribal land. There are no known areas of Native American Cultural Sensitivity in the Imperial County portion of PVID.

In accordance with AB 52, tribal consultation letters were sent on March 4, 2026, to the following six tribes: Agua Caliente Band of Cahuilla Indians, Cabazon Band of Mission Indians, Colorado River Indian Tribes, Morongo Band of Mission Indians, Soboba Band of Luiseño Indians, and Twenty-Nine Palms Band of Mission Indians.[19]

[18] County of Riverside. *Palo Verde Valley Area Plan*. September 2021.

[19] Palo Verde Irrigation District. *Consultation Regarding the Palo Verde Irrigation District's Proposed Water Supply Program and Program Environmental Impact Report*. March 4, 2026.

Figure 3.5-1. Land Use Within the Palo Verde Valley Showing Tribal Lands



3.5.5 Impact Assessment on Cultural and Tribal Cultural Resources

3.5.5.1 Criteria for Determining Significance

Thresholds of significance define the level of environmental change beyond which an impact would be considered significant under CEQA. Pursuant to the CEQA Guidelines, PVID has applied the following Appendix G thresholds of significance for evaluating Program effects on cultural and tribal cultural resources. The following impact criteria are defined in the CEQA Guidelines,[20] Appendix G:

Cultural Resources: *Would the project:*

a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Tribal Cultural Resources: *Would the project:*

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

All significance thresholds outlined in Appendix G apply to the Cultural Resources and Tribal Cultural Resource topics within the PVID service area due to the broad regional distribution of prehistoric and historic assets. No criteria are excluded from this analysis.

[20] California Environmental Quality Act, Public Resources Code 21000–21189, and CEQA Guidelines, California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387.)

3.5.5.2 Cultural Resources CEQA Threshold A

a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

Primary Program elements, including on-farm conservation measures, seasonal fallowing, crop rotation, deficit irrigation, would occur on lands that have been actively farmed or maintained for decades and would not require new ground disturbance beyond ongoing agricultural operations. As described in Section 3.5.2, these activities would not alter historical structures, disturb intact archaeological deposits, or affect known historical resources.

Program components involving canal lining, and the construction of regulating reservoirs could directly alter existing earthen water delivery ditches and agricultural turnouts, many of which exceed 50 years of age. While these features are historic-period elements of the valley's landscape, the entire PVID canal system has not been formally evaluated for NRHP or CRHR eligibility. Although continuous operational repairs and structural modernizations executed over decades have altered their original construction fabrics, individual canal segments could potentially still be historically significant.

Lining unpaved channels reduces evaporation losses and improves overall delivery efficiency. These improvements do not destroy the historical alignment or utility of the overall PVID irrigation network. The original engineering intent—to divert and distribute Colorado River water across the roughly 94,500-acre agricultural baseline—remains fully intact and operational.

The construction of regulating reservoirs would occur on current agricultural parcels and would not result in the demolition of historically significant architectural landmarks. Therefore, modifications to the built environment would not cause a substantial adverse change in the significance of a historical resource under Section 15064.5, and implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3 would ensure that historical resources are identified, evaluated, and protected prior to project-level construction activities. Impacts would be reduced to a less-than-significant level.

- **MM CUL-1: Cultural Resources Worker Environmental Awareness Program.** Prior to the initiation of any on-site grading, all construction/contractor personnel working on site shall complete training through a Worker Environmental Awareness Program (WEAP) to educate personnel of potential cultural resources that could be exposed during construction. New construction workers engaged in construction activities (grading, excavation, trenching, utility installation) shall complete WEAP training within the first week of deployment on the site. Additionally, operational staff shall complete WEAP training prior to deployment on the site.

- **MM CUL-2: Historical Resource Identification and Evaluation.** Prior to approval of any site-specific canal lining, reservoir construction, or other infrastructure improvement involving ground disturbance or modification of structures greater than 50 years old, PVID shall retain a qualified historian and/or architectural historian to conduct a historical resource evaluation and determine eligibility for listing in the NRHP or CRHR. This will include a CHRIS records search and pedestrian surveys by a qualified archaeologist as warranted.
- **MM CUL-3: Historical Resource Protection.** Where a historical resource is identified, PVID shall avoid the resource where feasible. If avoidance is not feasible, treatment measures would be developed in consultation with applicable agencies and implemented prior to construction.

Finding: Less than Significant Impact with Mitigation Measures

3.5.5.3 Cultural Resources CEQA Threshold B

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

The proposed Program would not authorize urban development, industrial re-zoning, or large-scale deep earthmoving across undisturbed landscapes. On-farm conservation measures—including voluntary land fallowing, deficit irrigation, and crop rotation—would take place entirely within existing plowed fields that have undergone continuous cultivation for generations. Rotational land idling or temporary changes in crop types do not increase depth of tillage or alter the underlying stratigraphy, ensuring that surface-level resources are not subjected to new physical impacts.

District infrastructure improvements, including canal lining of targeted segments of existing earthen canals and construction of regulating reservoirs, would be implemented entirely within the existing disturbed footprint of the PVID canal system and on previously disturbed agricultural lands immediately adjacent to current infrastructure. All work would be confined to areas with a long history of disturbance from over 100 years of irrigation operations. No expansion into undisturbed native soils or new disturbance beyond the current operational boundaries is proposed. While these activities could involve localized earthmoving (such as canal bank shaping or excavation for reservoir features), any potential encounter with previously unknown, buried prehistoric archaeological deposits would be addressed through standard protocols.

To ensure that any inadvertent discoveries are insulated from significant damage, PVID has integrated standard resource preservation practices into the Program description. Implementation of **MM CUL-1** (Worker Awareness Training) and **MM CUL-4** (Inadvertent Discovery Protocol) ensures that if subsurface cultural materials are uncovered, work will be paused until a qualified

archaeologist, and tribal representatives can properly evaluate the resource. Consequently, the Program would not cause any substantial adverse change in the significance of an archaeological resource and impacts are less than significant.

- **MM CUL-4: Inadvertent Discovery Protocol for Archaeological Resources.** In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards can evaluate the significance of the find and determine whether or not additional study is warranted. If the discovery is clearly not significant (e.g., an isolate) the archaeologist may simply record the finding and allow work to continue. If the discovery proves potentially significant under CEQA, additional work such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted.

Finding: Less than Significant Impact with Mitigation Measures

3.5.5.4 Cultural Resources CEQA Threshold C

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

There are no dedicated cemeteries or known ancestral burial locations within the immediate operational corridors or agricultural fields slated for Program participation. Because most Program elements involve non-ground-disturbing on-farm water management the potential to encounter human remains is very low.

However, localized excavations for regulating reservoirs or channel modernization could encounter unknown subsurface deposits. In the unlikely event that human remains are discovered during infrastructure construction, the Program would enforce compliance with **MM CUL-4**, which mandates immediate work cessation and formal coordination with the County Coroner and the NAHC pursuant to California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98. Compliance with these mandatory statutory frameworks ensures that impacts remain less than significant.

- **MM CUL-5: Protection of Human Remains.** If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any period or cultural affiliation, the archaeologist shall immediately notify the lead agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.
- If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Imperial County Medical Examiner (per Section 7050.5 of the Health and Safety Code). The provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (Section 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

Finding: Less than Significant Impact with Mitigation Measures

3.5.5.5 Tribal Cultural Resources CEQA Threshold A

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape

that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- ***i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or***
- ***ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.***

Outside the valley floor on the elevated mesa, there are several sacred landmarks, such as the Blythe Intaglios geoglyphs. Because these are located outside the PVID service area, none of these identified resources would be disturbed by Program elements.

During canal lining and reservoir construction activities, it is possible that subsurface elements could be unearthed. The irrigation canals and drainage ditches have been in place for many years. As detailed above, standard protocols would be implemented during construction activities, and include those defined in **MM CUL-1, 2, 3,4 and 5**. Additionally, the following mitigation measures would be implemented:

- **MM TCR-1:** Standard protocols will be implemented during construction, including a Worker Environmental Awareness Program which trains construction workers to halt work if they identify any resources during excavation and other earthmoving activities. These protocols are defined in cultural resources mitigation measures CUL-1, CUL-2 and CUL-3. In addition, the following actions shall be taken to address concerns regarding potential culturally sensitive and Tribal Cultural resources that could be located within areas of the infrastructure improvement elements of the Program (canal lining segments and regulating reservoirs).

  A Cultural Resource Technical Report shall be prepared by a qualified archaeologist, including a cultural resources inventory of the project area and a cultural records search with associated survey reports and site records from the appropriate information center.

  - A copy of the records search with associated survey reports and site records from the information center shall be provided to the Tribal organizations that have requested them from PVID.
  - Copies of any cultural resource documentation (report and site records) generated in connection with this project shall be provided to the Tribal organizations that have requested them from PVID.

- An approved Cultural Resource Monitor(s) shall be present during any ground disturbing activities (including archaeological testing and surveys). Should buried cultural deposits be encountered, the Monitor may request that destructive construction halt and the Monitor shall notify a Qualified Archaeologist (Secretary of the Interior's Standards and Guidelines) to investigate and, if necessary, prepare a mitigation plan for submission to the State Historic Preservation Officer. Formal government to government consultation shall occur as specified under California Assembly Bill No. 52 (AB-52).

Finding: Less than Significant Impact with Mitigation Measures

3.5.6 Cumulative Effects:

The geographic scope for the cumulative cultural and tribal resources analysis encompasses the entirety of eastern Riverside County, northern Imperial County, and the shared tribal ancestral landscapes of the lower Colorado River basin. Historically, this region has experienced incremental modifications to cultural landscapes and historic-period infrastructure due to urban growth, transmission corridor construction, and large-scale utility renewable energy installations on surrounding desert mesas.

The proposed Program's water allocation adjustments, canal lining, and voluntary on-farm conservation agreements would not contribute incrementally to this cumulative degradation of cultural heritages:

- **Regional Trends:** There is a documented history of tribal opposition to nearby renewable energy developments over concern regarding cultural resources.[21] While regional solar energy developments and urban expansions on nearby desert terraces often result in permanent landform alterations and the disruption of pristine archaeological sites, the proposed Conserved Water Supply Program operates within a pre-existing, highly modified agricultural footprint. The Program maintains current land-use designations, avoids expanding into undisturbed natural habitats, and does not authorize non-agricultural structural development.
- **Retention of Landscape Character:** By introducing flexible financial incentives and stabilizing the $236 million regional farming economy, the Program protects the historical, rural agricultural character of the Palo Verde Valley. This prevents the economic failures that force lands to be sold for urban or industrial developments, which typically require extensive deep grading that damages cultural resources. Accordingly, the Program's

[21] *Colorado River Indian Tribes v. United States Department of the Interior et al.* Complaint. Case No. 5:14-cv-02504, United States District Court for the Central District of California, Eastern Division, 4 Dec. 2014.

incremental contribution to cumulative cultural and tribal cultural resource impacts would not be cumulatively considerable.

Finding: Less than Significant Impact

3.5.7 Conclusions for Cultural and Tribal Cultural Resources

The proposed Program would involve voluntary rotational water conservation, and canal lining across the PVID service area. Because all ground-disturbing modernization components are localized and bound by strict oversight protocols, the Program avoids significant adverse changes to the historical built environment, archaeological deposits, or tribal cultural resources. Project components would maintain the existing agricultural footprint and apply standard stop-work procedures for inadvertent discoveries. Significant impacts to cultural and tribal resources would remain less than significant with the implementation of formal CEQA mitigation measures.

3.6 Hydrology and Water Quality

3.6.1 Introduction

This section evaluates the potential impacts to hydrology and water quality that may result from the proposed PVID Conserved Water Supply Program within the Palo Verde Valley. The environmental setting includes the legal framework governing Colorado River water allocation, an overview of water supply resources, including PVID's water rights portfolio, and the relationship of the proposed Program to current and post-2026 operational guidelines for Lake Powell and Lake Mead. Hydrologic and water quality conditions of surface and groundwater within the Palo Verde Valley are evaluated in relation to the proposed Conserved Water Supply Program in relation to the applicable CEQA thresholds of significance. Finally, cumulative effects of the proposed Program are considered in combination with related projects and programs throughout the Lower Colorado River Basin.

3.6.1.1 Program Elements Not Applicable to the Resource Topic

The only program elements that would have no potential to directly or indirectly affect surface water hydrology, groundwater recharge, water quality, flooding, or drainage patterns would include those program activities that involve no physical construction, ground disturbance, or direct alteration of water management practices. These elements have no potential to impact hydrology or water quality and are excluded from further detailed analysis within this resource topic.

3.6.1.2 Program Elements Applicable to the Resource Topic

- Year-round, ongoing maintenance and repairs on irrigation canals and drainage systems would continue as described in Chapter 2. Because these elements would be limited to existing drains, canals, and other PVID operational facilities, they would not change baseline water quality conditions. Some program components could directly affect water quality and are the focus of this impact analysis:
- **Voluntary Land Fallowing and Early Crop Termination:** Multi-year or rotational water conservation agreements would temporarily remove selected parcels from active production. The analysis evaluates whether these temporary changes would result in localized water quality impacts related to soil erosion (runoff and sedimentation) and groundwater levels.
- **Canal Lining and Regulating Reservoirs:** Lining unpaved channels and constructing regulating reservoirs would improve water savings beyond on-farm management measures. These improvements would require localized grading and earthmoving, resulting in short-term soil exposure to potential erosion and runoff into the District's

water delivery and drain systems. Following construction, the long-term operation of the lined canals and reservoirs would have no potential to result in significant adverse changes in local or regional hydrology or water quality.

3.6.2 Analysis Methodology

The *2002 Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program EIR* provided relevant background information and historical environmental baselines for comparison. The analysis allows relies on historic and current information available from the U.S. Bureau of Reclamation (Reclamation or USBR) and the Regional Water Quality Control Board (RWQCB) order for waste discharge requirements (WDRs) for the Palo Verde Irrigation District. A qualitative assessment of water quality effects related to canal lining and reservoir construction is provided, combined with identification of the Best Management Practices (BMPs) applied by the District to all construction activities and on-farm conservation actions.

The impact analysis utilizes thresholds of significance for evaluating Program effects on hydrology and water quality as defined in the CEQA Guidelines. These define the level of environmental change beyond which an impact would be considered significant under CEQA. Pursuant to the CEQA Guidelines, PVID has applied the Appendix G thresholds of significance for evaluating Program effects on hydrology and water quality.

3.6.3 Applicable Regulations

Conserved water generated by the proposed Program will be credited to California's allocation from the Colorado River, supports management of Lake Mead storage, and may be made available for system conservation, intentionally created surplus, or other purposes consistent with applicable Law of the River agreements and federal operational guidelines. The Program is intended to operate from 2026 through a term consistent with post-2026 operational frameworks to be established by Reclamation following conclusion of the ongoing Post-2026 Operational Guidelines and Strategies rulemaking process. The specific duration and conservation volumes will be subject to annual negotiations and multi-year agreements among PVID, USBR, and other Colorado River users as applicable.

The following regulatory setting describes the federal, state, and local laws, regulations, plans, and agreements that are applicable to the Program's effects on hydrology and water quality. This regulatory framework provides the basis for assessing program elements in relation to CEQA thresholds of significance.

3.6.3.1 Federal Laws, Regulations, and Policies

Colorado River Compact (1922) and the Law of the River

The Colorado River Compact of November 24, 1922, executed by representatives of seven basin states (Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming) and approved by Congress in 1928, constitutes the foundational legal document governing apportionment of Colorado River waters. The Compact divides the river into an Upper Basin (states above Lee Ferry, Arizona, including Colorado, New Mexico, Utah, and Wyoming) and a Lower Basin (states below Lee Ferry, including Arizona, California, and Nevada). The Compact apportions 7.5 million acre-feet per year (MAF/yr) to each basin, with a further obligation to deliver 1.5 MAF/yr to Mexico pursuant to the Mexican Water Treaty of 1944, for a total obligated annual yield of 16.5 MAF. The Compact's apportionment was premised on an estimated long-term average natural flow of approximately 16.4–17 MAF/yr at Lee Ferry, a figure now understood to have substantially exceeded the actual long-term average flow, contributing to the structural over-allocation that characterizes the current period of chronic shortage.

The body of congressional acts, federal court decrees, interstate compacts, contracts, and regulatory guidelines governing the Colorado River is collectively known as the "Law of the River." PVID's water rights, conservation obligations, and program activities are governed in their entirety by the Law of the River, including specifically the documents described below.

Boulder Canyon Project Act (1928)

The Boulder Canyon Project Act of December 21, 1928 (45 Stat. 1057; 43 U.S.C. §617 et seq.) authorized construction of Hoover Dam, the All-American Canal, and related facilities, and apportioned California's share of the Lower Basin's 7.5 MAF/yr allocation at 4.4 MAF/yr (plus the right to use surplus water). The Act also authorized the Secretary of the Interior to contract for the delivery of water from the project. PVID's Bureau of Reclamation water service contract, executed in 1933, derives from this statutory authority.

Seven Party Agreement (1931) and PVID's Water Rights

The Seven Party Agreement of August 18, 1931, allocates California's 4.4 MAF/yr share of the Colorado River among California's major water users, establishing a priority order that governs allocation during shortage conditions. PVID holds water rights under three priority categories under the Seven Party Agreement:

- **Priority 1:** PVID holds Priority 1 rights for irrigation of up to 104,500 acres of land in the Palo Verde Valley. Priority 1 rights are the most senior under California's Seven Party Agreement allocation and are protected from shortage curtailment under all currently anticipated shortage tier conditions. Under terms of the contract with Reclamation, PVID’s water is to be used for beneficial uses within the District boundaries.

- **Priority 3b:** PVID holds Priority 3b rights for irrigation of up to 16,000 acres of land on the Palo Verde Mesa, a higher-elevation area on the western margin of the district.
- **Priority 6b:** PVID also holds Priority 6b rights for irrigation of the 16,000 acres on the Palo Verde Mesa.

Bureau of Reclamation 1933 Water Service Contract

Pursuant to the Boulder Canyon Project Act, the Secretary of the Interior executed a water service contract with PVID in 1933 authorizing PVID to divert Colorado River water at Palo Verde Diversion Dam for beneficial use within the district. This contract establishes PVID's legal entitlement to Colorado River water and governs the terms under which PVID may conserve or transfer water through the Program.

Colorado River Interim Guidelines (2007)

The Record of Decision for the Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead, issued by the Secretary of the Interior on December 13, 2007, established operational criteria for coordinated management of Lake Powell and Lake Mead through December 31, 2026. The Interim Guidelines established Shortage Tier levels for the Lower Basin based on Lake Mead elevation: Tier 1 shortage (elevation below 1,075 feet above sea level [ft asl]), Tier 2 shortage (below 1,050 ft asl), Tier 2b shortage (below 1,025 ft asl), and Tier 3 (Emergency) shortage (below 1,000 ft asl). Shortage curtailments under the Interim Guidelines affect Arizona's Central Arizona Project deliveries most significantly, with Nevada's allocation also reduced, and California's Priority 1–3a rights (which include PVID's Priority 1 and 3b rights) largely protected. As of the date of this Program EIR, a Tier 1 shortage is in effect for the 2026 operating year, with Lake Mead's end-of-year elevation projected at approximately 1,037 ft asl per the June 2026 24-Month Study. The 2007 Interim Guidelines expire on December 31, 2026.

2019 Drought Contingency Plans

The Drought Contingency Plans (DCPs) for the Upper and Lower Basins, authorized by the Colorado River Drought Contingency Plan Authorization Act (Public Law 116-14, April 16, 2019) and signed by Reclamation and all seven basin states, supplement the 2007 Interim Guidelines with additional conservation provisions and lower-elevation protective tiers for Lake Mead (below 1,090 ft asl, triggering increased shortage contributions from Arizona, Nevada, and California's lower-priority uses). The DCPs also established the Demand Management Program in the Upper Basin and authorized additional System Conservation activities in the Lower Basin. The DCPs and subsequent agreements committed California to contribute at least 1.6 MAF of additional water to Lake Mead by the end of 2026. PVID's contribution to this commitment, through the 2023 Tri-Party Agreement, is estimated at approximately 117,000 AF/yr (or approximately 351,000 AF over

three years, 2024–2026), representing approximately two feet of Lake Mead elevation per year of conservation.

Federal Clean Water Act (Sections 401, 402, and 404)

The Federal Water Pollution Control Act, as amended (commonly the Clean Water Act, 33 U.S.C. §1251 et seq.), imposes requirements relevant to the Program's potential effects on water quality and aquatic resources:

- **Section 401 (Water Quality Certification):** Any federal agency issuing a license or permit for an activity that may result in a discharge to navigable waters must obtain a certification from the State that the discharge complies with applicable water quality standards. To the extent that Program activities require federal permits (e.g., Corps Section 404 permits for in-channel work on drainage infrastructure), a Section 401 Water Quality Certification from the State Water Resources Control Board or Region 7 RWQCB would be required.
- **Section 402 (National Pollutant Discharge Elimination System — NPDES):** Discharge of agricultural return flows and irrigation drainage to waters of the United States is governed by applicable NPDES general permits or individual permits as required by Reclamation and EPA regulations. Agricultural return flows are subject to conditional exemptions under the Clean Water Act; however, construction-related discharges during infrastructure improvements (e.g., canal lining) would require compliance with the Construction General Permit (Order 2022-0057-DWQ or successor).
- **Section 404 (Discharge of Dredged or Fill Material):** Discharge of dredged or fill material into waters of the United States, including wetlands, requires authorization from the U.S. Army Corps of Engineers. Program activities that involve work within the Colorado River channel, drainage channels, or associated wetlands including maintenance dredging, installation of control structures, or similar activities require filing of a Preconstruction Notification Preconstruction Notification (PCN) and compliance with Corps permitting requirements.

3.6.3.2 State Laws, Regulations, and Policies

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code §13000 et seq.) establishes California's comprehensive water quality protection program, administered by the State Water Resources Control Board and the nine Regional Water Quality Control Boards. The Act requires the preparation and periodic revision of water quality control plans (Basin Plans) that designate beneficial uses, establish water quality objectives, and specify implementation programs for each hydrologic region in the state. The Colorado River Basin Region (Region 7) Basin Plan governs water quality within the Program area and is described below. Under Porter-Cologne, any person

or entity who proposes to discharge waste to waters of the state must file a Report of Waste Discharge (RWD) and obtain Waste Discharge Requirements (WDRs) from the appropriate Regional Water Quality Control Board, unless a regulatory exemption applies.

Colorado River Basin Regional Water Quality Control Board — Basin Plan (Region 7)

The Water Quality Control Plan for the Colorado River Basin Region (Region 7 Basin Plan), adopted by the RWQCB, Colorado River Basin Region, and most recently updated to include amendments effective on or before August 20, 2024, establishes the water quality framework applicable to the Program area. The Region 7 Basin Plan:

- Designates beneficial uses for Colorado River waters, including Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Contact and Non-Contact Water Recreation (REC-1, REC-2), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), Preservation of Rare and Endangered Species (RARE), and Navigation (NAV).
- Establishes narrative and numerical water quality objectives for salinity [including conductivity and total dissolved solids (TDS) thresholds at specified monitoring stations on the Colorado River], nutrients, trace metals, pesticides, and biological parameters.
- Specifies implementation programs including requirements for agricultural return flow management, monitoring, and reporting.
- Addresses selenium and boron management in agricultural drainage areas consistent with the Colorado River Basin Salinity Control Program requirements.

Current salinity objectives established in the Region 7 Basin Plan include a TDS objective of 723 milligrams per liter (mg/L) at Imperial Dam (monthly mean) and a conductivity objective at the Colorado River at the Yuma, Arizona monitoring station. PVID's agricultural drainage return flows must comply with these objectives under the Basin Plan's implementation framework.

Sustainable Groundwater Management Act (SGMA) — Applicability in Palo Verde Valley

The Sustainable Groundwater Management Act of 2014 (SGMA; Water Code §10720 et seq.) requires the formation of Groundwater Sustainability Agencies (GSAs) and the development of Groundwater Sustainability Plans (GSPs) for medium- and high-priority groundwater basins as designated by the California Department of Water Resources. SGMA applies to "high" and "medium" priority basins; basins designated "low" or "very low" priority are not required to prepare GSPs.

The Palo Verde Valley groundwater basin (DWR Basin No. 7-19) has been designated as a low to very low-priority basin by DWR, reflecting the area's limited groundwater dependence for municipal or domestic supply purposes and the predominant role of surface water (Colorado

River) as the primary water source. As of the date of this Program EIR, the Palo Verde Valley groundwater basin is not subject to mandatory GSA formation or GSP preparation requirements under SGMA, and there is no indication that a SGMA plan will be required in the foreseeable future.

California Department of Fish and Wildlife Requirements

The California Department of Fish and Wildlife (CDFW) administers California Endangered Species Act (CESA; Fish and Game Code §2050 et seq.) protections for state-listed threatened and endangered species, as well as the requirements of Fish and Game Code §1600 et seq. (Lake and Streambed Alteration Agreements) for activities that alter the bed, bank, or channel of a river, stream, or lake. Program activities involving maintenance or modification of drainage channels or structures within or adjacent to the Colorado River may require a Lake or Streambed Alteration Agreement from CDFW. CDFW is a Responsible Agency under CEQA for activities subject to its jurisdiction.

3.6.3.3 Local Laws, Regulations, and Policies

Riverside and Imperial County General Plans

The Riverside County General Plan (most recently updated 2015, with subsequent amendments) and the Imperial County General Plan (2023 update) designate the Palo Verde Valley primarily as Agricultural (AG) land use, with supporting policies that encourage water-efficient agricultural practices and coordination with regional water management agencies. The general plan agricultural land use designations are consistent with and supportive of the Program's voluntary conservation and fallowing activities. No general plan amendment is required for the Program, as fallowing and conservation are uses consistent with the existing agricultural land use designation.

City of Blythe General Plan 2025

The City of Blythe General Plan 2025 Open Space and Conservation Element includes guiding and implementing policies that seek continued maintenance of the water quality. The water quality policies applicable to the proposed Program specifically address pollution prevention measures for soil erosion and potential construction-related contaminants such as fuels and lubricants.

PVID Act (1923) and District Enabling Authority

The Palo Verde Irrigation District was formed in 1923 with legislation amending the California Water Code.[1] 1923, the Palo Verde Irrigation District Act was passed. The District was then organized with the unification of three predecessor organizations that included the Palo Verde Mutual Water Company, the Palo Verde Joint Levee District and the Palo Verde Drainage District.

[1] *Palo Verde Irrigation District Act,* enacted by the State of California in 1923 (Stats. 1923, c. 452, p. 1067.)

The District's enabling authority grants it the power to acquire, construct, and operate water supply, distribution, and drainage infrastructure; to contract with other agencies for water supply and conservation purposes; and to manage its service area's water resources for the benefit of landowners within the district. The Program is authorized under this enabling authority and is consistent with PVID's statutory mission.

PVID/MWD Long-Term Fallowing Agreement

On January 1, 2005, PVID and MWD implemented a 35-year Forbearance and Fallowing Program with landowners within PVID. The Program encompasses a total of 25,947 acres of enrolled agricultural lands and is scheduled to terminate on July 31, 2040. Under the Program, MWD may call for fallowing at levels ranging from 25% to 100% of enrolled acreage on a seasonal basis, with participating landowners compensated for foregone crop revenue. Conserved water is made available to MWD for storage and use in its service area. This agreement provides the institutional and land enrollment framework upon which subsequent federal conservation agreements (including the 2023 Tri-Party Agreement) have been built.

2023 PVID/USBR/MWD Tri-Party Agreement

On December 20, 2023, PVID, USBR, and MWD executed a System Conservation Implementation Agreement under Reclamation's Lower Colorado River Conservation Program. This agreement provides federal funding for fallowing of approximately 26,000 acres of PVID farmland at a level equivalent to approximately 117,000 AF/yr of conserved water, with conservation credited to Lake Mead as System Conservation Water. The agreement covers the period August 1, 2023, through December 31, 2026. The conserved water supports California's commitment to contribute at least 1.6 MAF of additional water to Lake Mead by the end of 2026 as part of the collective seven-state drought response. This Program EIR analyzes the proposed Conserved Water Supply Program activities consistent with, and building upon, this existing framework.

3.6.4 Existing Conditions

This section describes the physical, hydrological, and water quality conditions that exist in the Program area at the time the NOP was filed (March 2026) that establishes the baseline against which Program impacts are evaluated pursuant to CEQA Guidelines §15125.

3.6.4.1 Hydrology

The Colorado River totals approximately 250,000 square-miles and includes portions of seven western states and Mexico (see Figure 3.6-1: Colorado River Basin Map).

Figure 3.6-1. Colorado River Basin Map



Source: U.S. Department of the Interior, Bureau of Reclamation

The River is a completely altered hydrologic system with flows controlled by a series of dams throughout the basin.[2] Total storage capacity of the reservoirs created by the dams is equal to approximately four times the average annual river flow. The River has been artificially divided into upper and lower basins for management and administrative purposes, with major reservoirs including Lake Powell (Glen Canyon Dam) in the upper basin and Lake Mead (Hoover Dam) in the lower basin, with a combined storage capacity of over 56 MAF.

Quantified division of the Colorado River between the upper and lower basins was first established in the 1922 Colorado River Compact which became effective in June 1929.[3] Waters of the river are divided among upper basin states (Wyoming, Colorado, Utah and New Mexico), lower basin states (Nevada, Arizona and California), Mexico and multiple tribal entities. The original allocations were based upon hydrologic records from 1904-1929 which indicated average annual yield of 16.5 MAF, with 7.5 MAF to the upper basin, 7.5 MAF to the lower basin and, based upon a 1944 treaty with Mexico, 1.5 MAF to Mexico, with no formal quantified allocation to tribal entities.[4] The subsequent long term hydrologic record shows that annual yields are lower than the early record, and average approximately 14.5 MAF or less.

The disparity between allocations and actual supply has been recognized for decades as a serious problem with long-term consequences, delayed only by the significant volume of storage within the system that has been gradually depleted, and exacerbated by a prolonged drought over the past decade, leading to the present crisis on the river.[5] Extreme climate variability within the Colorado River Basin is well known, including periods of severe flooding in the 1980s when the storage reservoirs were at full capacity, and the current period of extended drought.

3.6.4.2 Regional Hydrologic Setting

The Colorado River originates in the Rocky Mountains of Colorado, Wyoming, and Utah and flows approximately 1,450 miles to the Gulf of California in Mexico. Prior to dam construction, the Colorado River exhibited a highly variable, snowmelt-driven natural flow regime with peak flows occurring between April and July and extremely low flows or near-dryness in late summer and fall. Annual natural flows at Lee Ferry ranged historically from approximately 5 MAF in dry years to more than 25 MAF in wet years, with a long-term average (pre-dam era, approximately 1895–1929) estimated at approximately 16–17 MAF/yr. The current long-term hydrologic data indicate

[2] Fradkin, Philip L.1981; *A River No More, The Colorado River and the West*, Alfred A. Knopf publishers.
[3] 1922Colorado River Compact; USBR, www.usbr.gov/lc/region/g1000/pdfiles/crcompct.pdf; accessed July 2026.
[4] Reisner, Marc; 1986. Cadillac Desert, The American West and Its Disappearing Water, Viking Penguin, Inc.
[5] Dracup, John, et.al. 1985, *Conflict Between Flood and Drought Preparedness in the Colorado River Basin*, in Lundqvist, J. et.al, Strategies for River Basin Management, pp. 229-244; D. Reidel Publishing Company.

a long-term pre-instrumental average of approximately 14–15 MAF/yr at Lee Ferry, further confirming the structural over-allocation embedded in the 1922 Compact apportionment.

Natural flood pulses historically sustained riparian wetland habitats along the Lower Colorado River corridor, supported native fish spawning and recruitment, and delivered sediment and nutrients to downstream ecosystems including the Colorado River Delta. These natural processes have been largely eliminated by the existing regulatory infrastructure and by the current condition of near-zero flows reaching the Delta under drought and high-demand conditions.

The river's hydrology has been fundamentally transformed from its natural, highly variable flow regime by an extensive network of dams, reservoirs, and diversion structures. The major regulatory structures in the Colorado River system, listed from upstream to downstream, are described below.

Glen Canyon Dam and Lake Powell

Glen Canyon Dam, completed in 1966, impounds the Colorado River at the Arizona-Utah border, creating Lake Powell, the second-largest reservoir in the United States by capacity with full pool storage capacity of approximately 26 MAF. Lake Powell regulates natural flow from the Upper Basin and releases water downstream to meet Lower Basin obligations and power generation requirements. Glen Canyon Dam defines the operational interface between the Upper and Lower Basin systems. As of mid-June 2026, Lake Powell's water surface elevation was approximately 3,527 feet above sea level (ft asl), with a storage volume of approximately 5.65 MAF, approximately 22% of full pool capacity.

Hoover Dam and Lake Mead

Hoover Dam, completed in 1936, is located on the Nevada-Arizona border approximately 25 miles southeast of Las Vegas, and impounds the Colorado River to create Lake Mead, the largest reservoir in the U.S. by capacity, with full pool storage capacity of more than 26 MAF at elevation 1,229 ft asl. Lake Mead is the principal regulatory reservoir for Lower Basin water supply and is the operational reference point for shortage tier determinations. As of mid-2026, Lake Mead's elevation is in the Tier 1 Shortage range (below 1,075 ft asl), with end-of-year 2026 elevation projected at approximately 1,037 ft asl according to Reclamation's June 2026 24-Month Study.[6]

Davis Dam and Lake Mohave

Davis Dam, completed in 1953, located approximately 67 miles downstream of Hoover Dam, impounds the Colorado River to create Lake Mohave with a capacity of approximately 1.8 MAF.

[6] Bureau of Reclamation. June 2026. Colorado River 24-Month Study (June 2026). U.S. Department of the Interior, Bureau of Reclamation, Lower Colorado Region. Updated monthly. June 2026 edition used as primary data source for Lake Mead and Lake Powell storage projections in this chapter.

Davis Dam provides the point of measurement for Lower Basin deliveries to Nevada (Southern Nevada Water Authority) and Arizona (Kingman and Bullhead City area diversions).

Parker Dam and Lake Havasu

Parker Dam, completed in 1938, is located on the California-Arizona border approximately 155 miles downstream of Hoover Dam and impounds the Colorado River to create Lake Havasu with a capacity of approximately 648,000 AF. Parker Dam is the point of diversion for MWD's Colorado River Aqueduct (delivering water to the Los Angeles metropolitan area and other Southern California agencies) and for the Central Arizona Project (CAP) canal, which delivers water to Phoenix and Tucson. Lake Havasu provides operational storage and serves as the primary diversion point for two of the largest municipal water systems in the American West.

Palo Verde Diversion Dam

Palo Verde Diversion Dam is located approximately 18 miles north of Blythe, California, and constitutes PVID's sole point of diversion from the Colorado River. The dam is a low-head diversion structure (not a storage reservoir) that diverts river flow into PVID's canal system for distribution throughout the Palo Verde Valley. The diversion point is at the northern boundary of the PVID service area. Historical annual diversions at Palo Verde Diversion Dam have ranged from approximately 930,000 to 1,000,000 AF/yr during periods of full agricultural operation, representing one of the largest individual diversions on the Lower Colorado River.

Imperial Dam

Imperial Dam, located approximately 18 miles north of Yuma, Arizona, is the last major diversion structure on the Colorado River in the United States and serves as the point of diversion for the All-American Canal serving Imperial Irrigation District and Coachella Valley Water District and the Gila Gravity Main Canal serving Yuma area users in Arizona. Imperial Dam is a critical compliance monitoring point for Colorado River salinity objectives under both federal and state programs. After Imperial Dam, the river continues as a highly managed system before crossing into Mexico, where a guaranteed delivery of 1.5 MAF/yr is made under the 1944 Mexican Water Treaty.

3.6.4.3 Lower Colorado River Hydrologic Conditions, 2000–2026

The period from 2000 to the present represents the most severe prolonged drought documented in the Colorado River Basin in at least 1,200 years. Average annual natural flow into the Colorado River system at Lee Ferry over the 2000–2026 period has been approximately 10.3 MAF, compared to the long-term historical average of approximately 14.8–15 MAF and the Compact-assumed average of 16–17 MAF. This approximately 30–40% flow reduction, sustained over more than two decades, has produced a cumulative drawdown of reservoir storage that defines the current water supply crisis in the Colorado River Basin.

Lake Powell and Lake Mead Storage Levels

At the commencement of the current drought period Lake Powell and Lake Mead were near or at full pool, with combined storage of approximately 50–52 MAF representing approximately 95–100% of combined capacity. The sustained imbalance between consumptive demand (historically exceeding 14 MAF/yr basin-wide, inclusive of U.S. and Mexico uses) and declining natural supply produced a progressive drawdown that reached historically unprecedented levels by mid-2022, when combined system storage declined to approximately 9–10 MAF, approximately 17–18% of combined capacity. Lake Mead reached its historic operational low of approximately 1,040 feet asl in July 2022, while Lake Powell reached a historic low of approximately 3,525 ft asl in late 2022, approaching the minimum power pool elevation of 3,490 feet asl below which Glen Canyon Dam cannot generate hydroelectric power.[7]

Collective conservation efforts by the seven basin states, Mexico, water users, and federal programs, PVID's own fallowing contributions, combined with above-average precipitation in the Upper Basin during the 2022–2023 water year, produced a partial recovery in combined reservoir storage to approximately 19–20 MAF by late 2023. As of June 2026, combined system storage is estimated at approximately 19.91 MAF, reflecting partial recovery but still representing only approximately 38% of combined full-pool capacity. The system remains in a condition of material storage deficit relative to operational targets and long-term sustainability thresholds.[8]

2026 Water Year Conditions

Snowpack accumulation in the Colorado River Basin for the 2026 water year was well below average. As of March 9, 2026, the Colorado River Basin Snow Water Equivalent (SWE) index, as compiled by the Natural Resources Conservation Service (NRCS), registered 8.9 inches (SWE), representing approximately 60% of the 30-year median of 14.8 inches. This below-average snowpack has resulted in below-normal runoff contributions to Lake Powell during the spring 2026 runoff season and has limited the recovery trajectory of system storage through mid-2026.[9]

A Tier 1 Shortage declaration is in effect for the 2026 operating year, consistent with the Bureau of Reclamation's January 2026 Annual Operating Plan (AOP) and confirmed by the June 2026 24-Month Study, which projects Lake Mead's end-of-year 2026 elevation at approximately 1,037 feet asl — below the Tier 1 shortage trigger of 1,075 ft asl. Under Tier 1 shortage conditions, Arizona's

[7] U.S. Geological Survey (USGS). *National Water Information System (NWIS): USGS Station 09429100 — Colorado River Below Palo Verde Dam, AZ-CA.* Real-time and historical discharge and gage height data. U.S. Geological Survey, Western Region. Accessed June 2026.

[8] U.S. Geological Survey and Bureau of Reclamation. *Open Water Data Initiative Drought Dashboard*. Accessed 2026. Provides integrated visualization of Colorado River system storage, flow, and drought conditions.

[9] Natural Resources Conservation Service (NRCS). Colorado River Basin Snow Water Equivalent data: March 9, 2026, Basin SWE Index = 8.9 inches (60% of 30-year median of 14.8 inches). NRCS National Water and Climate Center, Portland, Oregon. Accessed March 2026.

CAP deliveries are reduced by approximately 512,000 AF, Nevada's deliveries are reduced by approximately 21,000 AF, and Mexico's deliveries may also be reduced pursuant to Minute 323 (2017) to the 1944 Mexican Water Treaty. California's Priority 1 and 3a allocations, which encompass PVID's Priority 1 and 3b rights, are not curtailed under Tier 1 shortage conditions.

Structural Deficit

The Colorado River Basin faces a persistent structural deficit in which annual basin-wide consumptive use, historically in the range of 13–15 MAF/yr (U.S.) plus 1.5 MAF/yr (Mexico), has consistently exceeded the renewable annual supply available under current and projected climate conditions. Reclamations' analyses indicate that the structural deficit — the annual gap between demand and supply under current allocation frameworks — is approximately 1 to 1.5 MAF/yr under average hydrologic conditions and substantially larger in dry years. Without sustained demand reduction through conservation programs such as the proposed PVID Program, this structural deficit will continue to erode reservoir storage over time, increasing the probability of Tier 2, Tier 2b, and Tier 3 (Emergency) shortage conditions that would affect a broader range of water rights, potentially including California Priority 3a and 3b rights.

3.6.4.4 PVID Hydrologic Setting

The Palo Verde Irrigation District encompasses approximately 189 square miles (approximately 121,000 acres) in eastern Riverside County and northern Imperial County, California. The district is bounded on the east and south by the Colorado River (which forms the California-Arizona state boundary in this reach), on the north by the Palo Verde Diversion Dam and the upstream extent of the PVID canal system, and on the west by the Palo Verde Mesa — an upland terrace that marks the western limit of the alluvial Palo Verde Valley. The district is entirely within the Colorado River Basin and is situated in one of the most arid regions in North America, with an average annual precipitation of approximately 3–4 inches and average annual pan evaporation exceeding 100 inches. The extreme aridity of the climate makes the district completely dependent on Colorado River diversions for agricultural production.

Canal System

PVID's water delivery infrastructure consists of approximately 250 total miles of irrigation canals, of which approximately 56 miles are concrete-lined and the remainder are earthen. The canal system is gravity-fed from Palo Verde Diversion Dam and distributes water via a hierarchical network of primary, secondary, and tertiary laterals to individual farm turnouts. In addition to district-owned infrastructure, approximately 325 miles of privately owned farm ditches convey water from district turnouts to individual fields. The District operates 155 radio-controlled telemetry stations from its headquarters facility in Blythe, California, providing real-time monitoring of water levels, gate positions, and flow conditions throughout the canal system.

PVID's existing long-term canal lining program has converted selected earthen canal segments to concrete lining to reduce seepage losses and improve conveyance efficiency. The Program proposes to expand canal lining activities consistent with the existing program, targeting canal segments with the highest evaporative loss rates as identified with hydraulic modeling.

Drainage System

Agricultural drainage from irrigated fields in the Palo Verde Valley is collected in approximately 142 miles of open drainage channels operated by PVID. These drains collect surface runoff from irrigation tailwater, subsurface tile drain discharge, and shallow groundwater seepage from irrigated fields, and return this flow to the Colorado River at the southern boundary of the district. Return flows re-entering the Colorado River represent an important component of the river's hydrologic budget in this reach and carry dissolved salts, agricultural chemicals, and sediment picked up from the agricultural landscape.

Service Area and Water Rights

PVID's service area encompasses approximately 136,500 total acres, distributed across three water-right priority classes:

- **Priority 1 Lands:** Approximately 104,500 acres in the Palo Verde Valley proper, holding the most senior priority rights on the Lower Colorado River.
- **Priority 3b Lands:** Approximately 16,000 acres of additional agricultural lands within the valley.
- **Priority 6b Lands:** Approximately 16,000 acres on the Palo Verde Mesa, holding junior rights subject to earlier curtailment in shortage conditions.

Annual Diversions and Agricultural Water Use

PVID's historical annual diversions from the Colorado River at Palo Verde Diversion Dam have ranged from approximately 930,000 AF/yr to 1,000,000 AF/yr during periods of full agricultural activity. These diversions rank among the largest single-entity diversions on the Lower Colorado River. Under the active fallowing program, diversions have been reduced substantially below these historical levels, with estimated annual diversions during 2023–2026 in the range of 750,000–850,000 AF/yr, reflecting the conservation of approximately 117,000 AF/yr under the Tri-Party Agreement.

Agricultural crops grown in the Palo Verde Valley span a wide range of water use intensities. High-water-use crops in the valley bottom include alfalfa and grass hay (dominant in terms of acreage and seasonal water demand), cotton, wheat, and irrigated pasture. Specialty crops grown in the valley include cantaloupe, watermelons, honeydew melon, lettuce, onions, and garlic. The diversity

of crops grown in the district reflects the Valley's long agricultural history and provides context for the crop-switching component of the Program.

3.6.4.5 Groundwater

A shallow alluvial aquifer underlies the Palo Verde Valley, composed of unconsolidated fluvial sediments (gravels, sands, silts, and clays) deposited by the Colorado River over thousands of years. The shallow aquifer is in hydraulic connection with the Colorado River and the valley's irrigation and drainage infrastructure. The water table in irrigated portions of the valley typically occurs at depths of 3–10 feet below land surface, with shallower conditions near drainage channels and the river channel margin. Under irrigated conditions, the shallow aquifer is maintained at near-surface levels by continuous percolation of irrigation water and canal seepage. Groundwater quality in the shallow aquifer reflects the chemical signature of Colorado River water combined with dissolution of soil minerals and accumulation of agricultural chemicals.

The shallow aquifer in the Palo Verde Valley is not used as a primary municipal or agricultural water supply source. Colorado River surface water diversions satisfy essentially 100% of the district's agricultural water demand. Accordingly, the district has not historically invested in groundwater production infrastructure, and the regulatory framework governing the shallow aquifer is limited compared to over drafted groundwater basins elsewhere in California.

3.6.4.6 Return Flows

Return flows from PVID — comprising irrigation tailwater, subsurface drain flows, and seepage from canal and field systems — historically constituted approximately 25–35% of gross annual diversions, or roughly 230,000–330,000 AF/yr. These return flows re-enter the Colorado River at the southern district boundary and contribute to downstream flows available for diversion by Imperial Irrigation District (IID) and other downstream users. Under the Program, reduced diversions and fallowing will produce reductions in return flow volumes proportional to the reduction in water applied to agricultural lands. Only the consumptive use portion of water conserved through the Program is credited as conserved water. Reductions in return flows are accounted for in Reclamation's water accounting methodology to ensure that downstream water users are not adversely affected beyond the agreed operational framework

3.6.5 Impact Assessment on Hydrology and Water Quality

3.6.5.1 Criteria for Determining Significance

Thresholds of significance define the level of environmental change beyond which an impact would be considered significant under CEQA. Pursuant to the CEQA Guidelines, PVID has applied the following Appendix G thresholds of significance for evaluating Program effects on hydrology and water quality. The following impact criteria are defined in the CEQA Guidelines, Appendix G:

Hydrology and Water Quality: Would the project:

a) Violate any water quality standard or waste discharge requirement, or otherwise substantially degrade surface water or groundwater quality.

b) Substantially decrease groundwater supplies or substantially interfere with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would:

i) result in substantial on-site or off-site erosion or siltation;
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or,
iv) impede or redirect flood flows.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

These thresholds are applied to determine whether Program effects would be less than significant, potentially significant before mitigation, or significant and unavoidable. In applying these thresholds, the Lead Agency has considered that the Program is fundamentally a water conservation and demand reduction program designed to generate environmental and water supply benefits at the basin scale. Each of the threshold criteria are evaluated below.

3.6.5.2 CEQA Threshold 1

a) Violate any water quality standard or waste discharge requirement, or otherwise substantially degrade surface water or groundwater quality?

On-Farm Management Program Elements

All farmers irrigating within the District are subject to Waste Discharge Requirements (WDRs) established by the Regional Water Quality Control Board (RWQCB or Water Board, Region 7).[10]

[10] California Regional Water Quality Control Board, Region 7. 2023. Colorado River Basin Region; Order R7-2019-0030-05, General Waste Discharge Requirements for Discharges of Waste from Irrigated Agricultural Lands for Dischargers That Are Members of a Coalition Group in Palo Verde Valley and Palo Verde Mesa, Imperial and Riverside Counties. May 2019, last revised December 2023.

The WDRs include provisions for general monitoring and reporting, with specified sampling methods established by the U.S. Environmental Protection Agency, and measurements taken at monitoring points approved by the Water Board's Executive Officer.[11] Monitoring includes both surface water and groundwater.

The primary pollutants of concern within the Palo Verde Valley from irrigated lands include nutrients, pesticides, salts, and sediments. Monitoring is designed to assess the wastes in discharges from farmed lands to adjacent and downstream waters and to evaluate the effectiveness of farmland management measures for water quality protection. Water quality is evaluated with a combination of field-measurements and laboratory testing, including testing of water samples and fish tissue. Results of monitoring are provided in monthly and annual reports submitted to the Water Board, including a map of the sampled locations, results of the analytical data, and time concentration charts tracking changes in water quality parameters over time at specified locations within the monitoring network. The District's most recent 2025 Annual Monitoring Report is included in Appendix B of this Program EIR.[12]

All drinking water in the Palo Verde Valley is produced from wells rather than surface water sources. The City of Blythe Water Department supplies water to city residents from 17 public wells. The Palo Verde County Water District supplies water to residents of the community of Palo Verde in Imperial County for domestic purposes from two production wells. Drinking water in surrounding rural areas is obtained from an estimated 162 domestic wells. As reported in the Water Board's order, groundwater sampling from deep wells completed by the U.S. Geological Survey reported that most constituents detected were in concentrations below the contaminant levels set by the State in both Palo Verde area groundwater basins.[13] Total dissolved solids (TDS), and sulfate concentrations were consistently measured above the secondary maximum levels, All concentrations of contaminants of potential concern (volatile organic compounds (VOCs), pesticides, perchlorate, 1, 2, 3-TCP, and nitrate) were below the health-based thresholds.

The Water Board order requires evaluation of groundwater quality focused on groundwater trend monitoring and drinking water supply well monitoring. As with surface water, the purpose of the groundwater quality trend monitoring is to evaluate the regional effectiveness of overlying land management practices. The drinking water supply well program is designed to identify any drinking water wells with nitrate concentrations approaching or exceeding maximum contaminant

[11] U.S. Environmental Protection Agency (USEPA) test procedures approved under title 40 of the Code of Federal Regulations (40 CFR) part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act,* as amended 1977, last amended July 2026.

[12] Palo Verde Irrigation District, *2025 Annual Monitoring Report, Palo Verde Outfall Coalition*, prepared for PVID by CDM Smith, Irvine, CA. March 1, 2026. (On file with PVID)

[13] Primary and Secondary Maximum Contaminant Levels (MCLs) found in California Code of Regulations, title 22, section 64421 et seq., last updated June 27, 2025.

levels that would require notification of well users of the potential for health issues. All sample testing is performed using EPA-approved methods by a certified laboratory.

Management practices now employed for decades for farming irrigated lands throughout the District have proven effective for limiting runoff to surrounding waters and preventing soil erosion, sedimentation and contaminant loading. (Attachment A to the 2025 Annual Monitoring Report presents the full list of Available Management Practices, including management for sediment, nutrients, pesticides and herbicides.) With continued implementation of all measures required by the RWQCB and related soil stabilization BMPs developed for the MWD fallowing program, potential water quality impacts of the proposed Conserved Water Supply Program are determined to be less than significant. All lands that may participate in the new program are subject to the RWQCB's prescribed waste discharge requirements and may be subject to adaptive management measures based upon future findings of the ongoing surface water and groundwater sampling program.

Infrastructure Program Elements – Canal Lining and Regulating Reservoirs

An analysis of potential hydrology and water quality impacts related to potential infrastructure projects is presented at a program level in this EIR. Specific locations of potential canal segments and reservoirs have not been identified and will not be implemented without subsequent CEQA documentation to support permit applications with all applicable resource agencies, including CDFW, RWQCB, the U.S. Army Corps of Engineers, and possibly others. As explained in the Introduction chapter, the purpose of this program EIR is to assess the whole of the proposed Conserved Water Supply Program, and for these infrastructure elements, to describe the typical environmental impacts that may be encountered and identify standard mitigation measures (MM) and BMPs commonly applied to avoid, minimize or offset those effects. Once specific projects and locations are proposed to be implemented, detailed site-specific assessments will be prepared, tiering from the analyses presented here to the extent applicable.

Construction activities related to the canal lining and regulating reservoir Program elements include excavation, minor trenching, grading and placement or disposal of excavated material that can result in soil erosion. Soil erosion is a primary cause of water pollution related to excess sedimentation and contaminants transported with sediment including nutrients, pesticides, herbicides, and related substances.

Typical construction of these types of projects includes the following activities:[14]

[14] U.S. Department of Agriculture Natural Resources Conservation Service, in cooperation with PVID, *PVID C28 Canal Improvement Project Watershed Plan and Environmental Assessment*, May 2024

- Draining and clearing unwanted vegetation debris from the existing canal segment to be lined.
- For canal lining and reservoir development, site preparation includes clearing staging areas for equipment and materials storage.
- Grading, including stripping topsoil and moving excess soil to a stockpile location.
- Excavation and reshaping the reservoir banks and bottom or canal prism.
- Construction including installation of the canal lining and new telemetry platforms and stations, reservoir lining and inlet and outlet works.
- Final grading and preparing the reservoir(s) and/or lined canal for use.
- Possible disposal of excavated material.

Regulatory Compliance Measures (RCMs) and Best Management Practices

- **RCM HYD-1: Stormwater Pollution Prevention Plan.** Construction of regulating reservoirs and canal lining will require preparation of a Stormwater Pollution Prevention Plan (SWPPP) to be submitted for review and approval of the RWQCB under the NPDES permit requirements. Standard measures identified in a SWPPP include minimizing off-site tracking of sediment; use of haybale or other barriers to prevent discharges from the project site to surrounding waters; and implementing procedures that effectively address hazardous and non-hazardous spills related to equipment fueling and maintenance (lubricants).

River hydrology will not be impacted in any significant way by transfers made under the Program and will continue to be managed by Reclamation. With transfers in place, return flows from the District at the terminus of its drain system diversions will be reduced, balanced by an equal reduction in diversions from the River at the upstream Palo Verde Dam. Hydrology within the district will include reduced flows throughout the system, including canals and drains.

Colorado River Water Quality at Palo Verde Diversion Dam

Water diverted by PVID at Palo Verde Diversion Dam is characteristic of Lower Colorado River water quality, which reflects the cumulative effects of natural mineral dissolution in the upper watershed, evaporative concentration in upstream reservoirs, and the accumulation of dissolved minerals from irrigation return flows along the entire river corridor from the headwaters to the diversion point. At Palo Verde Diversion Dam, Colorado River water typically exhibits the following water quality characteristics:

- **Total Dissolved Solids (TDS):** Typically, in the range of 600–800 mg/L on an annual average basis, with seasonal variation reflecting upstream reservoir operations, tributary

inflows, and dilution by snowmelt-driven flows. TDS concentrations are generally higher in late summer and fall (900–1,100 mg/L) when natural flows are lowest and reservoir releases are proportionately more concentrated, and lower in spring (500–700 mg/L) during peak snowmelt runoff from the Upper Basin.

- **Electrical Conductivity (EC):** Corresponding to TDS concentrations, EC at Palo Verde Diversion Dam typically ranges from approximately 900 to 1,400 micro siemens per centimeter (µS/cm), which is within the acceptable range for most irrigated crops but near the upper threshold of tolerance for sensitive crops including some vegetables and citrus.
- **Sodium Adsorption Ratio (SAR):** Moderate SAR values in the Colorado River water at this location (SAR typically 4–8) indicate some potential for soil structure degradation with long-term application to fine-textured soils; however, the primarily sandy and loamy soils of the Palo Verde Valley are relatively tolerant of these values.
- **Selenium and Boron:** Naturally elevated selenium concentrations in some areas of the Colorado River watershed, particularly from Cretaceous marine shales in the Upper Basin, contribute selenium to the river system. Boron concentrations in the Lower Colorado River are also moderately elevated (typically 0.1–0.3 mg/L) and can affect sensitive crops. Both parameters are regulated under the Region 7 Basin Plan and are monitored under the USBR's ongoing water quality monitoring program.

Salinity Control Program

The Colorado River Basin Salinity Control Program, established under the Colorado River Basin Salinity Control Act of 1974 (Public Law 93-320) and administered jointly by USBR, EPA, and basin state agencies, is the principal federal program for managing salinity in the Colorado River. The Program establishes salinity objectives at key compliance monitoring locations (including Parker, Arizona and Imperial Dam, California) and funds salinity control projects throughout the basin. PVID participates in on-farm salinity control through application of water in quantities sufficient to leach accumulated salts below the root zone — a practice known as "leaching" — which contributes to the salinity load in agricultural return flows. Program-related reductions in irrigated acreage will reduce the overall volume of salt-laden return flows entering the Colorado River from the Palo Verde Valley.

Pesticide and Nutrient Loading

Agricultural return flows from PVID historically carry measurable concentrations of pesticides (herbicides, insecticides, fungicides), fertilizer-derived nutrients (nitrates, phosphates), and suspended sediment, reflecting the agricultural land use of the valley. Concentrations of these constituents in PVID drain flows are generally consistent with agricultural return flow quality observed in other irrigated districts in the Lower Colorado River corridor. PVID conducts periodic

monitoring of drain water quality at key discharge points to the Colorado River as part of its ongoing compliance with Region 7 RWQCB requirements. Under fallowing and deficit irrigation, the volume of return flow and the associated chemical loading would be reduced, representing a generally beneficial outcome for receiving water quality.

Temperature

Lower Colorado River water temperatures in the Palo Verde reach are subject to significant seasonal variation, with summer (July–August) water temperatures frequently exceeding 30°C (86°F) — values at or above the upper thermal tolerance limits of most native Colorado River fish species, including the listed species described in Section 3.5. Elevated water temperatures in this regulated reach reflect the combined effects of solar heating of shallow, slow-moving river flows, reduced shading from degraded riparian vegetation, and reduced cold-water inputs from deep releases at upstream dams. Warm-water discharge from agricultural drains can further contribute to temperature elevation in the receiving waters of the Colorado River, particularly during summer months.

Existing Monitoring Programs

Water quality in the Program area is monitored under several ongoing programs, including: (1) PVID's internal drain monitoring program; (2) the California Region 7 RWQCB's ambient water quality monitoring program conducted in compliance with the adopted WDRs for PVID; (3) USBR's National Water Quality Database and Colorado River water quality monitoring network, which maintains stations at key points including Palo Verde Diversion Dam and Imperial Dam; and (4) the USGS National Water Information System (NWIS) monitoring network.

Biological Water Quality Standards for Listed Species

The Region 7 Basin Plan designates Preservation of Rare and Endangered Species (RARE) and Wildlife Habitat (WILD) as beneficial uses of the Colorado River in the Palo Verde reach. These designations reflect the presence of federally listed fish species (Razorback Sucker, Bonytail Chub, Colorado Pikeminnow), the Southwestern Willow Flycatcher, the Yuma Clapper Rail, and other sensitive biological resources in and adjacent to the Colorado River corridor downstream of PVID's service area.

The Program's effects on these biological water quality standards arise primarily through two pathways: (1) potential alteration of water temperatures in the Colorado River due to changes in the volume and thermal characteristics of PVID's agricultural return flows; and (2) potential alteration of flow volume in the river reach below PVID's service area during periods of reduced return flow from fallowed lands.

PVID's agricultural drain flows, which are collected across the valley and discharge to the Colorado River at the southern district boundary, typically carry water that has been warmed by solar

radiation during transit through shallow drain channels. During summer months, drain temperatures may exceed ambient Colorado River temperatures, potentially contributing to warming of the receiving water in the localized area of drain discharge. Under the Program, reduced drain flow volumes would reduce the thermal input from PVID's drain system to the Colorado River, producing a marginally beneficial (cooler) effect on receiving water temperature in the vicinity of drain outfalls during the critical summer period. This temperature effect is minor in the context of total river thermal mass but is directionally beneficial for listed fish species that are sensitive to elevated water temperatures.

Reduced return flows from PVID would result in marginally lower Colorado River flows in the reach downstream of PVID's service area. These slightly reduced flows may affect habitat availability for listed fish species, particularly low-velocity backwater areas and side channels used for spawning, larval drift, and juvenile rearing. However, the reduction in return flow volume from PVID would be more than offset, at the system scale, by the increase in Lake Mead storage resulting from Program conservation. Greater reservoir storage supports sustained releases from Hoover Dam and other upstream facilities, which maintains or improves long-term minimum flow conditions in the Lower Colorado River, benefiting listed species recovery.

All elements of the proposed Program are subject to each of the water quality protection requirements described, and all potential water quality effects will be minimized by these water quality standards, and no additional mitigation is required. The environmental benefits resulting from the proposed Program include reduced pesticide, nutrient and salinity loading, and reduced sediment transport.

- **RCM HYD-2: Listed Species Consultation Support and Data Sharing.** PVID shall support ongoing Section 7 consultation processes between USBR and USFWS regarding the Bureau's basin-wide water conservation effects on listed species and their critical habitats. PVID shall provide Program-related diversion, return flow, and water quality monitoring data to USFWS and CDFW upon request to support ongoing LCR MSCP biological monitoring and species recovery assessment activities. In addition, PVID is a cooperating agency engaged in the recently initiated HCP amendment process between the Bureau of Reclamation and U.S. Fish and Wildlife Service for adjustment of potential flow depletion in the Lower Colorado River from the current MSCP level of 2.083 MAF up to 3.0 MAF, expected to be completed in October 2029.

Finding: Less than Significant Impact with Mitigation Measures

3.6.5.3 CEQA Threshold 2

b) Substantially decrease groundwater supplies or substantially interfere with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Within Palo Verde Valley and Palo Verde Mesa there are two distinct groundwater basins: (1) Palo Verde Valley Groundwater Basin and (2) Palo Verde Mesa Groundwater Basin. The Palo Verde Valley Groundwater Basin extends east from the base of the Mesa east to the Colorado River, north to the Palo Verde Dam and the Big Maria Mountains, and to the south by the Palo Verde Mountains. The Palo Verde Mesa Groundwater Basin is bounded by the Big Maria and Little Maria Mountains on the north, the McCoy and Mule Mountains on the west, the Palo Verde Mesa on the east, and the Palo Verde Mountains on the south. The aquifers are unconfined with depth to groundwater ranging from one foot in the Valley to more than 150 feet below ground surface on the Mesa. The Palo Verde Mesa Groundwater Basin consists of alluvial deposits approximately 600 feet thick. The Palo Verde Valley Groundwater Basin ranges from 130 to 600 feet thick.

In the 1950s the groundwater levels in the Valley were rising into root zones because of decades of irrigation. Farmers began installing tile drain systems beneath their fields to drain excess water and lower the water table to local drains. Most of these systems were abandoned when the District began systematic development of drainage channels extending down as far as seven feet below the groundwater table. The average water table depth in the Palo Verde Valley at present is approximately 10 feet below the ground surface. The District now operates and maintains a 142-mile-long drain system excavated and dredged to at least one (1) foot below the groundwater table to prevent the elevated water table from waterlogging soils and impacting overlying lands.

The drainage system serves about 22,000 acres of farmland. Most of the drains discharge at the southern end of the District through the Palo Verde Outfall Drain through the Palo Verde Lagoon and discharges to the active channel of the Colorado River in the Cibola National Wildlife Refuge via a short segment of an old channel of the River. The Shaw's Drain and the Olive Lake Drain discharge directly into the Colorado River south of the Wildlife Refuge.

As a result of more than 100-years of continuous irrigation, shallow groundwater underlies a majority of the Palo Verde Valley at depths of 3–10 feet below land surface. The shallow aquifer is in hydraulic connection with the Colorado River and the valley's irrigation infrastructure, and in response to these saturated conditions, the District developed an extensive drainage system to reduce the water table and convey shallow groundwater as a part of return flows to the Colorado River at the southern District boundary. The shallow aquifer in the Palo Verde Valley is not used as a primary municipal or agricultural water supply source. Colorado River surface water diversions satisfy 100% of PVID's agricultural water demand. Accordingly, the district has not historically

invested in groundwater production infrastructure, and the regulatory framework governing the shallow aquifer is limited compared to over drafted groundwater basins elsewhere in California.

On fallowed lands, the cessation of irrigation reduces the underlying groundwater recharge rate resulting in a gradual decline in water table depth beneath fallowed parcels. Potential effects of reduced groundwater recharge on the Palo Verde Valley include localized lowering of the water table beneath fallowed parcels, potential reduction in base flow contribution from the shallow aquifer to PVID's drain system, and possible effects on vegetation along canal banks and field margins where root water access depends on shallow groundwater. These effects would be spatially limited to the enrolled fallowed parcels and their immediate hydrogeologic influence zone. The shallow aquifer's connectivity to the Colorado River acts as a buffering mechanism, maintaining water table elevations near the river corridor even under reduced recharge conditions. Because the Palo Verde Valley groundwater basin is classified as a low-priority basin under SGMA (and thus not subject to mandatory GSP development), there is no existing groundwater management plan against which to evaluate potential conflicts.

Two decades of PVID fallowing under the PVID/MWD Program (operative since 2005) indicate that water table drawdown beneath fallowed parcels is relatively modest (typically 1–3 feet of drawdown over a multi-year fallow period), spatially limited to the fallow area, and recovers relatively rapidly (within 1–2 irrigation seasons) upon return to irrigation. Wells used for municipal or domestic supply purposes located in the Palo Verde Valley do not use the shallow aquifer as a supply source. Reduced groundwater recharge effects will be minimal and in some locations surrounding the urban areas of the City of Blythe, will be beneficial by alleviating the current near surface saturation affecting overlying foundations and underground utility systems.

Finding: Less than Significant Impact

3.6.5.4 CEQA Threshold 3

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would:

- ***i) result in substantial on-site or off-site erosion or siltation;***
- ***ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;***
- ***iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or,***
- ***iv) impede or redirect flood flows?***

Agricultural fields in the Palo Verde Valley that are actively irrigated maintain a moist, vegetated soil surface that is generally resistant to wind erosion. When irrigation ceases on fallowed parcels,

the soil surface progressively dries, residual vegetation cover diminishes, and the soil becomes susceptible to wind erosion (deflation) during periods of high wind velocity. The Palo Verde Valley and adjacent Imperial Valley region are characterized by strong, dry winds (particularly in spring and early summer), and the regional climate is highly conducive to wind erosion from unprotected disturbed or bare soil surfaces.

Wind erosion from fallowed fields generates particulate matter emissions that contribute to air quality impacts. While the primary significance of this impact is analyzed in the Air Quality chapter of this EIR, the potential soil erosion resulting from reduced soil moisture and loss of protective cover is addressed here as a potential effect related to drainage pattern alteration and erosion.

Erosion and transport of fine-grained soil particles from fallowed lands could affect water quality if eroded material is subsequently transported into irrigation canals, drainage channels, or the Colorado River during wind and precipitation events. Elevated turbidity and sedimentation in drainage infrastructure during dust events following precipitation could create short-term localized water quality exceedances.

On all fallowed parcels PVID requires landowners to implement soil stabilization measures including clod tillage, planting of an approved low-water-use cover crop species that will establish sufficient ground cover within the first growing season of fallowing, and application of a soil binder product approved by the applicable air district. PVID and Reclamation staff routinely inspect and verify both the fallowed condition and erosion control measures at a minimum of once per quarter during the fallow periods. With implementation of these BMPs, the potential for wind erosion-related water quality degradation and surface drainage impacts is reduced to a less-than-significant level.

Changes in Colorado River Diversion Volumes and Return Flows

The Program's conservation measures—including land fallowing, deficit irrigation, crop switching, canal lining, and ET salvage—would collectively reduce PVID's annual diversions from the Colorado River at Palo Verde Diversion Dam below historical levels. The magnitude of diversion reduction would vary annually depending on the specific fallowing level called under the operative agreements, the mix of conservation measures implemented, and prevailing hydrologic and crop market conditions. Based on the existing 2023–2026 Tri-Party Agreement framework, diversion reductions of approximately 117,000 AF/yr relative to baseline agricultural demand have been achieved. Under an expanded program, additional conservation could be achieved, potentially reducing diversions by up to 150,000–200,000 AF/yr relative to full-agricultural-demand baseline levels.

Reduced diversions from the Colorado River would produce a corresponding reduction in agricultural return flows to the Colorado River at the southern boundary of the district. Return

flows from PVID historically represent approximately 25–35% of gross diversions; thus, a diversion reduction of 117,000 AF/yr would produce an estimated return flow reduction of approximately 29,000–41,000 AF/yr. This reduction in return flows would alter the volume and seasonal timing of water available in the Colorado River immediately downstream of the PVID service area, affecting flows available to Imperial Irrigation District and other downstream Colorado River water users.

The net effect on the Colorado River system is beneficial: water not diverted by PVID remains in the river and reservoir system, increasing storage in Lake Mead (the primary conservation benefit of the Program) and supporting downstream flows in the context of the overall system. The reduction in warm agricultural return flows is a direct and intended consequence of the water conservation program; return flow volumes under full-agricultural conditions represent the non-consumptive fraction of PVID's diversions. The conservation of return flow as a fraction of total diversion reduction has been accounted for in quantifying "conserved water" to be credited to the Program.

The alteration of flow timing within the district's canal system resulting from reduced diversion rates is not expected to produce hydraulic conditions outside of the normal operating range of the existing infrastructure. Palo Verde Diversion Dam is a passive diversion structure with no reservoir storage; flow rates through the diversion are directly proportional to diversions, and reductions in diversion rate do not alter river stage or flood conveyance capacity at the diversion structure in any material way.

The primary effect of diversion and return flow reduction is beneficial at the basin scale, consistent with the Program's conservation purpose. The localized reduction in return flow volumes downstream of PVID's service area is minor relative to total Colorado River flows in this reach and does not constitute a substantial alteration of drainage patterns, increase in erosion or siltation, or violation of water quality standards. No threshold of significance (a) through (k) is exceeded. As discussed in more detail below and in the biological resources chapter, PVID is an active participant and permittee in the LCR MSCP, provides water to mitigation lands and contributes financially to the MSCP annually. The District is also an active participant in the ongoing LCR MSCP amendment process to account for lower Colorado River flow reductions of up to 3.0 MAF and will involve expansion and addition of habitat enhancement actions and projects. The LCR MSCP and current amendment process are intended to prevent adverse consequences to habitat conditions from changes in river management addressing the current hydrologic conditions resulting in water supply constraints.

Surface Drainage Alterations from Infrastructure Improvements

The Program includes potential infrastructure improvements to line segments of PVID's canal system and the addition of regulating reservoir storage within the system. These activities would

not alter existing surface drainage patterns, conveyance characteristics, or hydraulic conditions within and adjacent to the improved infrastructure.

Canal lining of earthen canal segments would slightly increase conveyance velocity (due to reduced hydraulic roughness of concrete lining compared to earthen surfaces). These changes would be confined to the canal system and would not affect natural water courses or the Colorado River channel.

Construction activities associated with canal lining (grading, excavation, concrete placement) could temporarily disturb the existing drainage pattern adjacent to the canal, creating temporary erosion potential and potential for sedimentation in drainage channels during construction. Soil disturbance in proximity to drainage channels could also mobilize fine-grained sediment and associated adsorbed contaminants during rain events.

Infrastructure improvements are routine agricultural water management activities well within the established operational scope of PVID. With appropriate design standards, erosion and sediment control measures, and regulatory compliance, these activities do not present a risk of substantial drainage pattern alteration or water quality degradation.

The actions proposed as elements of the Conserved Water Supply Program will not impede or redirect flood flows and no mitigation is required.

- **RCM HYD-3: Water Accounting and Return Flow Monitoring**. PVID shall continue its existing annual water accounting program, including measurement of gross diversions at Palo Verde Diversion Dam and return flows at district drain outfalls, and shall report annual water budget data to Reclamation consistent with existing contractual obligations. Return flow monitoring data shall be shared with the Imperial Irrigation District and other potentially affected downstream users to facilitate integrated operational planning.

Finding: Less than Significant Impact with Mitigation Measures

3.6.5.5 CEQA Threshold 4

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Localized flooding does occur related to breaches in the canal system. PVID staff and crews respond to these events equipped with earthmoving equipment needed to repair these bank failures and minimize flooding and undirected water flows to the District's drain system. The proposed Conserved Water Supply Program will not affect these localized events or their management in any way. Tsunamis are large ocean waves generated by seafloor seismic events that cause severe coastal flooding events. No part of the Palo Verde Irrigation District is located in an area that could be subject to such events. Likewise, seismic seiche is the wave action of

inland waters (lakes, reservoirs, and ponds) that can be triggered by earthquake ground waves. No waters within PVID are subject to seismic seiche events.

No aspect of the proposed Program has any potential to increase flood hazards, expose any areas to tsunami or seismic seiche, or result in flood related release of pollutants due to inundation.

Finding: No Impact

3.6.5.6 CEQA Threshold 5

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

There is no applicable sustainable groundwater management plan applicable to the Palo Verde Valley or Palo Verde Mesa groundwater aquifers. Multiple water quality control plans do govern activities within the Palo Verde valley. As described in the regulatory setting above, the Water Quality Control Plan for the Colorado River Basin Region (Region 7 Basin Plan), adopted by the RWQCB, Colorado River Basin Region, and most recently updated to include amendments effective on or before August 20, 2024, establishes the water quality framework applicable to the Program area. The Region 7 Basin Plan designates beneficial uses for Colorado River waters, establishes narrative and numerical water quality objectives for salinity, nutrients, trace metals, pesticides, and biological parameters, and specifies requirements for agricultural return flow management, monitoring, and reporting. The District is regulated with an approved waste discharge permit with RWQCB approved waste discharge requirements (WDRs) and conducts water quality monitoring throughout the water delivery and drain systems throughout the year, with laboratory results reported to the Board annually. All aspects of the proposed conservation program are subject to these water quality requirements and standards and will not conflict with or obstruct implementation of the plan in any way.

Erosion and Sediment Control Plans

- **RCM HYD-4: Erosion and Sediment Control Plan.** All canal lining and regulating reservoir construction activities are required to be conducted in accordance with a project-specific Erosion and Sediment Control Plan (ESCP) prepared in accordance with the Construction General Permit (State Water Resources Control Board Order 2022-0057-DWQ) and applicable BMPs. The ESCP must include silt fencing or equivalent perimeter controls at construction boundaries adjacent to drainage channels; stabilized construction entrances; dewatering management provisions; and an inspection and maintenance schedule. For projects requiring coverage under the Construction General Permit, a Stormwater Pollution Prevention Plan (SWPPP) is required to be prepared and implemented prior to commencement of soil-disturbing activities. All construction activities related to the infrastructure components of the water conservation plan will be

done in compliance with these water quality plans and will not conflict with or impede implementation of those plans.

Army Corps Section 404 and Related RWQCB and CDFW Permit Compliance

- **RCM HYD-5: Section 404, Section 401, and Lake or Streambed Alteration Permit Compliance.** For any infrastructure improvement activity involving discharge of dredged or fill material into waters of the United States PVID shall obtain all required Corps of Engineers Section 404 authorizations (including applicable Nationwide Permits or Individual Permits) and California Section 401 Water Quality Certifications prior to commencement of work. If a Lake or Streambed Alteration Agreement from CDFW is required, it shall be obtained prior to commencement of in-channel activities, and all requirements of the permit for protection of water quality will be implemented.

Salinity and TDS Effects

The Colorado River Salinity Control Program, administered under the Colorado River Basin Salinity Control Act of 1974, manages the chronic salinity problem of the Colorado River through source control, agricultural efficiency improvements, and monitoring. Salinity in the Colorado River at Palo Verde Diversion Dam is typically in the range of 600–800 mg/L TDS under baseline conditions. PVID's agricultural return flows contribute salinity loading to the river system through two primary mechanisms: (1) dissolution and leaching of naturally occurring minerals from Palo Verde Valley soils by applied irrigation water; and (2) evaporative concentration of Colorado River water during conveyance, field application, and return flow transit through the drain system.

The Program's conservation measures involving reduced irrigation on fallowed lands would reduce the volume of leachate generated by the District, thereby reducing the total annual salt load contributed to the Colorado River by PVID agricultural operations. Canal lining reduces seepage-driven dissolution of saline alluvial sediments and the accumulation of salts in the shallow vadose zone beneath unlined canal sections.

The net effect of reduced PVID return flow volumes on salinity concentrations at downstream monitoring stations (Parker and Imperial Dam) is expected to be neutral to marginally beneficial. Reduced return flow volumes from PVID would reduce the salt load entering the river from the Palo Verde reach, marginally improving salinity concentrations at downstream compliance points. This beneficial trend is consistent with the goals of the Colorado River Basin Salinity Control Program and the Region 7 Basin Plan's salinity objectives.

The net effect of the Program on Colorado River salinity is beneficial or neutral. No violation of Region 7 Basin Plan salinity objectives is anticipated, and no conflict with the Colorado River Basin Salinity Control Program implementation is expected. No mitigation is required beyond continued participation in existing USBR and RWQCB salinity monitoring programs.

- **RCM HYD-6: Salinity Monitoring and Reporting.** PVID shall continue participation in the existing USBR/SWRCB salinity monitoring program and shall report annual return flow volume and TDS loading data consistent with existing monitoring obligations.

Finding: Less than Significant Impact with Mitigation Measures

3.6.6 Cumulative Impacts

A cumulative impact is defined by CEQA Guidelines §15355 as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. Cumulative impacts result from the combined effects of past, present, and reasonably foreseeable probable future projects and actions, in addition to the effects of the proposed project.

For purposes of this chapter, the cumulative geographic scope encompasses: (1) the Lower Colorado River Basin, from Lake Mead (Hoover Dam) to the international boundary with Mexico, including the Colorado River mainstem and the tributary areas draining to the Lower Basin in California, Nevada, and Arizona; and (2) the Palo Verde Valley and adjacent hydrologic units in eastern Riverside County and northern Imperial County, California, including the service areas of PVID and adjacent agricultural water districts.

3.6.6.1 Related Projects and Programs

Water conservation activities are being developed by agencies and water users throughout the Colorado River basin in response to the current drought and water supply shortages, and the related evolving regulatory framework under consideration by the Bureau of Reclamation. Table 3.6-1 presents a list focused on the major programs connected to lower Colorado River basin parties and is not intended to capture every water conservation action within the basin.

3.6.6.2 Cumulative Impact Analysis–Hydrology

The cumulative hydrologic context is defined by the Colorado River Basin's structural deficit, which is the persistent gap between basin-wide consumptive demand (historically 13–15 MAF/yr for the U.S. plus 1.5 MAF/yr for Mexico) and the renewable average annual supply available under current and projected climate conditions (approximately 10.3–12.5 MAF/yr over the 2000–2026 period at Lee Ferry). This structural deficit predates the Project and is not caused or exacerbated by the Program; rather, the Program is designed to reduce demand and thereby narrow the deficit.

PVID's proposed conservation program contributes directly to California's commitment to provide at least 1.6 MAF of additional water to Lake Mead through 2026, with PVID's 117,000 AF/yr contribution representing approximately 7% of that total California commitment. The cumulative effect of PVID's contribution, combined with contributions from other California water users

Table 3.6-1. Lower Colorado River Basin Water Conservation Programs and Activities

Related Programs	Description	Potential Cumulative Effects
MWD Colorado River Aqueduct Conservation and Banking Programs	MWD operates a portfolio of water banking, storage, and conservation programs across its service area, including the Advance Water Purchase Program, the Diamond Valley Lake conjunctive use program, and direct conservation programs with IID and the PVID/MWD Fallowing Program.	Cumulative reduction in Colorado River diversions; increased Lake Mead storage contributions.
Imperial Irrigation District (IID) Water Conservation and Transfer Program	IID implements water conservation programs including the 2003 Quantification Settlement Agreement (QSA), under which IID conserves water for transfer to the Coachella Valley Water District and the San Diego County Water Authority.	Largest agricultural water user downstream of PVID; conservation and transfer programs reduce IID's Colorado River demand, contributing to basin-wide conservation and increased Lake Mead storage.
Central Arizona Project (CAP) Drought Contingency Contributions (DCPs)	Under the 2019 DCPs and subsequent Arizona DCP, the Central Arizona Water Conservation District (CAWCD) has implemented Tier 1 shortage reductions (approximately 512,000 AF/yr in 2026) in CAP deliveries and associated agricultural conservation programs.	Largest single contributor to Lower Basin shortage curtailments; directly affects Lake Mead storage levels that determine PVID's shortage risk.
Arizona Tier 1 Mandatory Shortage Curtailments (2022–2026)	Arizona has experienced Tier 1 shortage conditions since August 2021, resulting in mandatory reduction of CAP deliveries by approximately 512,000 AF/yr in 2022 and subsequent years through 2026.	The largest single demand reduction in the Lower Basin contributes directly to the partial Lake Mead recovery.
Southern Nevada Water Authority — Conservation and ICS Programs	SNWA implements an aggressive portfolio of indoor and outdoor conservation programs in the Las Vegas metropolitan area, together with Intentionally Created Surplus (ICS) banking programs that store conserved water in Lake Mead for future use under shortage conditions.	Incremental addition to Lake Mead storage; supports reservoir recovery trajectory alongside PVID's Program contributions.
Post-2026 Multistate Operational Framework (Reclamation Final EIS and Record of Decision, August 2026	The Post-2026 operational guidelines adopted by Reclamation establish an adaptive decision framework to develop operating guidelines responding to changing conditions over the next ten years (2027-2036). Operating guidelines will be developed and adjust every two years during this initial 10-year period in response to fluctuating hydrologic conditions and any long-term consensus agreement that may be reached among the Colorado River water use contractors.	Determines the operating rules and shortage tier triggers that govern PVID's and all other users' water supply reliability. Updated and revised plans will be developed and implemented in two-year plans starting with 2027-2028.

(MWD, IID, Southern California municipal agencies), is estimated to deliver California's full 1.6 MAF commitment by December 31, 2026, assuming conservation activities are maintained at current levels.

Beyond 2026, the Program is designed to continue contributing to basin-wide conservation under the Post-2026 operational framework. The cumulative benefit of sustained multi-year demand reduction — across all basin states and major users — is the principal mechanism by which the Colorado River can achieve a more sustainable operational equilibrium in the face of ongoing prolonged drought and structural over-allocation.

The proposed Program does not create or exacerbate any cumulative water supply shortage. PVID's Priority 1 water rights, the most senior on the Lower Colorado River, ensure that PVID retains preferential access to Colorado River water under all anticipated shortage conditions except for catastrophic shortages affecting the entire basin. The Program's voluntary nature ensures that participating landowners receive compensation for foregone water use, maintaining agricultural economic viability in the Palo Verde Valley while contributing to basin-wide supply resilience. Implementation of the Program will remain subject to future federal operational criteria adopted following completion of the Bureau of Reclamation's Post-2026 Operational Guidelines process. Future agreements will be implemented consistent with those adopted operating criteria.

3.6.6.3 Cumulative Impact Analysis–Water Quality

The cumulative water quality context for the Program encompasses the legacy of irrigation-era salinity loading, pesticide and nutrient accumulation, and selenium enrichment in the Colorado River corridor from more than a century of irrigated agriculture in the Lower Basin. The Colorado River Basin Salinity Control Program has made incremental progress in reducing salt loading from agricultural sources throughout the watershed, but salinity levels at downstream compliance stations remain chronically elevated relative to pre-agricultural baseline conditions.

Multiple conservation programs implemented across the Lower Basin—including PVID's Program, IID's conservation activities under the QSA, and Reclamation's on-farm water use efficiency programs—are collectively reducing the volume of agricultural return flows entering the Colorado River system. This cumulative reduction in return flow volume produces a cumulative reduction in the total salt load, pesticide load, nutrient load, and sediment load entering the river system from irrigated agriculture.

A potential cumulative adverse water quality effect arises from the scenario in which cumulative return flow reductions from multiple Lower Basin districts reduce the total volume of Colorado River flows below Imperial Dam to a level at which salinity concentrations increase marginally, even as the total salt load decreases, due to reduced dilution volume. Reclamation's water quality monitoring suggests that this scenario is within manageable bounds and does not present a risk

of exceeding Region 7 Basin Plan salinity objectives at the Imperial Dam compliance monitoring point. The existing salinity monitoring programs operated by Reclamation, SWRCB, and RWQCB provide the ongoing data necessary to detect any emerging trend toward threshold exceedance and to trigger adaptive management responses if needed.

Cumulative effects on dust emissions from fallowed agricultural lands—including PVID and other districts with active fallowing programs in the Coachella-Imperial air basin region—are addressed in the Air Quality chapter of the Program EIR. From a water quality perspective, the cumulative deposition of wind-eroded agricultural dust from multiple fallowing programs into drainage channels and the Colorado River represents a minor, intermittent water quality concern that is managed through individual program dust control plans.

The cumulative direction of Program-related water quality effects is beneficial at the basin scale. No cumulative adverse water quality impact that would constitute a cumulatively considerable effect is identified.

3.6.6.4 Lower Colorado River Multi-Species Conservation Program

The Lower Colorado River Multi-Species Conservation Program (LCR MSCP)[15] is a 50-year cooperative effort between Federal and non-federal entities, approved by the Secretary in April 2005 and is in effect through 2055. The program has been developed and implemented by a partnership of state, Federal, and other public and private stakeholders in Arizona, California, and Nevada with interests in managing the water and related resources of the LCR. The MSCP covers listed and other selected special status species (covered species) that may be impacted by current and future anticipated Federal discretionary actions and related non-federal activities on the lower Colorado River (covered actions).

The LCR MSCP is a habitat-based conservation plan developed with intent to avoid, minimize, and fully mitigate the incidental take of the covered species from the implementation of the covered activities to the maximum extent practicable. The plan is also intended to contribute to the recovery of species listed as threatened or endangered under the ESA, as amended (ESA), and reduce the likelihood for future listing of unlisted covered species along the LCR, extending from Lake Mead to the Southerly International Boundary (SIB) with Mexico.

A BO was issued for the LCR MSCP in 2024 to allow for annual flow reductions in a range of 2.083 MAF up to 3.0 MAF through January 31, 2028. Reduced flows are the total of reduced water releases from Hoover Dam including reduced water released for deliveries to the Lower Division States, conserved water to be stored in Lake Mead ("Intentionally Created Surplus"), and other

[15] U.S. Bureau of Reclamation. *Post-2026 Operational Guidelines and Strategies Final EIS*. July 2026, and Record of Decision, August 2026.

related conservation activities. The LCR MSCP identified, and is mitigating for, impacts on the covered species and their habitats from the flow reductions described above. Habitat areas are being actively developed and managed with an intent to provide enhanced habitat values compared to the habitat areas that may be impacted.

Reclamation and FWS are now actively engaged in an amendment process expected to take two to three years to extend the 2024 BO for the LCR MSCP to provide long term coverage for reduction in flows of up to 3.0 MAF that may result from additional activities under the Preferred Alternative selected by Reclamation in its recently adopted Post-2026 Operational Guidelines. The new BO and MSCP amendment will account for changes in river management dictated by ongoing drought hydrologic conditions and to provide management flexibility – including potential future water transfers. These combined actions will require ongoing consultation processes, including reinitiating Section 7 consultation, with a goal to provide coverage through the life of the LCR MSCP (2055) for additional activities that may be taken.

The Palo Verde Irrigation District has been an active participant and permittee in the existing LCR MSCP since 2005, and the majority of the existing LCR MSCP habitat mitigation project lands are located within or adjacent to PVID lands. Additional lands within the District have already been acquired for the expansion of these habitat projects as will be determined in this new LCR MSCP amendment process and the related EIS/EIR documentation. As the senior water rights holder for Colorado River water among California agencies, PVID plans to participate as a co-lead agency for the joint NEPA and CEQA documentation for this current MSCP amendment process and the related BO.

3.6.7 Conclusions for Hydrology and Water Quality

Based on the analyses presented in this chapter, all identified impacts on hydrology and water quality are less than significant with continued regulatory compliance and implementation of the identified BMPs. The proposed Program builds upon nearly two decades of successful implementation of voluntary fallowing and conserved water programs in the Palo Verde Valley, during which no significant adverse hydrologic or water quality impacts attributable to the conservation program have been identified. The Program incorporates adaptive management through annual monitoring of diversion volumes, return flows, groundwater response, and water quality. Implementation may be modified as necessary to address changing hydrologic conditions, future federal operating criteria, or monitoring results. Additionally, monitoring conducted under the RWQCB Waste Discharge Requirements, USBR monitoring programs, and PVID operational monitoring will continue throughout Program implementation to verify that assumptions made in this Program EIR remain valid.

No impacts have been found to be significant and unavoidable and no findings pursuant to Public Resources Code §21081(a)(3) (Statement of Overriding Considerations) are required for any impact evaluated in this chapter. Cumulative impacts are also found to be less than cumulatively considerable, with the proposed Conserved Water Supply Program contributing net positive effects to cumulative hydrologic and water quality conditions in the Colorado River Basin. The Lead Agency has considered that the Program is fundamentally a water conservation and demand reduction program designed to generate environmental and water supply benefits at the basin scale. Accordingly, many Program effects on hydrology and water quality are net beneficial effects relative to the baseline condition and do not constitute significant adverse impacts under the applicable thresholds. Finally, PVID's active engagement in the ongoing LCR MSCP amendment confirms its commitment to understand the hydrologic conditions resulting from evolving river management strategies and related habitat protection and enhancement measures.

4.0 ALTERNATIVES TO THE PROPOSED CONSERVED WATER SUPPLY PROGRAM

4.1 Introduction and CEQA Guidance

Evaluation of alternatives to a proposed project is a required component of an Environmental Impact Report. The CEQA Guidelines (section 15126.6) provide regulatory guidance for the consideration of alternatives to include the following components to the extent applicable:

- *An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.*
- *An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation.*
- *An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives.*
- *Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly.*
- *The specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a "no project" alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.*
- *The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.*

4.2 Program Goals and Objectives Used in Selection of Potential Alternatives

As detailed in the Project Description (Chapter 2) PVID has multiple goals and objectives for implementing the proposed Conserved Water Supply Program, all of which are related to the

current water supply deficiencies in the Colorado River basin and the Bureau of Reclamation's proposed post-2026 Colorado River operational guidelines.[1]

- As a major water user with senior water rights to Colorado River water, PVID intends to actively participate in solutions for long term river management and the Bureau of Reclamation's post-2026 operating criteria intended to manage Colorado River shortages through voluntary agreements consistent with the Law of the River as it has developed over more than 100 years.
- Protecting the Colorado River as PVID's sole source of water by contributing to the proposed Lower Basin plan for water use reductions through system conservation.
- Maintain and protect long-term use and productivity of as much PVID agricultural land as possible.
- Assist other Colorado Basin users through implementation of voluntary and compensated transfers of water to share the burden of the current Colorado River basin-wide shortage conditions as an effective means of contributing to management solutions that avoid litigation, preserve agricultural productivity, and support the local economy and disadvantaged communities in the Palo Verde Valley.

4.3 Selection of Alternatives

As determined and explained in the preceding impact assessment (Chapter 3), the proposed Program is not expected to result in significant environmental impacts in any resource areas, nor contribute incrementally to significant cumulative effects on the environment. All potential impacts identified can be avoided or minimized with ongoing regulatory compliance and application of standard mitigation measures for agricultural resources, air quality, biological, cultural and Tribal cultural resources, and hydrology and water quality, and the proposed Program is considered to be the District's "Preferred Alternative".

Since impacts of the proposed program are determined to be less than significant, this Draft Program EIR does not identify alternatives that would avoid or minimize significant environmental impacts, and the analysis focuses instead on a comparison of the relative merits of alternatives to the proposed Program in relation to potential effects found to be "less-than-significant".

The No Project alternative is required by CEQA. Other feasible alternatives include a Limited Fallowing Period alternative and an Unlimited Participation alternative. Elimination of the

[1] U.S. Bureau of Reclamation, U.S. Bureau of Reclamation. *Post-2026 Operational Guidelines and Strategies Final EIS*. July 2026; and *Operating Guidelines, Colorado River Guidelines for Coordinated Operations of Lake Powell and Lake Mead, Operating Years 2027 and 2028*, August 21, 2026.

infrastructure elements – canal lining and regulating reservoirs – is also considered as an alternative. Each of these alternatives is analyzed to provide decisionmakers and the public with consideration of effects that may result from Program changes that do not unnecessarily limit attainment of the District's goals and objectives. No alternative location was assessed since no lands outside the District's boundaries are eligible to receive Colorado River water supplies under PVID's Priority 1 water right.

4.3.1 No Project Alternative

Under the No Project Alternative, PVID would not adopt the Conserved Water Supply Program. The existing PVID/MWD fallowing program would continue through the remainder of its 35-year term, and PVID would continue routine operations and maintenance of its canals and drains. No additional on-farm conservation, canal lining or regulating reservoirs would be implemented under a District program, and no additional conserved water would be available for transfer to other Colorado River contractors.

The No Project Alternative would avoid the temporary construction effects of canal lining and reservoirs, including dust, equipment emissions, and potential effects on burrowing owls, canal marsh vegetation and cultural resources. It would also avoid the additional fallowing-related effects on wildlife foraging habitat and wind-blown dust. All of these effects would be less than significant under the proposed Program.

Under the No Project Alternative, farmlands within the Palo Verde Valley would continue to be used for agricultural production as they are currently. It is possible that the conversion of agricultural land to non-agricultural uses could occur over the next several decades to a greater degree than would be allowed under the proposed Program which only credits water conservation savings to lands committed to long term agricultural use. Under the No Project Alternative, there would be no farms committed to the proposed Program and thereby subjected to its limitations on non-agricultural land uses.

With regard to soils and wind erosion, the No Project Alternative would result in similar levels of soil loss as would occur under the proposed Program. Active farming results in wind erosion levels that are similar to those that occur with properly managed fallowed lands, which would continue under the No Project Alternative. Emissions (including PM_{10} and ozone precursors) would be somewhat greater under the No Project Alternative than under the proposed Program because there would be more vehicle use associated with the higher level of agricultural activity. The No Project Alternative would avoid the expected decrease in groundwater levels that would occur under the proposed Program. Biological resource conditions in the Palo Verde Valley would be similar regardless of whether the proposed Program is implemented.

The No Project Alternative also would not meet the proposed Program objective of providing water supplies for other Colorado River users related to the Post-2026 goals of balancing limited supplies. PVID would not have a mechanism to participate in Reclamation's Post-2026 operating framework through voluntary conservation, and the Program's contributions to Lake Mead storage would not occur.

4.3.2 Limited Fallowing Period Alternative

As proposed, the Program limits long-term fallowing periods to six years (three two-year periods consistent with Reclamation's two-year changing operational guidelines), after which the fallowed lands must be returned to production of at least one crop before it could be fallowed again. Under this alternative, the maximum period that a given field would not be irrigated would be four years (two two-year periods concurrent with Reclamation's two-year changing operational guidelines) after which the fallowed lands must be returned to production of at least one crop.

Because the total amount of water saved and the amount of non-irrigated farmland each contract year would be similar to the water saved under the proposed Program, and in light of the proposed Program's monitoring and erosion control requirements, the potential environmental effects of this alternative would be similar to those of the proposed Program. This alternative would, however, provide less flexibility to Program participants in terms of how they manage their agricultural operations and their flexibility to participate in the Conserved Water Supply Program.

4.3.3 Unlimited Participation Alternative

As proposed, the Program is planned to result in a maximum temporary reduction of up to 21 percent of PVID's historic water use, for a total of 50 percent of PVID's historic water use in combination with the existing MWD fallowing program. This may be extended to 31 percent (60 percent total) in response to Reclamation finding that "extraordinary circumstances" exist for any two-year operational period requiring extraordinary responses from eligible water users. Under this alternative, there would be no limit on total District acreage that could be fallowed simultaneously, creating a scenario under which all farmed lands in the District were fallowed and up to 100 percent of PVID's historic water use would be available for transfer to other users.

Under that scenario, the District's canals would be dry year round, and water levels in the entire system of drain channels would gradually decline as shallow groundwater was depleted, and return flows to the river would not exist. Habitat conditions throughout the District's lands would be severely diminished. Windblown dust emissions would increase as larger contiguous areas of barren land with no intervening cropped lands to provide even minimal wind breaks. Although not an environmental effect as recognized by CEQA, the surrounding communities including the City of Blythe and unincorporated town of Ridley would be economically blighted as all farm related labor was idled for years at a time between rotational fallowing – crop production cycles.

4.3.4 No Infrastructure Improvements Alternative

Two types of potential infrastructure improvements to conserve water within the PVID system have been identified, including canal lining and installation of regulating reservoirs. These elements of the Program involve modifying existing facilities and constructing new ones. Canal lining includes concrete lining of targeted segments of earthen water conveyance canals that are a part of PVID's water delivery system to reduce consumptive evaporative losses. Regulating reservoirs are expected to have a total footprint of approximately 75 to 125 acres and would be located entirely on District-owned lands that have been previously disturbed, or lands that have been in long-term agricultural use. Unlike the on-farm land management water conservation measures, infrastructure projects involve construction, including earthwork for reshaping canal prisms and excavation and earthwork to create reservoir basins and perimeter berms.

Under this alternative construction earthwork for canal lining and regulating reservoirs would be eliminated. All potential air quality, biological and cultural effects attributable to construction activities would be avoided, providing some reduction in potential effects. Mitigation measures are routinely implemented to address these types of impacts, including limitations on the timing of construction, requirements for air emissions controls on construction equipment, and limiting construction area footprints to avoid encroachment on habitat areas, and pre-construction surveys and monitoring for biological and cultural resources.

4.4 Conclusion: Environmentally Superior Alternative

If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. In this case, the No Project alternative, while benign since it maintains existing conditions, does not offer substantive environmental benefits over the proposed project.

None of the alternatives, including the proposed Program, would result in or incrementally contribute to cumulatively significant effects on the environment. To the extent that potential Program impacts correspond to the acreage of fields not being irrigated and an amount of water equal to the amount saved being made available to other Colorado River water users, the environmentally superior alternative would be the one with the least amount of non-irrigated fields and the lowest volume of water savings.

Thus, the No Project Alternative could qualify as the environmentally superior alternative, and the Limited Fallowing Period alternative could be identified as the environmentally superior of the remaining alternatives. Limits on the duration of fallowing, whether 4 or 6 years with at least one season of crop production, prevents permanent retirement of productive farmland and associated

loss of productive agricultural resources. Long-term protection of agricultural land also limits potential long-term habitat changes and local groundwater water table decline.

The No Project and Limited Fallowing period alternatives offer no significant benefit to environmental resources and either eliminate or limit effective means of water conservation producing measurable reductions in water use. The PVID Conserved Water Supply Program can be implemented to assist the Bureau of Reclamation in its management responses for water transfers to help alleviate shortages within the Colorado River basin. Present hydrologic conditions are not expected to dramatically improve over the next decade or more, and for that reason, the District's Preferred Alternative, including implementation of all the best management practices, regulatory compliance measures and mitigation measures identified in this Program EIR is determined to be the environmentally superior alternative.

Under the No Project Alternative, PVID would not adopt the Conserved Water Supply Program. The existing PVID/MWD fallowing program would continue through the remainder of its 35-year term, and PVID would continue routine operation and maintenance of its canals and drains. No additional on-farm conservation, canal lining or regulating reservoirs would be implemented under a District program, and no additional conserved water would be available for transfer to other Colorado River contractors.

The No Project Alternative would avoid the temporary construction effects of canal lining and reservoirs, including dust, equipment emissions, and potential effects on burrowing owls, canal marsh vegetation and cultural resources. It would also avoid the additional fallowing-related effects on wildlife foraging habitat and wind-blown dust. All of these effects would be less than significant under the proposed Program.

The No Project Alternative would not meet the Program's objectives. PVID would not have a mechanism to participate in Reclamation's Post-2026 operating framework through voluntary conservation, and the Program's contributions to Lake Mead storage would not occur. The reductions in salt, pesticide and nutrient loading in return flows, and the compensation and community benefit payments to the Palo Verde Valley, would also not occur.

5.0 REFERENCES

This chapter lists the principal sources identified in the text of this Draft Program EIR, including technical reports, planning documents, agency data sources, and the laws, regulations, agreements, and legal authorities that frame the analysis. References are consolidated from Chapters 1 through 4 and listed alphabetically by author within each section.

5.1 Documents, Reports, and Data Sources

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5.2 Laws, Regulations, Agreements, and Legal Authorities

5.2.1 Federal and Interstate

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Boulder Canyon Project Act of 1928. 43 U.S.C. § 617 et seq.

Boulder Canyon Project, Agreement Requesting Apportionment of California's Share of the Waters of the Colorado River Among the Applicants in the State (Seven Party Agreement). August 18, 1931.

Clean Air Act. 42 U.S.C. § 7401 et seq.

Clean Water Act (Federal Water Pollution Control Act). 33 U.S.C. § 1251 et seq., including Sections 401, 402, and 404.

Code of Federal Regulations, Title 40, Part 136. Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Last amended July 2026.

Colorado River Basin Salinity Control Act of 1974. 43 U.S.C. § 1571 et seq.

Colorado River Compact. 1922. https://www.usbr.gov/lc/region/g1000/pdfiles/crcompct.pdf. Accessed July 13, 2026.

Colorado River Drought Contingency Plan Authorization Act. Public Law 116-14. April 16, 2019.

Colorado River Indian Tribes v. United States Department of the Interior et al. Complaint. Case No. 5:14-cv-02504, U.S. District Court for the Central District of California, Eastern Division. December 4, 2014.

Endangered Species Act of 1973, as amended. 16 U.S.C. § 1531 et seq.

International Boundary and Water Commission. Minute 323, Extension of Cooperative Measures and Adoption of a Binational Water Scarcity Contingency Plan in the Colorado River Basin. September 21, 2017.

Migratory Bird Treaty Act. 16 U.S.C. §§ 703–712.

National Environmental Policy Act. 42 U.S.C. § 4321 et seq.

National Historic Preservation Act of 1966. Public Law 89-665, as amended by Public Law 96-515. 54 U.S.C. § 300101 et seq.

Native American Graves Protection and Repatriation Act of 1990. Public Law 101-601. 25 U.S.C. §§ 3001–3013.

Noxious Weed Act. 7 U.S.C. § 2801 et seq.

Quantification Settlement Agreement. October 10, 2003.

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Treaty Between the United States of America and Mexico Respecting Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande (Mexican Water Treaty). February 3, 1944.

U.S. Bureau of Reclamation. Water supply contract between the U.S. Department of the Interior, Bureau of Reclamation and the Palo Verde Irrigation District (Boulder Canyon Project). February 7, 1933.

5.2.2 State of California

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California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387 (State CEQA Guidelines), including Section 15168.

California Code of Regulations, Title 22, Section 64421 et seq. (Primary and Secondary Maximum Contaminant Levels). Last updated June 27, 2025.

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

California Environmental Quality Act. Public Resources Code §§ 21000–21189.

California Fish and Game Code, as amended, including Section 2070 and provisions for migratory birds and furbearers.

California Government Code §§ 51200–51297.4 (California Land Conservation Act of 1965, Williamson Act).

California Government Code § 16140 et seq. (Open Space Subvention Act).

California Government Code § 65962.5.

California Health and Safety Code § 7050.5, as amended.

California Health and Safety Code § 41700.

California Public Resources Code §§ 5097.9–5097.991, as amended.

California Revenue and Taxation Code §§ 421–430.5.

California Vehicle Code § 2400.

California Water Code § 1011.

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

Palo Verde Irrigation District Act. Stats. 1923, c. 452, p. 1067.

Porter-Cologne Water Quality Control Act. Water Code § 13000 et seq.

State Water Resources Control Board. Order 2022-0057-DWQ, NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities.

Surface Mining and Reclamation Act of 1975. Public Resources Code § 2710 et seq.

Sustainable Groundwater Management Act. Water Code § 10720 et seq.

5.3 Personal Communications and Correspondence

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Echard, J.R., Manager, Palo Verde Irrigation District. 2026. Personal communication. May 28, 2026.

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6.0 PERSONS AND ORGANIZATIONS CONSULTED

In accordance with CEQA Guidelines Section 15129, this chapter identifies the state and local agencies, tribes, organizations, and persons consulted during preparation of this PEIR. Consultation included distribution of the Notice of Preparation (NOP) on March 18, 2026, tribal consultation under Assembly Bill (AB) 52, and direct contacts listed below.

6.1 State and Local Agencies

Agency	Date
Governor's Office of Land Use and Climate Innovation, State Clearinghouse	March 18, 2026
California Department of Fish and Wildlife, Inland Deserts Region	March 18, 2026
Colorado River Board of California	March 18, 2026
California Department of Transportation (Caltrans), District 8	March 18, 2026
Colorado River Basin Regional Water Quality Control Board (Region 7)	March 18, 2026
Native American Heritage Commission	March 18, 2026
City of Blythe	March 18, 2026

6.2 Native American Tribes

The following tribes were notified under AB 52 (Public Resources Code Section 21080.3.1) and, where requested, consulted.

Tribe	Contact	Notification Date	Consultation Status
Agua Caliente Band of Cahuilla Indians	Patricia Garcia, Director, Tribal Historic Preservation Office	March 4, 2026	Ongoing
Cabazon Band of Mission Indians	Jacquelyn Barnum, Environmental Director, Environmental Department	March 4, 2026	No response
Colorado River Indian Tribes	Bryan Etsitty, Acting Director, Tribal Historic Preservation Officer	March 4, 2026	No response
Morongo Band of Mission Indians	Raymond Huaute, Cultural Resource Specialist	March 4, 2026	No response
Soboba Band of Luiseño Indians	Isaiah Vivanco, Chairperson	March 4, 2026	No response
Twenty-Nine Palms Band of Mission Indians	Eric Jordan, Tribal Historic Preservation Officer	March 4, 2026	No response

6.3 Palo Verde Irrigation District

Contact	Title
Michael Mullion	President, Board of Trustees
Grant Chaffin	Vice President, Board of Trustees
Timothy Cox	Board of Trustees
Chad Elliot	Board of Trustees
Bart Fisher	Board of Trustees
Nisha Noroian	Board of Trustees
Brad Robinson	Board of Trustees
Victor Lujan	General Manager
Chris Parrish	Assistant General Manager
J.R. Echard	General Manager *(former)*
Debra Keenan	Board of Trustees *(former)*
David R. Saunders	District Counsel

7.0 LIST OF PREPARERS

This Program Environmental Impact Report (PEIR) was prepared by the Palo Verde Irrigation District (PVID), as Lead Agency under the California Environmental Quality Act (CEQA), with assistance from the consultants listed below.

7.1 Lead Agency

Palo Verde Irrigation District, 180 W 14th Ave, Blythe, CA 92225

Name	Title
Victor Lujan	General Manager
Chris Parrish	Assistant General Manager
David R. Saunders	District Counsel
J.R. Echard	General Manager *(former)*

7.2 PEIR Consultants

Name	Title
Jeffrey G. Harvey, Ph.D.	Project Manager, Harvey Consulting Group, Inc.
Jacie M. Siino	Deputy Project Manager, Siino Environmental Consulting
Jill Himes	Consulting Senior Biologist, Himes Consulting, LLC
Alice Karl, Ph.D.	Advising Biologist

APPENDIX A

2025 Annual Monitoring Report

Palo Verde Outfall Coalition

Note: First 36 pages are included. Lab reports (200+ pages) are not included but are available on request at pvid@pvid.org.

PALO VERDE IRRIGATION DISTRICT

180 WEST 14TH AVENUE – BLYTHE, CALIFORNIA 92225
PHONE: (760) 922-3144 – FAX: (760) 922-8294

March 1, 2026

Colorado River Basin Regional Water Quality Control Board
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

Subject: 2025 Annual Monitoring Report
Palo Verde Outfall Coalition
180 West 14th Avenue
Blythe, California 92225

To Whom It May Concern:

Attached is the 2025 Annual Monitoring Report (AMR), dated March 1, 2026, for the Palo Verde Outfall Coalition.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations. If you have any questions regarding the report, please give me a call at 760-922-3144.

Sincerely,

Grant Chaffin
Chairman of the Board of Trustees
Palo Verde Outfall Coalition

2025 Annual Monitoring Report

March 1, 2026

Palo Verde Outfall Coalition

Palo Verde Irrigation District
180 West 14th Avenue
Blythe, California 92225

GENERAL WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES OF WASTE FROM IRRIGATED AGRICULTURAL LANDS
FOR DISCHARGERS THAT ARE MEMBERS OF A COALITION GROUP
IN PALO VERDE VALLEY AND PALO VERDE MESA
Imperial and Riverside Counties

ORDER R7-2019-0030

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that all qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. All analyses were conducted at a laboratory certified for such analyses by the State of California and in accordance with current EPA guideline procedures or as specified in this Monitoring Program. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Executed on the 1st day of March 2026 in Blythe, California

Grant Chaffin
Chairman of the Board of Trustees
Palo Verde Outfall Coalition

Prepared by:

CDM Smith
32 Discovery, Suite 250
Irvine, California 92617

2025 Annual Monitoring Report
Palo Verde Outfall Coalition

Palo Verde Irrigation District

Prepared for:

Palo Verde Irrigation District
180 West 14th Avenue
Blythe, California 92225

Project No. 281486-AMR

March 1, 2026

2025 Annual Monitoring Report
Palo Verde Outfall Coalition

Palo Verde Irrigation District
180 West 14th Avenue
Blythe, California 92225

March 1, 2026

Prepared by:

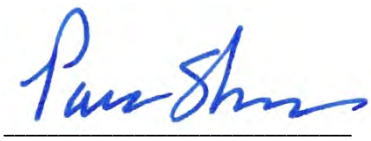
CDM Smith
32 Discovery, Suite 250
Irvine, California 92617

Submitted to:

Colorado River Basin Regional Water Quality Control Board
73-720 Fred Waring Drive, Suite 100
Palm Desert, California 92260

The information contained in the document titled "2025 Annual Monitoring Report, Palo Verde Outfall Coalition", dated March 1, 2026, has received appropriate technical review and approval. The scope of work presented in this report was developed based upon findings from the prior investigations and the interpretation of such data was based on our experience and background. This acknowledgement is made in lieu of all warranties, either expressed or implied.

Reviewed and Approved by:





Pawan Sharma

Senior Project Manager

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Executive Summary

This Annual Monitoring Report (AMR) summarizes data collected in 2025 in accordance with the General Waste Discharge Requirements (General WDRs) (Order R7-2019-0030) for *Discharges of Waste from Irrigated Agricultural Lands for Dischargers that are Members of a Coalition Group in Palo Verde Valley and Palo Verde Mesa,* which was adopted by the California Regional Water Quality Control Board, Colorado River Basin Region (RWQCB)in May 2019 (referred to as the "WDR permit"). These General WDRs regulate landowners and growers of irrigated agricultural lands (collectively, Dischargers) with the potential to discharge waste that may impact the quality of the waters of the state. Discharges regulated under this WDR permit include surface water discharges (e.g., stormwater runoff, irrigation return water, tailwater) and subsurface discharges (e.g., groundwater seepage).

A coalition group, Palo Verde Outfall Coalition (PVOC), has been organized to comply with the RWQCB directives, including the WDR permit, and is managed by a Board of Trustees. In February 2022, the RWQCB approved the *Quality Assurance Project Plan (QAPP), Palo Verde Outfall Coalition Surface Water Monitoring Program Plan* (SW MRP) and *Palo Verde Outfall Coalition Groundwater Monitoring Program Plan* (GW MRP) for required monitoring in accordance with Order R7-2019-0030 commenced and includes monitoring for surface water, groundwater, and fish tissue. Surface water samples were collected monthly for field parameters and quarterly for field parameters and laboratory analyses. Select pesticides and total phosphorus are also sampled on a semi-annual basis. The field and laboratory quality control data were reviewed as part of this report. All data are usable for project objectives and no data were rejected.

Groundwater sampling is conducted to determine current water quality conditions of groundwater relevant to irrigated agricultural lands and develop long-term groundwater quality information that can be used to evaluate the regional effects of irrigated agricultural lands practices. In accordance with the WDR permit, groundwater is sampled once a year.

Fish tissue samples were collected for a period of three years (2022 to 2024), completing the WDR permit requirement.

Generally, water quality parameters were similar to previous years for surface water. The data were compared to numeric water quality objective limits (WQOs) in the WDR permit. Overall, the majority of the surface water results were below WQOs, with the exception of several chloride results, one dissolved oxygen result, and two E. Coli results.

In 2025, E. Coli was detected at two locations above its WQO in Palo Verde Canal 5+80 in March 2025 and in Outfall Drain 567+99 in September 2025. Palo Verde Canal sample is representative of water coming into the PVOC irrigated lands, prior to PVOC agricultural activities.

The dissolved oxygen (DO) WQO of 5.0 milligrams per liter (mg/L) indicates a minimum value requirement and all DO results were above 5.0 mg/L in 2025, except for the DO result at location Eastside Drain 110 + 62 in May 2025.

Chloride results at location Outfall Drain 148+00 were detected at concentrations of 270 mg/L and 250 mg/L, during March and December 2025, respectively, which were above the WQO of 230 mg/L. The March 2025 result is the third detection above the WQO within the previous four regular monitoring events at this location. As indicated in the WDR permit (Section E. Item 6, part b), "for the purpose of this order, an exceedance occurs when a sampling result for a constituent at a single surface water monitoring location exceeds a WQO or benchmark limit specified in the MRP, Attachment C more than three out of four times for the same constituent" and creates a Water Quality Triggering Event. These results are typical of previous results at this sample location, as well as other sample locations. As discussed in the PVOC response letter (dated December 16, 2024) to the Notice of Violation issued by the RWQCB, PVOC detailed that irrigated agricultural operations are not contributing to these exceedances.

The E. Coli results at Palo Verde Canal 5+80 and Outfall Drain 567+99, the DO result at location Eastside Drain 110+62, and the chloride results at location Outfall Drain 567+99 do not constitute an exceedance, as the WDR permit (Section E. Item 6, part b), considers an "exceedance" occurs when a sampling result for a constituent at a single surface water monitoring location exceeds a WQO or benchmark limit specified in the MRP, Attachment C more than three out of four times for the same constituent.

The field and laboratory quality control data were reviewed as part of this report. All data are usable for project objectives and no data were rejected. Overall, the data collected in 2025 indicate that the discharges and management practices of the PVOC are generally not causing or contributing to exceedances of Water Quality Control Plan for the Colorado River Basin Water Board (Basin Plan) numeric or narrative surface water quality standards of the Palo Verde Valley and Palo Verde Mesa Drains, the Palo Verde Valley Lagoon, or the Palo Verde Outfall Drain.

Section 1
Background and Description

This section presents the background and description of the State Water Board's *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program* (State NPS Policy).

On May 15, 2019, the California Regional Water Quality Control Board, Colorado River Basin Region (RWQCB), adopted General Waste Discharge Requirements (General WDRs) (Order R7-2019-0030) for *Discharges of Waste from Irrigated Agricultural Lands for Dischargers that are Members of a Coalition Group in Palo Verde Valley and Palo Verde Mesa* (referred to as the "WDR permit").

Previously, data and monitoring requirements were stipulated under the *Conditional Waiver of Waste Discharge Requirements for Agricultural Wastewater Discharges and Discharges from Waste from Drain Operation and Maintenance (O&M) Activities Originating within the Palo Verde Valley and Palo Verde Mesa*, as discussed in Order R7-2012-0047 from the RWQCB and known as the "Conditional Waiver permit." The Conditional Waiver permit expired on September 20, 2017.

1.1 Project Background

A coalition group, the Palo Verde Outfall Coalition (PVOC), was originally organized to develop and implement a compliance program to comply with the Conditional Waiver permit. Monitoring was implemented in 2013 and continued annually through 2019, during the time the Conditional Waiver permit was active and also after the Conditional Waiver permit expired.

As described above, Order R7-2019-0030 was issued in May 2019, and all current and proposed non-point source discharges must be regulated under WDRs, orders a basin plan prohibition, or some combination of these tools administered by the RWQCB.

These General WDRs regulate landowners or growers of irrigated agricultural lands (collectively, Dischargers) with the potential to discharge waste that may impact the quality of the waters of the state. These discharges can affect water quality by transporting nutrients, pesticides, sediment, salts, and other pollutants from cultivated fields to surface or groundwater. The WDR permit also establishes substantive and procedural requirements for third-party representatives (Coalition Groups) formed to comply with Order R7-2019-0030, and only regulates Dischargers who are also members of a Coalition Group.

Discharges regulated under the WDR permit include surface water discharges (e.g., stormwater runoff, irrigation return water, tailwater) and subsurface discharges (e.g., groundwater seepage).

On July 30, 2015, U.S. Environmental Protection Agency (EPA) provided final approval of California's 2012 List of Impaired Waterbodies, per Section 303(d) of Clean Water Act (303(d) List). The 303(d) List identifies the Palo Verde Outfall Drain and Palo Verde Valley Lagoon as impaired by chloride, legacy organochlorine pesticides [dichloro-diphenyl-trichloroethane (DDT)

and toxaphene], and pathogen-indicator bacteria. Therefore, to address the 303(d) List impairments of the Palo Verde Outfall Drain and Palo Verde Lagoon, the WDR permit serves as either the first phase of data collection for future total maximum daily load (TMDLs) requirements, or as an alternative, non-TMDL solution. Monitoring requirements for chloride in surface water and groundwater, E. Coli in surface water, and total DDT and toxaphene in fish tissue are included in the WDR permit.

On November 19, 2019, PVOC submitted the *Palo Verde Outfall Coalition Surface Water Monitoring Program Plan* (SW MRP) and *Palo Verde Outfall Coalition Groundwater Monitoring Program Plan* (GW MRP), under separate covers to the RWQCB. The SW MRP and the GW MRP aid PVOC in monitoring the water quality from non-point source agricultural discharges within its region and address measures that Dischargers should take to stay in compliance with the WDR permit. On February 20, 2020, a Quality Assurance Project Plan (QAPP), which is a companion document to the SW and GW MRPs, was submitted to the RWQCB. To prevent a gap in data collection, surface water sampling continued in 2020 through 2022.

On February 23, 2022, the RWQCB approved the QAPP, SW MRP, and GW MRP for and monitoring in accordance with Order R7-2019-0030 commenced.

This 2025 Annual Monitoring Report (AMR) is the thirteenth annual report submitted to the RWQCB since Conditional Waiver permit was adopted.

In early 2024, the PVOC changed to be managed by a Board of Trustees consisting of five members. Palo Verde Irrigation District (PVID) continues to implement routine administration, sampling, compliance, and reporting operations. The Board of Trustees manages the PVOC and provides strategic oversight and decision making. The PVOC organization chart for its current operation is presented in Figure 1-1. In early December 2025, Marissa Johnson accepted additional responsibilities as the PVOC's Project Manager, Project Coordinator, and Quality Assurance Officer.

1.2 Project Description

Water for irrigation is diverted from the Colorado River at the Palo Verde Diversion Dam and is conveyed through 244 miles of main canals and laterals to serve approximately 93,500 acres of cultivated land. The irrigation return flows are collected in a 142 mile drainage system and returned to the Colorado River. The land use designation for the majority of the land included within the project boundaries is agricultural. A Site vicinity map illustrating land use is included as Figure 1-2.

Surface water monitoring data have been collected at four locations that are representative of the Palo Verde Valley region since 2013. In accordance with Order R7-2019-0030, groundwater sampling is also required. Fish tissue sampling was also required in the WDR permit for a period of three years, which was completed between 2022 and 2024. The sample locations are identified in the following sections.

1.2.1 Surface Water Locations

- Palo Verde Canal – Station 5+80- taken in the Palo Verde Canal. This sample is used as an upstream control for comparison with the other three monitoring sites.
- East Side Drain – Station 110+62-upstream of the siphon where the Eastside Drain crosses Lovekin Boulevard.
- Outfall Drain – Station 567+99- Outfall Drain between 35th Avenue and the County line.
- Outfall Drain – Station 148+00- Outfall Drain metering station 148+00, about 0.8 miles above the Township line, which is the southern boundary line for the PVID.

The receiving water is the Colorado River, at the Outfall Drain Station 148+00.

A figure presenting the surface water sample locations, and the drain system for the PVID, is provided in Figure 1-3.

1.2.2 Groundwater Locations

Samples are collected from six groundwater wells located within the Palo Verde Valley. Table 1-1 presents the well names and well depths. A map of the groundwater sample locations is provided in Figure 1-4.

Table 1-1 Groundwater Well Locations

Sample Location	Static Water Level (feet bgs)	Screened Interval (feet bgs)	Well Depth (feet bgs)
MW#1	17	NA	492
MW#2	13	380-570	600
MW#3	NA	274-324	500
MW#3B	NA	140-250	NA
MW#4	71	33-70	71
MW#5	147	NA	500

bgs = below ground surface
NA = Information not available

1.3 PVID Drainage Collection System

Appendix A presents PVID's drainage system and includes the name and length of each drain, along with the total number of drains and total length of drains. The irrigation return flows are collected in a 142 mile drainage system and returned to the Colorado River, as presented in Figure 1-3.

1.4 Monitoring Objectives

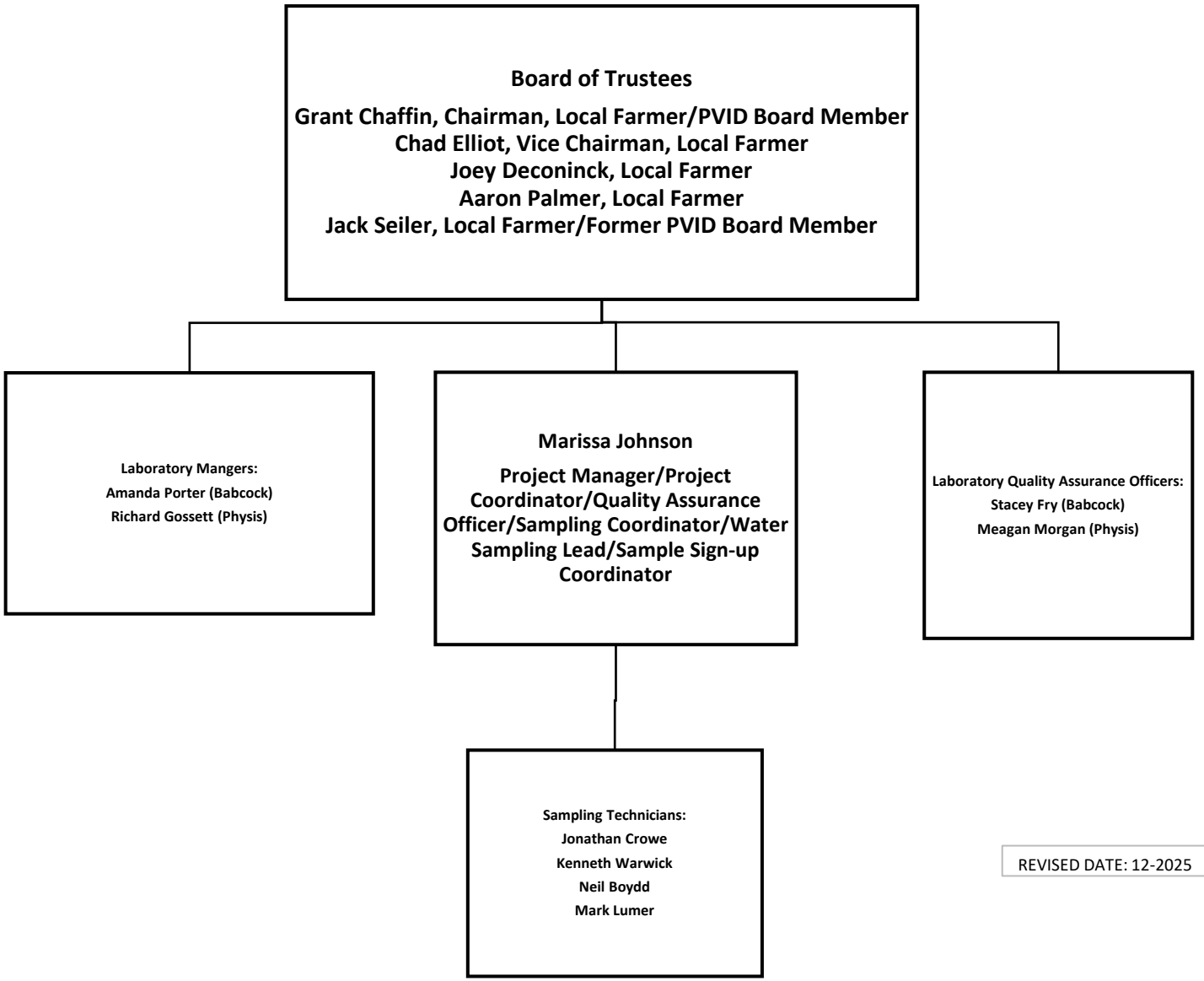
The objective of the surface water monitoring program is to show that non-point source discharges from irrigation and agricultural fields meet the numeric water quality objective limits (WQOs) of the Water Quality Control Plan for the Colorado River Basin Water Board (Basin Plan) and will not impact the beneficial uses of the Colorado River.

The four surface water monitoring sites are used to determine if the WQOs are being met for PVOC. By comparing upstream sample location data with downstream sample locations data, the maintenance impacts can be evaluated for the different stretches of drainage areas. Comparing the upstream and most downstream location data can determine the effect from drain maintenance activities on water quality within PVOC.

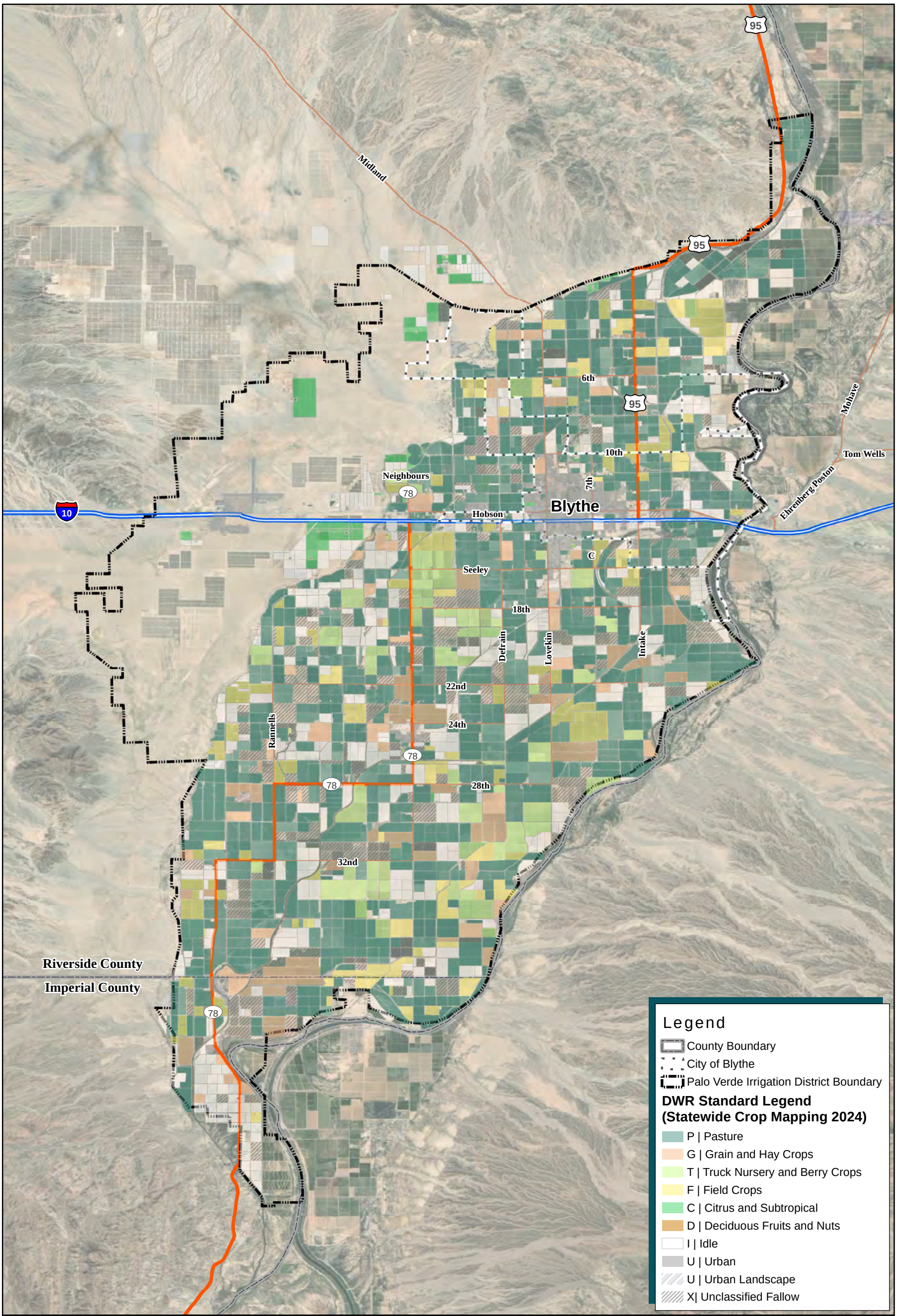
The objective of the groundwater quality trend monitoring program is to determine current water quality conditions of groundwater relevant to irrigated agricultural lands and to develop long-term groundwater quality information that can be used to evaluate the regional effects of irrigated agricultural lands practices.

Additionally, the WDR permit indicates that if groundwater is used for drinking water, the nitrate as N WQO or criteria is applicable.

Figure 1-1 PALO VERDE OUTFALL COALITION
Organizational Chart



REVISED DATE: 12-2025



Source: California Department of Water Resources. January 15, 2026

0 1 2 3 Miles

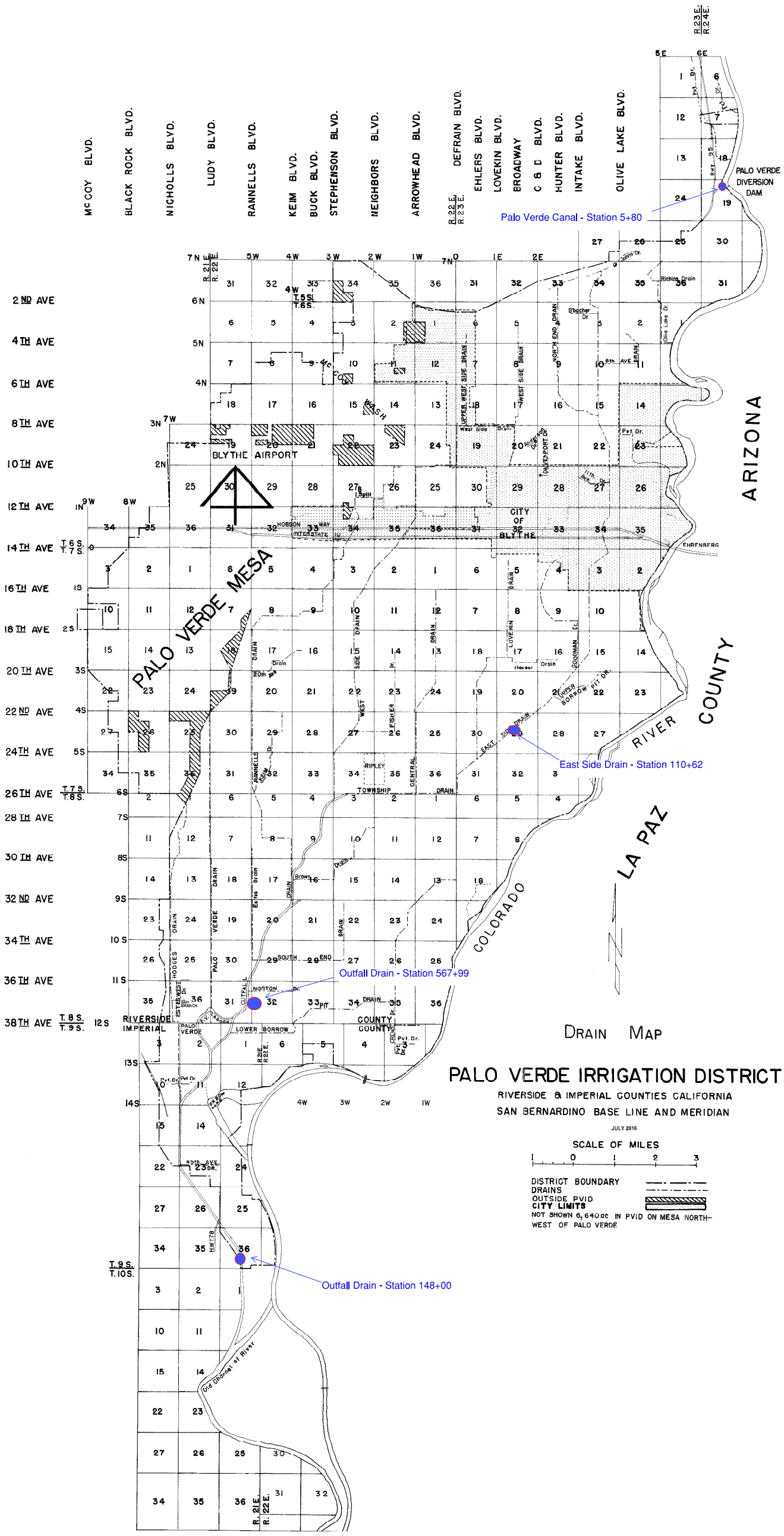
1 in = 3 miles

Palo Verde Outfall Coalition
2025 Annual Monitoring Report

Site Vicinity Map
Figure 1-2

CDM Smith

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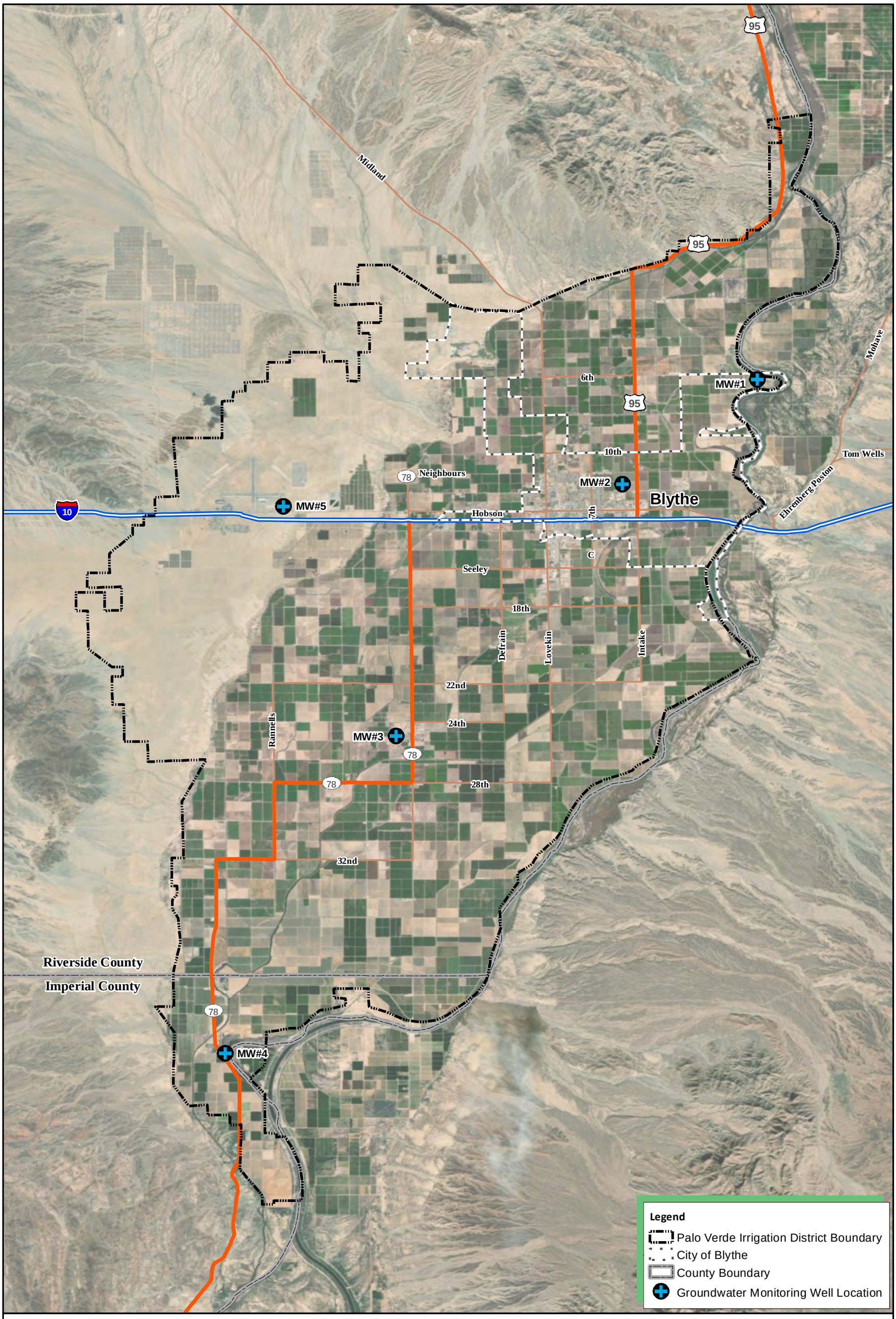


Palo Verde Outfall Coalition
Annual Monitoring Report

2025 Drainage Map
Figure 1-3

CDM Smith

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N

0 1 2 3 4 Miles

1 in = 3 miles

CDM Smith

Palo Verde Outfall Coalition

2025 Annual Monitoring Report

Groundwater Monitoring Well Locations

Figure 1-4

Schellerka E:\GIS\136100_PaloVerdeIrrigationDistrict\2019\243788\Figure1-3_GroundwaterMonitoringWellLocations.mxd 12/17/2019

Section 2
Sampling Events and Results

This section summarizes the sampling events and results for surface water and groundwater during 2025.

2.1 Surface Water Sampling Events and Monitoring Results

Table 2-1 summarizes the surface water monitoring program, which was conducted in accordance with Order R7-2019-0030, including the frequency of monitoring, the required analytes, and the analytical methods.

Table 2-1 Summary of Surface Water Monitoring Program

Analyte	Field or Laboratory Analysis	Laboratory Name	Frequency
pH	Field	NA- Field analysis	Monthly
Temperature	Field	NA- Field analysis	Monthly
Dissolved Oxygen (DO)	Field	NA- Field analysis	Monthly
Total Dissolved Solids (TDS)	Field and Laboratory (SM2540C)	E.S. Babcock & Sons, Inc.	Quarterly
Nitrate (as N)	Laboratory (EPA 300)	E.S. Babcock & Sons, Inc.	Quarterly
Nitrite (as N)	Laboratory (EPA 300.0)	E.S. Babcock & Sons, Inc.	Quarterly
Total Kjeldahl Nitrogen (TKN)	Laboratory (EPA 351.2)	E.S. Babcock & Sons, Inc.	Quarterly
Total Nitrogen	Laboratory (calculated)	E.S. Babcock & Sons, Inc.	Quarterly
Total Suspended Solids (TSS)	Laboratory (SM2540D)	E.S. Babcock & Sons, Inc.	Quarterly
Escherichia Coli (E. Coli)	Laboratory (SM 9223B)	E.S. Babcock & Sons, Inc.	Quarterly
Total Phosphorus	Laboratory (SM 4500-P, B, E)	E.S. Babcock & Sons, Inc.	Semi-annual (March and October)*
Chlorpyrifos	Laboratory (EPA Method 625.1)	Physis Laboratories	Semi-annual (March and October)*
Malathion	Laboratory (EPA Method 625.1)	Physis Laboratories	Semi-annual (March and October)*
Dimethoate	Laboratory (EPA Method 625.1)	Physis Laboratories	Semi-annual (March and October)*

*Sampling was performed in September to align sampling events

Based on the PVOC field notes, no unusual field conditions were noted during the 2025 monitoring events. The sampling notes indicated that the flow at the sample locations were not constricted during the time of monitoring. The sampling notes also indicated clear water and no other restrictions (moss or debris) in the vicinity of the sampling locations during each event, with the exception of May and August 2025. In May, the presence of murky/not clear water was noted at PVC 5+80 due to a rain event/storm. In August, murky water was noted at East Side Drain 110+62.

2.1.1 Surface Water Field Monitoring Results

Prior to each sampling event, the water quality monitoring equipment (Eureka Manta+30B Water Quality Multiprobe [Manta]) was calibrated and deemed to be in proper working order for monitoring. Water quality parameters were collected each month in 2025. Field monitoring results for 2025 are presented in Table 2-2. Readings were collected every few seconds for a period of approximately one to two minutes. The average of these readings is presented in Table 2-2.

As presented in Table 2-2, 2025 pH ranged from 7.4 to 8.5 pH units. Temperature ranged from 12.1 to 27.7 °C. Total dissolved solids (TDS) ranged from 514 to 2,442 milligrams per liter (mg/L) and dissolved oxygen (DO) ranged from 3.97 to 11.27 mg/L.

2.1.2 Surface Water Laboratory Results

In addition to field measurements, samples were submitted for off-site laboratory analyses on a quarterly or semi-annual basis.

In 2025, TDS, total suspended solids (TSS), chloride, total nitrogen (the sum of nitrate [as N], nitrite [as N] and total Kjeldahl nitrogen [TKN]), total phosphorus, and E. Coli were sampled quarterly in March, June, September, and December. Chlorpyrifos, malathion, and dimethoate were analyzed on a semi-annual basis in March and September. Total nitrogen was calculated by adding the nitrate as N, nitrite as N and TKN results together. Laboratory analytical results are presented in Table 2-3.

Non-detection laboratory results presented in Table 2-3 are presented with reference to the laboratory reportable detection limit (RDL), which is also termed reporting limit (RL) by some laboratories. Results that were detected above the laboratory method detection limit (MDL), but below the laboratory RDL, were qualified by the laboratory as estimated results and flagged with a "J".

All samples, with the exception of samples for pesticide analysis, were sent by courier or by FedEx and under proper chain-of-custody to Babcock & Sons, Inc. Environmental Laboratories (Babcock), a State of California-certified laboratory located in Riverside, California. Samples for pesticide analyses (chlorpyrifos, malathion, and dimethoate) were sent by FedEx and under proper chain-of-custody to Physis Environmental Laboratories Inc. (Physis), a State of California-certified laboratory located in Anaheim, California.

Data trend graphs of select field parameters (DO, temperature, pH, TDS) and for select laboratory analysis (nitrate (as N), total nitrogen, TDS, TSS, chloride and E. Coli) for 2025 are presented in Appendix B. Surface water monitoring data are summarized in the form of spatial trend graphs in Appendix C and present patterns over the past eight years (2018 – 2025).

As presented in Table 2-3, 2025 TSS concentrations ranged from 0.6 mg/L to 32 mg/L. Total nitrogen concentrations ranged from 0.30 mg/L to 0.91 mg/L. Nitrite (as N) was only detected in one sample at an estimated concentration of 0.05 mg/L. Nitrate (as N) ranged from an estimated concentration of 0.13 mg/L to 0.41 mg/L, and TKN concentrations ranged from 0.2 mg/L to 0.7 mg/L. TDS concentrations ranged from 610 mg/L to 1,400 mg/L. Total phosphorus ranged from an estimated concentration of 0.006 mg/L to 0.11 mg/L. Chloride concentrations ranged from

Table 2-2
Surface Water Field Data
2025

Location	DATE	pH	Temperature	Total Dissolved Solids	Dissolved Oxygen
	Units	pH units	°Celsius	mg/L	mg/L
PVC 5+80	1/2/2025	8.5	12.3	658	11.15
Eastside Dr. 110+62	1/2/2025	7.9	15.4	1069	8.09
Outfall Dr 567+99	1/2/2025	7.6	15.1	1223	10.57
Outfall Dr 148+00	1/2/2025	8.0	14.3	1247	10.48
PVC 5+80	2/5/2025	8.5	12.1	684	10.26
Eastside Dr. 110+62	2/5/2025	7.8	17.1	1057	6.58
Outfall Dr 567+99	2/5/2025	7.9	17.7	1282	8.77
Outfall Dr 148+00	2/5/2025	8.0	17.5	1290	8.65
PVC 5+80	3/5/2025	8.3	14.2	643	10.33
Eastside Dr. 110+62	3/5/2025	8.0	17.2	1063	9.15
Outfall Dr 567+99	3/5/2025	7.9	17.7	1318	8.10
Outfall Dr 148+00	3/5/2025	7.9	17.7	1367	8.24
PVC 5+80	4/2/2025	8.4	15.9	514	10.25
Eastside Dr. 110+62	4/2/2025	7.9	17.9	661	8.14
Outfall Dr 567+99	4/2/2025	7.9	18.3	1163	8.50
Outfall Dr 148+00	4/2/2025	7.8	18.3	1129	8.86
PVC 5+80	5/7/2025	8.4	20.5	612	10.32
Eastside Dr. 110+62	5/7/2025	7.7	21.0	1058	3.97
Outfall Dr 567+99	5/7/2025	8.0	21.9	1147	8.72
Outfall Dr 148+00	5/7/2025	8.1	22.1	1207	9.17
PVC 5+80	6/11/2025	8.2	24.4	627	9.46
Eastside Dr. 110+62	6/11/2025	7.8	23.2	1039	6.61
Outfall Dr 567+99	6/11/2025	7.4	24.6	1208	8.37
Outfall Dr 148+00	6/11/2025	7.6	25.9	1211	8.50
PVC 5+80	7/2/2025	8.2	27.7	602	8.11
Eastside Dr. 110+62	7/2/2025	7.7	24.9	1050	5.13
Outfall Dr 567+99	7/2/2025	7.9	26.4	1252	6.90
Outfall Dr 148+00	7/2/2025	7.7	27.5	1229	6.84
PVC 5+80	8/6/2025	8.2	26.7	606	7.80
Eastside Dr. 110+62	8/6/2025	7.8	23.7	1045	5.52
Outfall Dr 567+99	8/6/2025	7.9	25.5	1946	6.21
Outfall Dr 148+00	8/6/2025	7.9	26.6	1941	7.29
PVC 5+80	9/3/2025	8.1	26.9	643	8.82
Eastside Dr. 110+62	9/3/2025	7.7	24.2	1096	5.99
Outfall Dr 567+99	9/3/2025	7.6	25.4	1305	6.23
Outfall Dr 148+00	9/3/2025	7.6	26.6	1275	7.01
PVC 5+80	10/1/2025	8.2	24.7	633	8.13
Eastside Dr. 110+62	10/1/2025	7.8	22.2	1130	6.13
Outfall Dr 567+99	10/1/2025	8.0	23.2	1369	7.55
Outfall Dr 148+00	10/1/2025	7.9	24.6	1322	7.05

Table 2-2
Surface Water Field Data
2025

Location	DATE	pH	Temperature	Total Dissolved Solids	Dissolved Oxygen
	Units	pH units	°Celsius	mg/L	mg/L
PVC 5+80	11/5/2025	8.2	20.5	645	9.70
Eastside Dr. 110+62	11/5/2025	7.8	19.0	1125	7.02
Outfall Dr 567+99	11/5/2025	8.0	19.4	1309	8.84
Outfall Dr 148+00	11/5/2025	8.0	19.5	1380	8.94
PVC 5+80	12/9/2025	8.5	15.7	687	11.27
Eastside Dr. 110+62	12/9/2025	7.9	16.4	1242	7.83
Outfall Dr 567+99	12/9/2025	8.0	16.6	2143	9.97
Outfall Dr 148+00	12/9/2025	8.1	15.9	2442	10.02

Notes:
pH and temperature results are rounded to one decimal and dissolved oxygen results are rounded to two decimal points. TDS results were rounded to whole numbers
Measurements were recorded by field instrument multiple times during the sampling event; the average of the results is reported here.
Cells highlighted in blue exceed water quality objectives detailed in the permit.
Sample locations are ordered from upstream to downstream.
mg/L = milligrams per liter

Table 2-3
Laboratory Results
2025

Location	Sample Type	Date	Chloride	Nitrate as N	Nitrite as N	Total Dissolved Solids	Total Suspended Solids	TKN	Total Nitrogen**	Total Phosphorus	E. Coli	Malathion	Chlorpyrifos	Dimethoate
		Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	MPN/100 mL	ng/L	ng/L	ng/L
Palo Verde Canal 5+80		3/5/2025	100	0.34	0.10 U	640	3	0.2	0.54	0.02	410	5 U	1 U	10 U
Palo Verde Canal 5+80	FD	3/5/2025	100	0.34	0.10 U	640	3	0.2	0.54	0.02	NS	5 U	1 U	10 U
Palo Verde Canal 5+80	FB	3/5/2025	1.0 U	0.20 U	0.10 U	10 U	0.5 U	0.1 U	0.20 U	0.01	NS	5 U	1 U	10 U
East Side Drain 110+62		3/5/2025	170	0.21	0.10 U	1100	23	0.5	0.71	0.11	16	5 U	1 U	10 U
Outfall Drain 567+99		3/5/2025	240	0.41	0.10 U	1400	32	0.5	0.91	0.11	110	5 U	1 U	10 U
Outfall Drain 148+00		3/5/2025	270	0.39	0.10 U	1400	28	0.7	0.30	0.11	64	5 U	1 U	10 U
Palo Verde Canal 5+80		6/11/2025	100	0.38	0.10 U	610	2	0.3	0.68	0.01	23	NS	NS	NS
Palo Verde Canal 5+80	FD	6/11/2025	100	0.38	0.10 U	620	2	0.3	0.68	0.01	NS	NS	NS	NS
Palo Verde Canal 5+80	FB	6/11/2025	1.0 U	0.20 U	0.10 U	10 U	0.5 U	0.1 U	0.20 U	0.01	NS	NS	NS	NS
East Side Drain 110+62		6/11/2025	160	0.23	0.10 U	1100	8	0.5	0.73	0.10	68	NS	NS	NS
Outfall Drain 567+99		6/11/2025	230	0.34	0.05 J	1300	8	0.7	0.30	0.07	74	NS	NS	NS
Outfall Drain 148+00		6/11/2025	230	0.36 J	0.20 U	1300	6	0.4	0.50	0.08	11	NS	NS	NS
Palo Verde Canal 5+80		9/3/2025	100	0.13 J	0.10 U	630	1	0.3	0.43	0.01 U	3.0	5 U	1 U	10 U
Palo Verde Canal 5+80	FD	9/3/2025	100	0.13 J	0.10 U	630	1	0.3	0.43	0.006 J	NS	5 U	1 U	10 U
Palo Verde Canal 5+80	FB	9/3/2025	1.0 U	0.20 U	0.10 U	10 U	0.5 U	0.1 U	0.20 U	0.01 U	NS	5 U	1 U	10 U
East Side Drain 110+62		9/3/2025	170	0.23	0.10 U	1200	9	0.3	0.53	0.08	180	5 U	1 U	10 U
Outfall Drain 567+99		9/3/2025	230	0.33	0.10 U	1400	2	0.4	0.73	0.09	390	5 U	1 U	10 U
Outfall Drain 148+00		9/3/2025	230	0.24 J	0.2 U	1400	17	0.5	0.40	0.11	18	5 U	1 U	10 U
Palo Verde Canal 5+80		12/10/2025*	100	0.17 J	0.10 U	620	0.6	0.3	0.47	0.006 J	19	NS	NS	NS
Palo Verde Canal 5+80	FD	12/10/2025*	100	0.15 J	0.10 U	620	0.7	0.2	0.35	0.01 U	NS	NS	NS	NS
Palo Verde Canal 5+80	FB	12/10/2025*	1.0 U	0.20 U	0.10 U	10 U	0.5 U	0.2	0.20	0.01 U	NS	NS	NS	NS
East Side Drain 110+62		12/10/2025*	160	0.20	0.10 U	1200	13	0.4	0.60	0.06	130	NS	NS	NS
Outfall Drain 567+99		12/10/2025*	240	0.32	0.10 U	1400	17	0.5	0.82	0.10	120	NS	NS	NS
Outfall Drain 148+00		12/10/2025*	250	0.26	0.2 U	1400	15	0.4	0.66	0.08	93	NS	NS	NS

Notes:

Cells highlighted in blue exceed water quality objectives detailed in the permit.

Sample locations are ordered from upstream to downstream.

* E. Coli was collected on December 16, 2025, while all other parameters were collected on December 10, 2025.

** Total nitrogen was not calculated by the laboratory in 2025. Total nitrogen was calculated in this table by adding the Nitrate as N, Nitrite as N and TKN detected results together.

mg/L = milligrams per liter

µg/L = micrograms per liter

FD = Field Duplicate

J = Result is estimated.

FB = Field Blank

NS = Not sampled

TKN = Total Kjeldahl Nitrogen

U = Non-detect results are reported at the reportable detection limit (RDL) with a U qualifier. Results reported at or above the RDL are considered detections.

100 mg/L to 270 mg/L. E. Coli results ranged from 3.0 most probable number per 100 milliliters (MPN/100mL) to 410 MPN/100mL).

Semi-annual sampling for pesticides (chlorpyrifos, malathion, dimethoate) was conducted in March and September 2025. No pesticides were detected above their respective RDLs in any of the samples.

Complete 2025 analytical laboratory reports are presented in Appendix D.

2.2 Groundwater Sampling Event and Monitoring Results

Table 2-4 summarizes the groundwater monitoring program which commenced in December 2022 and continued through 2025, including the frequency of monitoring, the required analytes, and the analytical methods. Anions and cations were sampled in 2022 and will be sampled again in 2027.

Table 2-4 Summary of Groundwater Monitoring Program

Parameter	Field or Laboratory Analysis	Laboratory Name	Frequency
pH	Field	NA- Field analysis	Annually
Dissolved Oxygen	Field	NA- Field analysis	Annually
Temperature	Field	NA- Field analysis	Annually
Total Dissolved Solids (TDS)	Laboratory (SM2540C)	E.S. Babcock & Sons, Inc.	Annually
Nitrate (as N)	Laboratory (EPA 300.0)	E.S. Babcock & Sons, Inc.	Annually
Malathion	Laboratory (EPA Method 625.1)	Physis Laboratories	Annually
Dimethoate	Laboratory (EPA Method 625.1)	Physis Laboratories	Annually
Anions (carbonate and bicarbonate)	Laboratory (SM 2320B)	E.S. Babcock & Sons, Inc.	First annual event then once every five years
Anions (chloride and sulfate)	Laboratory (300.0)	E.S. Babcock & Sons, Inc.	First annual event then once every five years
Cations (boron, calcium, sodium, magnesium, and potassium)	Laboratory (200.7)	E.S. Babcock & Sons, Inc.	First annual event then once every five years

NA = Not applicable

Samples are collected from six groundwater wells located within the Palo Verde Valley. The groundwater was collected from a sample port. The wells were confirmed to have been recently operated prior to sampling.

2.2.1 Groundwater Field Measurements

Field monitoring for groundwater included pH, temperature, and DO. Prior to each sampling event, the water quality monitoring instruments were calibrated and deemed in proper working order for monitoring. Groundwater field results for 2025 are presented in Table 2-5.

Table 2-5
Groundwater Field Monitoring Results
2025

Sample ID	Sample Date	Dissolved Oxygen	pH	Temperature
	Units	mg/L	pH units	°Celsius
Well #1	12/3/2025	6.6	7.9	20.0
Well #2	12/3/2025	6.6	7.7	21.9
Well #3	12/3/2025	5.4	7.5	23.6
Well #3B	12/3/2025	6.3	9.0	22.2
Well #4	12/3/2025	7.2	7.8	21.4
Well #5	12/3/2025	4.5	8.0	31.1

Notes:
mg/L = milligrams per liter

pH, temperature, and dissolved oxygen results are rounded to one decimal points.

Measurements were recorded by field instrument multiple times during the sampling event; the average of the results is reported here.

As presented in Table 2-5, pH ranged from 7.5 to 9.0 pH units; temperature ranged from 20.0 to 31.1 °C; and DO ranged from 4.5 to 7.2 mg/L.

2.2.2 Groundwater Laboratory Results

In addition to field measurements, samples were submitted for off-site laboratory analyses.

Samples were sent by courier or by FedEx and under proper chain-of-custody to Babcock or Physis. Complete laboratory reports for 2025 are presented in Appendix D. Laboratory analytical results for 2025 are summarized in Table 2-6.

As presented in Table 2-6, nitrate (as N) was only detected in Well #5 at a concentration of 1.1 mg/L.TDS concentrations ranged from 950 mg/L to 1,400 mg/L. Dimethoate and malathion were not detected in any of the samples.

Data trend graphs of field parameters (DO, temperature, and pH) and for laboratory analysis (nitrate (as N) and TDS) are presented in Appendix E.

2.4 Annual Rainfall

The annual rainfall for 2025 for the overall PVOC area was provided by four nearby ground stations. Data from two stations (Blythe NE, Ripley) were provided by California Irrigation Management Information System. Data from Federal Aviation Administration (FAA) from the Blythe Airport were provided by automated surface observation system. Data from United States Fish and Wildlife Services (USFWS) from Cibola station was also provided.

The total annual rainfall was 3.66 inches, 5.65 inches, 4.28 inches, 6.08 inches, and 5.41 from Blythe NE, Ripley, Blythe Airport, and Cibola, respectively. The monthly rainfall from the four sites are presented in Figure 2-1.

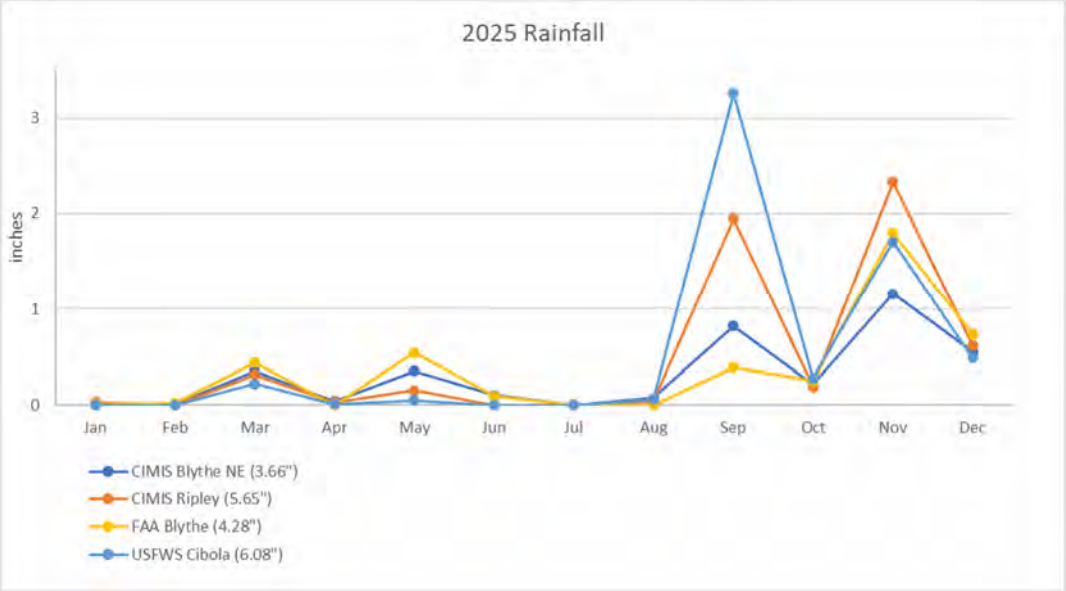


Figure 2-1
2025 Rainfall

Table 2-6
Groundwater Laboratory Results
2025

Well Location	Well #1	Well #1 (Field Duplicate)	Well #1 (Field Blank)	Well #2	Well #3	Well #3b	Well #4	Well #5
Sample Date	12/3/2025	12/3/2025	12/3/2025	12/3/2025	12/3/2025	12/3/2025	12/3/2025	12/3/2025
Water Quality Analytes (mg/L)								
Nitrate as N	0.20 U	0.20 U	0.20 U	0.20 U	0.4 U	0.4 U	0.20 U	1.1
Total Dissolved Solids	950	970	10 U	1000	1400	1300	1300	1200
Pesticide Analyte (ng/L)								
Dimethoate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Malathion	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Notes:
µg/L = micrograms per liter
mg/L = milligrams per liter
ng/L = nanograms per liter
U = Not detected at a concentration greater than the reporting limit listed.
J = Detected at a concentration between the method detection limit and the laboratory reporting limit.

2.5 Laboratory and Field Quality Control Results

2.5.1 Laboratory Quality Control

The laboratory reports were reviewed for holding times, method blanks, laboratory control samples (LCS), laboratory duplicates, and matrix spike/matrix spike duplicates (MS/MSD) to assess completeness, representativeness, accuracy and precision. No laboratory quality control data were provided with the E. Coli results. No issues were identified that would require rejection of the data. The following is a summary of the laboratory analytical quality control data that were reviewed:

Preservation
Samples were properly preserved during 2025.

Holding Times
All holding times were met for samples collected in 2025.

Method Blanks
Method blanks were analyzed with each analytical method, except for E Coli because it is not required by the method. Total phosphorus was detected in the method blank associated with the samples collected in June at a concentration of 0.006 mg/L, however all the associated total phosphorus sample results were above the RDL and no further action was needed. No other analytes were detected above their respective laboratory RDLs during the analyses.

Laboratory Duplicates
Precision of the laboratory analyses was assessed by comparing original and duplicate results, when laboratory duplicates were analyzed. Precision is quantitative and most often expressed in terms of relative percent difference (RPD). Laboratory duplicates were analyzed during analysis of TSS, TDS, and chlorinated pesticides.

The RPDs between the laboratory duplicates were within the acceptance limit provided by the laboratory except for one TSS laboratory duplicate which was above the RPD limit of 25 in September 2025.

Surrogates
For pesticide analyses, laboratory performance on individual samples is established by means of spiking activities. All samples are spiked with surrogates (PCB030, PCB112, PCB198 and TCMX) just prior to sample purging. Percent recoveries were provided for each analysis. All of the percent recoveries were within the limits.

Laboratory Control Samples (LCS)
Accuracy is the degree of agreement of a measurement with an accepted reference or true value and is a measure of the bias in a system. Accuracy of the laboratory analysis is assessed by comparing LCS results. An LCS duplicate (LCSD) was also analyzed with some analyses to assess precision. Accuracy is quantitative and usually expressed as the percent recovery (%R) of a sample result. Percent recoveries and RPDs were within acceptable criteria for all analyses, demonstrating acceptable accuracy and precision.

Matrix Spike/ Matrix Spike Duplicate (MS/MSD)
Accuracy of the laboratory analysis is also assessed by evaluating MS and MSD results, and precision by assessing the RPD between the MS and MSD samples. Acceptance limits for MS and MSD recoveries and the RPD between the MS and the MSD were statistically determined by the laboratory and were provided with the laboratory report. The majority of the MS/MSD recoveries and RPDs were within the acceptance limits provided by the laboratory, demonstrating both acceptable accuracy and precision. If an MS/MSD result was outside of acceptable criteria, the laboratory reanalyzed the sample and the new result was within criteria and/or the source of the MS/MSD result non-conformance was from a sample not associated with the PVOC project.

MS/MSD samples were not analyzed during pesticide analyses in 2025, however, acceptable accuracy and precision were demonstrated by the successful analysis of the LCS and LCSD samples.

Case Narrative
The Case Narrative describes that the calibration verification for nitrite was above the method control limit in December 2025 for samples Outfall Drain 567+99, Outfall Drain 148+00, however, since the sample results were not detected, no further action was needed.

2.5.2 Field Quality Control

A field duplicate was collected during each sampling event as part of the field monitoring, by taking multiple field readings/measurements. During the quarterly and semi-annual sampling events, a field blank and a field duplicate sample were collected and submitted for laboratory analysis.

Field Duplicates
During the sampling events, field measurements were collected using the Manta field instrument. Surface water readings were collected every few seconds for a period of approximately one minute. To assess precision, RPDs were calculated for field parameters at each sampling event during 2025 at the Eastside Dr 110+6 sample location for surface water and at Well #3 for groundwater. The first and last measurements recorded during the sampling event were used to calculate the RPDs. A comparison of the readings showed RPDs of less than 25 percent over the duration of sample collection for the field measurements, which demonstrates acceptable precision.

Additionally, the laboratory results for field duplicate pairs for surface water location Palo Verde Canal 5+80 sample and groundwater sample location Well#1 were evaluated. The RPDs between detected concentrations in the primary and duplicate samples were calculated. For results detected at concentrations greater than 5 times the laboratory RDL, an RPD was calculated and evaluated against the 25 percent criterion. In cases where analytes were detected at low concentrations (less than 5 times the RDL) in either the primary and/or the duplicate sample, an RPD was not calculated as small concentration differences can lead to large RPDs and may not be an accurate assessment of precision. Rather, precision was evaluated by comparing the differences between the two results against the criterion of $\pm$2 times the RDL. Results were deemed within acceptable criteria if the difference was less than two times the RDL. If an analyte

was detected in the primary sample but not in its corresponding duplicate or vice-versa, an RPD was not calculated. Under this scenario, precision was evaluated by comparing the difference between the two results (using the RDL of the non-detected result) to two times the RDL. Based on the acceptance criteria discussed above, all results from the field duplicate analyses were within acceptable limits.

Field Blank

Field blanks were collected by pouring "blank" water into the appropriate sample containers. Laboratory-provided, purified water was used as the "blank" water for the field blank samples.

Field blanks were collected during the 2025 for surface water and groundwater analysis. Generally, all analytes in the field blanks were non-detectable, indicating that cross-contamination during sampling, transit, or analysis did not occur. Total phosphorus was detected in two field blanks, both at concentrations of 0.001 mg/L in March and June 2025, however the results associated with the field blank were at or above the field blank detection, and no further action was needed. No other analytes were detected in any field blanks associated with surface water or groundwater in 2025. Field blank results are presented in Table 2-3 for surface water and Table 2-6 for groundwater.

Section 3
Water Quality Data Evaluation

As stated in the WDR permit, the discharges and management practices should not cause or contribute to exceedances of Basin Plan numeric or narrative water quality standards of the Palo Verde Valley and Palo Verde Mesa Drains, the Palo Verde Valley Lagoon, and Palo Verde Outfall Drain, all of which are tributary to the Colorado River.

The following sections detail the WQOs for surface water and groundwater in the WDR permit.

3.1 Surface Water

Table 3-1 presents the WQOs presented in the WDR permit.

Table 3-1 Surface Water Quality Objectives

Constituent	Numeric Water Quality Objectives or Criteria
pH	6.0 – 9.0 pH Units
Dissolved Oxygen	5 mg/L*
Temperature	--
TDS	2,000 mg/L (annual average) 2,500 mg/L (maximum)
TSS	200 mg/L
Nitrate (as N)	See Note 1
Chloride	230 mg/L
Total Nitrogen	See Note 1
Total Phosphorus	See Note 1
Escherichia coli (E. Coli)	6-week GM (100 CFU/100ml) or STV (320 CFU/100ml)
Chlorpyrifos	0.02 ug/L (1-hour average) 0.014 ug/L (4-day average)
Malathion	0.17 ug/L (Max 1-hour average) 0.028 ug/L (4-day average)
Dimethoate	43 ug/L

mg/L = milligrams per liter
ug/L = microgram per liter
CFU/100ml = colony forming units per 100 milliliters
"–" = No WQO or criteria specified for this constituent
Note 1: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses.
GM = geometric mean
STV = statistical threshold value
* DO value is minimum criteria

The 2025 sample results were compared to the WQOs in Table 3-1 and were determined to be below the WQOs, with the exception of dissolved oxygen, chloride, and E. Coli.

Chloride results at location Outfall Drain 148+00 were detected at concentrations of 270 mg/L and 250 mg/L during March and December 2025, respectively, which were above the WQO of 230 mg/L. The March 2025 result is the third detection above the WQO within the previous four regular monitoring events at this location. As indicated in the WDR permit (Section E. Item 6, part b), "for the purpose of this order, an exceedance occurs when a sampling result for a constituent at a single surface water monitoring location exceeds a WQO or benchmark limit specified in the MRP, Attachment C more than three out of four times for the same constituent" and creates a Water Quality Triggering Event. These results are typical of previous results at this sample location, as well as other sample locations. As discussed in the PVOC response letter (dated December 16, 2024) to the Notice of Violation issued by the RWQCB, PVOC detailed that irrigated agricultural operations are not contributing to these exceedances.

Additionally, chloride results at location Outfall Drain 567+99 in March and December 2025, were both 240 mg/L, which is above the WQO of 230 mg/L and the DO WQO minimum value requirement of 5.0 mg/L was not met at location Eastside Drain 110 + 62 in May 2025, with a result of 3.97 mg/L.

E. Coli results were reviewed and compared to WQOs. The laboratory results were provided in units of MPN/100ml and the WQO listed in the WDR permit provides units in colony forming units per 100 milliliters (CFU/100ml). CFU is calculated from the bacterial and fungal colonies growing on a solid agar plate while MPN is calculated from viable bacteria growing in a liquid medium (2017). These units are considered interchangeable as the difference is the matrix used to grow the bacteria. The WDR permit provides two WQOs of 100 CFU/100ml for 6-week geometric mean (GM) and 320 CFU/100ml statistical threshold value (STV).

In 2025, E. Coli was detected at two locations above the STV WQO limit, at 410 MPN/100mL in Palo Verde Canal 5+80 in March 2025 and at 390 MPN/100mL in Outfall Drain 567+99 in September 2025. The Palo Verde Canal sample is representative of water coming into the PVOC irrigated lands, prior to PVOC agricultural activities.

The E. Coli results at Palo Verde Canal 5+80 and Outfall Drain 567+99, the DO result at location Eastside Drain 110+62, and the chloride results at location Outfall Drain 567+99 do not constitute an exceedance, as per the WDR permit (Section E. Item 6, part b), "for the purpose of this order, an exceedance occurs when a sampling result for a constituent at a single surface water monitoring location exceeds a WQO or benchmark limit specified in the MRP, Attachment C more than three out of four times for the same constituent."

PVOC emailed exceedance reports to the RWQCB on March 28, 2025, September 18, 2025, and December 29, 2025 for these chloride and E. Coli results that were above the WQOs in 2025.

Overall, the chloride and E. Coli data collected in 2025 are similar to the results collected from 2022 to 2024. The 2025 data continue to support the PVOC stance that agricultural practices are not causing nor contributing to chloride and E. coli exceedances.

No other analytes were detected above the WQOs for surface water. Overall, the data indicates that discharges and management practices of the PVOC are not causing or contributing to surface water degradation in the Palo Verde Valley and Palo Verde Mesa Drains, the Palo Verde Valley Lagoon, or the Palo Verde Outfall Drain. Graphs of the concentrations over time for each location are included in Appendix C.

3.2 Groundwater

The objective of the groundwater sampling is to determine current water quality conditions of groundwater relevant to irrigated agricultural lands and develop long-term groundwater quality information that can be used to evaluate the regional effects of irrigated agricultural lands practices.

The WDR permit lists the nitrate as N WQO as 10 mg/L, if the water is used for drinking water. The wells sampled do provide drinking water to the communities, once it has been appropriately treated for distribution. The sample was collected from the untreated groundwater. Nitrate as N results in the groundwater were all below the WQO for 2025.

Section 4

Summary of Management Practices, INMP Summary Report, and Education/Outreach Activities

4.1 Management Practices

Management practices of PVOC Dischargers were provided by members of the coalition group. Each year, the members complete a survey indicating the management practices they utilize. The survey includes owner information, parcel number, canal name, canal gate number, acres, and crops. As part of the survey, the member must indicate if the management practice currently exists, is planned within one year, or not applicable for the different management practices. There are 11 sediment management practices, 12 nutrient management practices, and 14 pesticide management practices listed in the survey. The descriptions of these management practices are presented in Appendix F.

A total of 2,100 responses were collected in 2025 from the management practices survey. Table 4-1 summarizes the findings from the survey and indicates each management practice and the total number of responses for each option (existing, planned within one year, or not applicable) for the management practice

During 2025, five entities joined the coalition as a result of acquiring property. Five members left the coalition in 2025, as a result of selling the property or no longer irrigating/growing. During 2025, members implemented improved water quality management practices, responded to information requests, provided confirmation of participation in outreach activities, or submitted required membership fees. There were no Coalition led studies in 2025.

4.2 Summary of Irrigation and Nitrogen Management Plan Summary Report

As detailed in the WDR permit, a summary of the Irrigation and Nitrogen Management Plan (INMP) is to be included in the Annual Report. On January 24, 2025, RWQCB issued a Notice of Violation (NOV) regarding the 2023 INMP report that was submitted August 1, 2024. PVOC responded to the NOV on February 18, 2025. PVOC members submit INMP data yearly and INMP data was submitted on March 12, 2025. The INMP Summary Data Report was submitted on May 30, 2025.

4.3 Summary of Education/Outreach Activities

Palo Verde Outfall Coalition staff hosted the 2025 Annual Meeting on December 2, 2025. The presentation and agenda for this meeting is presented in Appendix G. As outreach activities/meetings are not typically well attended by members, PVOC staff also conducted one-on-one meetings with members, as needed, during 2025. Appendix H contains a summary of

attendees at the December 2, 2025 annual meeting and a summary of members who attended a one-on-one meeting during 2025.

As discussed in the 2024 AMR, in an effort to make educational outreach materials more readily available, PVOC added a link to the PVID website, enabling members/growers to enter their name and email and download the educational material. This website feature was made available in early 2025.

Table 4-1

Summary of Management Practices

2025

Management Practices	Exisiting	Planned	Not Applicable
Sediment Management			
Tailwater Ditch Checks or Check Dams	1119	1	979
Field to Tailditch Transition	569	2	1528
Furrow Dikes (C-Taps)	198	0	1901
Filter Strips	150	0	1949
Irrigation Water Management	1842	0	257
Irrigation Land Leveling	1962	0	137
Sprinkler Irrigation	98	0	2001
Drip Irrigation	6	0	2093
Flood Irrigation	1906	1	192
Channel Vegetation/Grassed Waterway	119	0	1980
Drainage Channels	906	0	1193
Nutrient Management			
Nutrient and Irrigation Water Management Plan (NIWMP)	1929	1	170
Tailwater Ditch Checks or Check Dams	1051	0	1049
Field to Tailditch Transition	799	0	1301
Furrow Dikes (also known as "CTaps")	239	0	1858
Filter Strips	328	0	1772
Irrigation Water Management	1686	1	413
Irrigation Land Leveling	1764	0	336
Sprinkler Irrigation	9	0	2090
Drip Irrigation	7	0	2093
Reduced Tillage	877	1	1222
Channel Vegetation/Grassed Waterway	293	1	1800
Drainage Channels	859	2	1238
Pesticide Management			
Pesticide Training and Certification	1939	0	160
Pesticide Recording Keeping	1935	1	164
Evaluate the Pesticide	1939	0	161
Pesticide Selection	1937	0	163
Site-specific Pesticide	1919	16	165
Integrated Pest Management	1937	0	163
Prevent Back-siphoning and Spills	1909	1	190
Consider Weather and Irrigation Plans	1938	0	162
Pesticide Use	1938	0	162
Leave Buffer Zones Around Sensitive Areas	1938	1	161
Reduce Off-target Drift	1932	0	168
Application Equipment	1935	0	165
Pesticide Use and Storage	1936	0	164
Dispose of Pesticide and Chemical Wastes Safely	1936	0	163

NA = Not applicable.

Section 5
Conclusions and Recommendations

In 2025, similar to previous years, some results for chloride, one E. Coli result, and one dissolved oxygen from surface water samples were above numeric limits/ WQOs listed in the WDR permit (below the minimum criteria for DO). The chloride results were above the WQOs at location Outfall Drain 148+00 during March and December 2025 and at location Outfall Drain 567+99 in March and December 2025, with results ranging from 240 mg/L to 270 mg/L. E. Coli was detected at above the STV WQO at a concentration of 410 MPN/100mL at Palo Verde Canal 5+80 in March 2025 and at 390 MPN/100mL in Outfall Drain 567+99 in September 2025. The DO WQO of 5.0 mg/L indicates a minimum value requirement and the DO result at location Eastside Drain 110 + 62 in May 2025, was below the WQO at 3.97 mg/L.

Overall, surface water sample results met WQOs and indicate that the discharges and management practices of PVOC are not causing or contributing to exceedances of Basin Plan numeric or narrative water quality standards of the Palo Verde Valley and Palo Verde Mesa Drains, the Palo Verde Valley Lagoon, and Palo Verde Outfall Drain.

Groundwater samples continue to be collected to determine current water quality conditions of groundwater relevant to Irrigated Agricultural Lands and to develop long-term groundwater quality information that can be used to evaluate the regional effects of irrigated agricultural lands practices. Sample collection in future years will gather additional groundwater data to evaluate long-term trends.

At this time, PVOC is not proposing any recommendations to the monitoring program.

Section 6
References

2017. *Difference Between CFU and MPN*. June 06. http://www.differencebetween.com/difference-between-cfu-and-vs-mpn



APPENDIX B

Biological Resources Database Search Results

B-1 U.S. Fish & Wildlife Service Information for Planning and Consultation (iPaC) results

B-2 California Natural Diversity Database Search Results for U.S. Geological Survey 7.5-Minute Quadrangles:

- Big Maria Mts. SW,
- Blythe, CA
- Blythe NE, CA
- Cibola, AZ
- La Paz Mountain, AZ
- McCoy Wash, CA
- Mule Wash, CA
- Palo Verde, CA
- Ripley, CA
- Thumb Peak, CA

B-3 California Native Plant Society Online Inventory of Rare and Endangered Plants Search Results

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Arizona and California



Local offices

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

Arizona Ecological Services Field Office

(602) 242-0210
(602) 242-2513

9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Sonoran pronghorn Antilocapra americana sonoriensis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4750	EXPN

Birds

NAME	STATUS
Southwestern willow flycatcher Empidonax traillii extimus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo Coccyzus americanus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened
Yuma Ridgway"s rail Rallus obsoletus yumanensis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3505	Endangered

NOT FOR CONSULTATION

Reptiles

NAME	STATUS
Desert tortoise Gopherus agassizii There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4481	Threatened

Fishes

NAME	STATUS
Bonytail Gila elegans Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/1377	Endangered
Razorback sucker Xyrauchen texanus Wherever found There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/530	Endangered

Insects

NAME	STATUS
Monarch butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Razorback sucker Xyrauchen texanus https://ecos.fws.gov/ecp/species/530#crithab	Final

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their nests, should follow appropriate regulations and implement required avoidance and minimization measures, as described in the various links on this page.

The data in this location indicates that no eagles have been observed in this area. This does not mean eagles are not present in your project area, especially if the area is difficult to survey. Please review the 'Steps to Take When No Results Are Returned' section of the Supplemental Information on Migratory Birds and Eagles document to determine if your project is in a poorly surveyed area. If it is, you may need to rely on other resources to determine if eagles may be present (e.g. your local FWS field office, state surveys, your own surveys).

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management

NOT FOR CONSULTATION

- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Bald and Golden Eagle information is not available at this time

Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report
On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

NOT FOR CONSULTATION

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (FWS).

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Migratory bird information is not available at this time

Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as “Vulnerable”. See the FAQ “What are the levels of concern for migratory birds?” for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle (Bald and Golden Eagle Protection Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

NOT FOR CONSULTATION

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Bald and Golden Eagle Protection Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ "Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

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No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on Federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

CBRA information is not available at this time

This can happen when the CBRS map service is unavailable, or for very large projects that intersect many coastal areas. Try again, or visit the CBRS map to view coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

Wildlife refuges and fish hatcheries

Refuge and fish hatchery information is not available at this time

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

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The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad Big Maria Mts. SW (3311476)

HIMES CONSULTING, LLC

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Aquila chrysaetos golden eagle	G5 S3	None None	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected CDFW_WL-Watch List IUCN_LC-Least Concern	2,170 2,170	333 S:1	0	0	0	0	0	1	0	1	1	0	0
Escobaria alversonii Alverson's foxtail cactus	G3 S3	None None	Rare Plant Rank - 4.3	1,000 1,200	55 S:3	2	0	1	0	0	0	3	0	3	0	0
Gopherus agassizii Mojave desert tortoise	G2G3 S2S3	Threatened Endangered	IUCN_CR-Critically Endangered		988 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad Blythe (3311455)

HIMES CONSULTING, LLC

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Anarhynchus montanus mountain plover	G3 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFWS_BCC-Birds of Conservation Concern	270 270	94 S:1	0	0	0	0	0	1	1	0	1	0	0
Ardea herodias great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	255 255	156 S:1	0	1	0	0	0	0	1	0	1	0	0
Astragalus insularis var. harwoodii Harwood's milk-vetch	G5T4 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	270 270	120 S:1	0	0	0	0	0	1	0	1	1	0	0
Athene cunicularia burrowing owl	G4 S2	None Candidate Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	250 270	2627 S:31	0	1	1	0	0	29	2	29	31	0	0
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive USFS_S-Sensitive	260 260	165 S:2	0	0	0	0	0	2	2	0	2	0	0
Colaptes chrysoides gilded flicker	G4 S2	None Endangered	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	260 260	25 S:1	0	0	1	0	0	0	0	1	1	0	0
Empidonax traillii extimus southwestern willow flycatcher	G5T2 S3	Endangered Endangered		90 90	75 S:1	0	0	1	0	0	0	1	0	1	0	0
Hymenoxys odorata bitter hymenoxys	G5 S2	None None	Rare Plant Rank - 2B.1		6 S:1	0	0	0	0	0	1	1	0	1	0	0
Icteria virens yellow-breasted chat	G5 S4	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	250 250	101 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Lasiurus xanthinus western yellow bat	G4G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	270 270	58 S:1	0	0	0	0	0	1	1	0	1	0	0
Melanerpes uropygialis Gila woodpecker	G5 S2	None Endangered	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	250 270	62 S:2	0	0	1	0	0	1	2	0	2	0	0
Micrathene whitneyi elf owl	G4 S1	None Endangered	BLM_S-Sensitive IUCN_LC-Least Concern	260 260	17 S:1	0	0	0	1	0	0	1	0	1	0	0
Myotis occultus Arizona Myotis	G4G5 S1	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	270 270	3 S:1	0	0	0	0	0	1	1	0	1	0	0
Myotis velifer cave myotis	G4G5 S1	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	250 250	9 S:1	0	1	0	0	0	0	1	0	1	0	0
Myotis yumanensis Yuma myotis	G5 S4	None None	BLM_S-Sensitive IUCN_LC-Least Concern	250 250	265 S:1	0	1	0	0	0	0	1	0	1	0	0
Neotoma albigula venusta Colorado Valley woodrat	G5T3T4 S1S2	None None		270 270	22 S:1	0	0	0	0	0	1	1	0	1	0	0
Nyctinomops femorosaccus pocketed free-tailed bat	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	250 250	90 S:1	0	1	0	0	0	0	1	0	1	0	0
Penstemon pseudospectabilis ssp. pseudospectabilis desert beardtongue	G4G5T4 S3	None None	Rare Plant Rank - 2B.2	265 265	25 S:1	0	0	0	0	0	1	1	0	1	0	0
Piranga rubra summer tanager	G5 S1	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	240 240	21 S:1	0	0	0	0	0	1	1	0	1	0	0
Pyrocephalus rubinus vermilion flycatcher	G5 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	255 260	25 S:2	0	0	0	0	0	2	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Rallus obsoletus yumanensis Yuma Ridgway's rail	G3T3 S1	Endangered Threatened	CDFW_FP-Fully Protected	240 255	58 S:2	0	0	0	0	0	2	2	0	2	0	0
Setophaga petechia sonorana Sonoran yellow warbler	G5T2T3 S2	None None	CDFW_SSC-Species of Special Concern	250 250	4 S:1	0	0	0	0	0	1	1	0	1	0	0
Sigmodon arizonae plenus Colorado River cotton rat	G5T2T3 S1S2	None None	CDFW_SSC-Species of Special Concern	265 265	6 S:1	0	0	0	0	0	1	1	0	1	0	0
Sonoran Cottonwood Willow Riparian Forest Sonoran Cottonwood Willow Riparian Forest	G2 S1.1	None None		250 260	21 S:2	0	1	0	1	0	0	2	0	2	0	0
Teucrium cubense ssp. depressum dwarf germander	G4G5T3T4 S1	None None	Rare Plant Rank - 2B.2		5 S:1	0	0	0	0	0	1	1	0	1	0	0
Toxostoma crissale Crissal thrasher	G5 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	250 270	68 S:2	0	0	0	0	0	2	2	0	2	0	0
Xyrauchen texanus razorback sucker	G1 S2	Threatened Endangered	AFS_EN-Endangered CDFW_FP-Fully Protected IUCN_CR-Critically Endangered	255 260	28 S:2	0	1	0	0	0	1	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad Blythe NE (3311465)

HIMES CONSULTING, LLC

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Acleisanthes longiflora angel trumpets	G5 S1	None None	Rare Plant Rank - 2B.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	350 350	1 S:1	0	0	1	0	0	0	0	1	1	0	0
Anarhynchus montanus mountain plover	G3 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFWS_BCC-Birds of Conservation Concern	270 270	94 S:1	0	0	0	0	0	1	1	0	1	0	0
Antrozous pallidus pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	286 286	425 S:1	0	0	0	0	0	1	0	1	1	0	0
Ardea alba great egret	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	275 275	43 S:1	0	0	0	0	0	1	1	0	1	0	0
Ardea herodias great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	275 275	156 S:1	0	0	0	0	0	1	1	0	1	0	0
Athene cunicularia burrowing owl	G4 S2	None Candidate Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	270 280	2627 S:12	0	0	1	0	0	11	1	11	12	0	0
Ceratochrysis bradleyi Bradley's cuckoo wasp	G1 S1	None None		380 380	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive USFS_S-Sensitive	275 285	165 S:2	0	1	0	0	0	1	1	1	2	0	0
Ditaxis serrata var. californica California ditaxis	G5T3T4 S2?	None None	Rare Plant Rank - 3.2	318 318	24 S:1	0	0	0	0	0	1	0	1	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Empidonax traillii extimus southwestern willow flycatcher	G5T2 S3	Endangered Endangered		280 280	75 S:1	0	0	0	0	0	1	0	1	1	0	0
Escobaria alversonii Alverson's foxtail cactus	G3 S3	None None	Rare Plant Rank - 4.3	300 1,000	55 S:4	0	1	0	0	0	3	4	0	4	0	0
Euphorbia abramsiana Abrams' spurge	G4 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	280 280	109 S:1	0	0	1	0	0	0	0	1	1	0	0
Hymenoxys odorata bitter hymenoxys	G5 S2	None None	Rare Plant Rank - 2B.1		6 S:1	0	0	0	0	0	1	1	0	1	0	0
Icteria virens yellow-breasted chat	G5 S4	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	275 275	101 S:1	0	0	0	0	0	1	1	0	1	0	0
Imperata brevifolia California satintail	G3 S3	None None	Rare Plant Rank - 2B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	270 270	32 S:1	0	0	0	0	0	1	1	0	1	0	0
Lasiurus xanthinus western yellow bat	G4G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	286 286	58 S:1	0	0	0	0	0	1	0	1	1	0	0
Macrotus californicus California leaf-nosed bat	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	286 286	46 S:1	0	0	0	0	0	1	0	1	1	0	0
Melanerpes uropygialis Gila woodpecker	G5 S2	None Endangered	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	268 290	62 S:2	0	0	0	0	0	2	1	1	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Myotis velifer cave myotis	G4G5 S1	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	286 286	9 S:1	0	0	0	0	0	1	0	1	1	0	0
Myotis yumanensis Yuma myotis	G5 S4	None None	BLM_S-Sensitive IUCN_LC-Least Concern	286 286	265 S:1	0	0	0	0	0	1	0	1	1	0	0
Pyrocephalus rubinus vermilion flycatcher	G5 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	260 260	25 S:1	0	0	0	0	0	1	1	0	1	0	0
Rallus obsoletus yumanensis Yuma Ridgway's rail	G3T3 S1	Endangered Threatened	CDFW_FP-Fully Protected	275 275	58 S:1	0	0	0	0	0	1	1	0	1	0	0
Setophaga petechia sonorana Sonoran yellow warbler	G5T2T3 S2	None None	CDFW_SSC-Species of Special Concern	275 275	4 S:1	0	0	0	0	0	1	1	0	1	0	0
Sigmodon arizonae plenus Colorado River cotton rat	G5T2T3 S1S2	None None	CDFW_SSC-Species of Special Concern	284 293	6 S:2	0	1	0	0	0	1	0	2	2	0	0
Sonoran Cottonwood Willow Riparian Forest Sonoran Cottonwood Willow Riparian Forest	G2 S1.1	None None		260 275	21 S:2	0	0	0	1	0	1	2	0	2	0	0
Teucrium cubense ssp. depressum dwarf germander	G4G5T3T4 S1	None None	Rare Plant Rank - 2B.2		5 S:1	0	0	0	0	0	1	1	0	1	0	0
Vireo bellii arizonae Arizona Bell's vireo	G5T4 S3	None Endangered	BLM_S-Sensitive	280 290	38 S:2	0	0	0	0	0	2	1	1	2	0	0
Xyrauchen texanus razorback sucker	G1 S2	Threatened Endangered	AFS_EN-Endangered CDFW_FP-Fully Protected IUCN_CR-Critically Endangered	280 300	28 S:2	0	1	0	0	0	1	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad Cibola (3311436)

HIMES CONSULTING, LLC

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Castela emoryi Emory's crucifixion-thorn	G3G4 S2S3	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		55 S:1	0	0	0	0	0	1	0	1	1	0	0
Chylismia arenaria sand evening-primrose	G4? S2S3	None None	Rare Plant Rank - 2B.2		16 S:1	0	0	0	0	0	1	1	0	1	0	0
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive USFS_S-Sensitive	215 230	165 S:4	0	0	0	1	0	3	2	2	4	0	0
Colaptes chrysoides gilded flicker	G4 S2	None Endangered	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	220 220	25 S:1	0	0	0	0	0	1	0	1	1	0	0
Empidonax traillii extimus southwestern willow flycatcher	G5T2 S3	Endangered Endangered		220 220	75 S:1	0	0	0	0	0	1	0	1	1	0	0
Euphorbia abramsiana Abrams' spurge	G4 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	240 240	109 S:1	0	0	1	0	0	0	0	1	1	0	0
Gila elegans bonytail	G1 S1	Endangered Endangered	AFS_EN-Endangered IUCN_CR-Critically Endangered	223 225	3 S:2	0	0	0	0	1	1	2	0	1	1	0
Gopherus agassizii Mojave desert tortoise	G2G3 S2S3	Threatened Endangered	IUCN_CR-Critically Endangered	250 350	988 S:3	0	0	3	0	0	0	3	0	3	0	0
Hymenoxys odorata bitter hymenoxys	G5 S2	None None	Rare Plant Rank - 2B.1		6 S:1	0	0	0	0	0	1	1	0	1	0	0
Icteria virens yellow-breasted chat	G5 S4	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	225 230	101 S:2	0	0	0	0	0	2	2	0	2	0	0
Incilius alvarius Sonoran Desert toad	G5 SH	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	220 220	6 S:1	0	0	0	0	1	0	1	0	0	1	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Lanius ludovicianus loggerhead shrike	G4 S4	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	238 238	110 S:1	0	0	0	1	0	0	1	0	1	0	0
Leiothlypis luciae Lucy's warbler	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	220 220	2 S:1	0	0	0	0	0	1	1	0	1	0	0
Melanerpes uropygialis Gila woodpecker	G5 S2	None Endangered	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	220 230	62 S:5	0	0	2	0	0	3	4	1	5	0	0
Mentzelia puberula Darlington's blazing star	G5 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	230 230	11 S:1	0	0	0	0	0	1	1	0	1	0	0
Micrathene whitneyi elf owl	G4 S1	None Endangered	BLM_S-Sensitive IUCN_LC-Least Concern	220 220	17 S:1	0	0	1	0	0	0	1	0	1	0	0
Myiarchus tyrannulus brown-crested flycatcher	G5 S3	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	225 230	18 S:2	0	0	0	0	0	2	2	0	2	0	0
Opuntia wigginsii Wiggins' cholla	G3?Q S1?	None None	Rare Plant Rank - 3.3	225 225	6 S:1	0	0	0	0	0	1	1	0	1	0	0
Penstemon pseudospectabilis ssp. pseudospectabilis desert beardtongue	G4G5T4 S3	None None	Rare Plant Rank - 2B.2	689 689	25 S:1	0	0	0	0	0	1	1	0	1	0	0
Ptychocheilus lucius Colorado pikeminnow	G1 SX	Endangered Endangered	CDFW_FP-Fully Protected IUCN_VU-Vulnerable	230 230	3 S:1	0	0	0	0	1	0	1	0	0	0	1
Pyrocephalus rubinus vermilion flycatcher	G5 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	230 230	25 S:1	0	0	0	0	0	1	1	0	1	0	0
Rallus obsoletus yumanensis Yuma Ridgway's rail	G3T3 S1	Endangered Threatened	CDFW_FP-Fully Protected	180 220	58 S:3	0	0	0	0	0	3	2	1	3	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Sonoran Cottonwood Willow Riparian Forest Sonoran Cottonwood Willow Riparian Forest	G2 S1.1	None None		215 215	21 S:1	0	0	0	0	1	0	1	0	0	0	1
Taxidea taxus American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern		653 S:1	0	0	0	0	0	1	1	0	1	0	0
Toxostoma crissale Crissal thrasher	G5 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	220 225	68 S:2	0	0	1	0	0	1	2	0	2	0	0
Vireo bellii arizonae Arizona Bell's vireo	G5T4 S3	None Endangered	BLM_S-Sensitive	220 230	38 S:2	0	0	0	0	0	2	1	1	2	0	0
Xyrauchen texanus razorback sucker	G1 S2	Threatened Endangered	AFS_EN-Endangered CDFW_FP-Fully Protected IUCN_CR-Critically Endangered	223 230	28 S:2	0	0	0	0	0	2	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad La Paz Mtn. (3311464)

HIMES CONSULTING, LLC

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive USFS_S-Sensitive	285 285	165 S:1	0	1	0	0	0	0	0	1	1	0	0
Melanerpes uropygialis Gila woodpecker	G5 S2	None Endangered	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	290 290	62 S:1	0	0	0	0	0	1	1	0	1	0	0
Sigmodon arizonae plenus Colorado River cotton rat	G5T2T3 S1S2	None None	CDFW_SSC-Species of Special Concern	282 282	6 S:1	0	0	0	0	0	1	0	1	1	0	0
Sonoran Cottonwood Willow Riparian Forest Sonoran Cottonwood Willow Riparian Forest	G2 S1.1	None None		275 275	21 S:1	0	0	0	0	0	1	1	0	1	0	0
Vireo bellii arizonae Arizona Bell's vireo	G5T4 S3	None Endangered	BLM_S-Sensitive	290 290	38 S:1	0	0	0	0	0	1	1	0	1	0	0
Xyrauchen texanus razorback sucker	G1 S2	Threatened Endangered	AFS_EN-Endangered CDFW_FP-Fully Protected IUCN_CR-Critically Endangered	300 300	28 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad McCoy Wash (3311466)

HIMES CONSULTING, LLC

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Anarhynchus montanus mountain plover	G3 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFWS_BCC-Birds of Conservation Concern	270 270	94 S:1	0	0	0	0	0	1	1	0	1	0	0
Astragalus insularis var. harwoodii Harwood's milk-vetch	G5T4 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	300 500	120 S:25	0	7	10	6	0	2	1	24	25	0	0
Athene cunicularia burrowing owl	G4 S2	None Candidate Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	270 270	2627 S:2	0	0	0	0	0	2	0	2	2	0	0
Gopherus agassizii Mojave desert tortoise	G2G3 S2S3	Threatened Endangered	IUCN_CR-Critically Endangered		988 S:1	0	0	0	0	0	1	1	0	1	0	0
Hymenoxys odorata bitter hymenoxys	G5 S2	None None	Rare Plant Rank - 2B.1		6 S:1	0	0	0	0	0	1	1	0	1	0	0
Pyrocephalus rubinus vermilion flycatcher	G5 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	260 260	25 S:1	0	0	0	0	0	1	1	0	1	0	0
Teucrium cubense ssp. depressum dwarf germander	G4G5T3T4 S1	None None	Rare Plant Rank - 2B.2		5 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad Mule Wash (3311445)

HIMES CONSULTING, LLC

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Melanerpes uropygialis Gila woodpecker	G5 S2	None Endangered	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	240 240	62 S:1	0	0	0	0	0	1	1	0	1	0	0
Pyrocephalus rubinus vermilion flycatcher	G5 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	255 255	25 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad Palo Verde (3311446)

HIMES CONSULTING, LLC

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Antrozous pallidus pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	230 230	425 S:1	0	0	0	0	0	1	1	0	1	0	0
Ardea alba great egret	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	240 240	43 S:1	0	0	0	0	0	1	1	0	1	0	0
Ardea herodias great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	240 240	156 S:1	0	0	0	0	0	1	1	0	1	0	0
Athene cunicularia burrowing owl	G4 S2	None Candidate Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	238 310	2627 S:14	0	0	0	0	0	14	3	11	14	0	0
Castela emoryi Emory's crucifixion-thorn	G3G4 S2S3	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		55 S:1	0	0	0	0	0	1	0	1	1	0	0
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive USFS_S-Sensitive	245 245	165 S:1	0	0	0	0	0	1	1	0	1	0	0
Corynorhinus townsendii Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	230 240	635 S:2	0	0	0	0	0	2	2	0	2	0	0
Falco columbarius merlin	G5 S3S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	235 235	38 S:1	0	0	0	0	0	1	0	1	1	0	0
Hymenoxys odorata bitter hymenoxys	G5 S2	None None	Rare Plant Rank - 2B.1	350 350	6 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Kinosternon sonoriense Sonoran mud turtle	G3 SH	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	240 240	5 S:1	0	0	0	0	1	0	1	0	0	0	1
Lanius ludovicianus loggerhead shrike	G4 S4	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	245 245	110 S:1	0	1	0	0	0	0	1	0	1	0	0
Lasiurus cinereus hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern		238 S:1	0	0	0	0	0	1	1	0	1	0	0
Melanerpes uropygialis Gila woodpecker	G5 S2	None Endangered	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	235 240	62 S:3	0	0	0	0	0	3	3	0	3	0	0
Mentzelia puberula Darlington's blazing star	G5 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	230 230	11 S:1	0	0	0	0	0	1	1	0	1	0	0
Myotis yumanensis Yuma myotis	G5 S4	None None	BLM_S-Sensitive IUCN_LC-Least Concern		265 S:1	0	0	0	0	0	1	1	0	1	0	0
Neotoma albigula venusta Colorado Valley woodrat	G5T3T4 S1S2	None None		230 420	22 S:2	0	0	0	0	0	2	2	0	2	0	0
Opuntia wigginsii Wiggins' cholla	G3?Q S1?	None None	Rare Plant Rank - 3.3	225 225	6 S:1	0	0	0	0	0	1	1	0	1	0	0
Penstemon pseudospectabilis ssp. pseudospectabilis desert beardtongue	G4G5T4 S3	None None	Rare Plant Rank - 2B.2	689 689	25 S:1	0	0	0	0	0	1	1	0	1	0	0
Polioptila melanura black-tailed gnatcatcher	G5 S3S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	230 235	34 S:2	0	0	0	0	0	2	2	0	2	0	0
Pyrocephalus rubinus vermilion flycatcher	G5 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	250 250	25 S:1	0	0	0	0	0	1	1	0	1	0	0
Rallus obsoletus yumanensis Yuma Ridgway's rail	G3T3 S1	Endangered Threatened	CDFW_FP-Fully Protected	230 230	58 S:2	0	0	0	0	0	2	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Scaphiopus couchii Couch's spadefoot	G5 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	230 238	6 S:2	0	0	0	1	0	1	2	0	2	0	0
Sigmodon arizonae plenus Colorado River cotton rat	G5T2T3 S1S2	None None	CDFW_SSC-Species of Special Concern	230 230	6 S:1	0	0	0	0	0	1	1	0	1	0	0
Taxidea taxus American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	230 230	653 S:1	0	0	0	0	0	1	1	0	1	0	0
Toxostoma crissale Crissal thrasher	G5 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	265 278	68 S:4	0	0	0	0	0	4	0	4	4	0	0
Toxostoma lecontei Le Conte's thrasher	G4 S3	None Candidate Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	258 263	238 S:2	0	1	0	0	0	1	1	1	2	0	0
Xanthocephalus xanthocephalus yellow-headed blackbird	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	236 240	13 S:2	0	0	0	0	0	2	0	2	2	0	0
Xyrauchen texanus razorback sucker	G1 S2	Threatened Endangered	AFS_EN-Endangered CDFW_FP-Fully Protected IUCN_CR-Critically Endangered	230 240	28 S:2	0	1	0	0	0	1	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad Ripley (3311456)

HIMES CONSULTING, LLC

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Anarhynchus montanus mountain plover	G3 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFWS_BCC-Birds of Conservation Concern	270 270	94 S:1	0	0	0	0	0	1	1	0	1	0	0
Antrozous pallidus pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	260 260	425 S:1	0	0	0	0	0	1	1	0	1	0	0
Astragalus insularis var. harwoodii Harwood's milk-vetch	G5T4 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	260 400	120 S:8	0	2	1	2	0	3	2	6	8	0	0
Athene cunicularia burrowing owl	G4 S2	None Candidate Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	240 270	2627 S:46	0	3	0	0	0	43	15	31	46	0	0
Corynorhinus townsendii Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	240 240	635 S:1	0	0	0	0	0	1	1	0	1	0	0
Euphorbia abramsiana Abrams' spurge	G4 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	380 400	109 S:2	0	0	1	0	0	1	0	2	2	0	0
Gopherus agassizii Mojave desert tortoise	G2G3 S2S3	Threatened Endangered	IUCN_CR-Critically Endangered	330 330	988 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Hymenoxys odorata bitter hymenoxys	G5 S2	None None	Rare Plant Rank - 2B.1		6 S:1	0	0	0	0	0	1	1	0	1	0	0
Lasiurus cinereus hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern		238 S:1	0	0	0	0	0	1	1	0	1	0	0
Melanerpes uropygialis Gila woodpecker	G5 S2	None Endangered	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	255 255	62 S:1	0	0	0	0	0	1	1	0	1	0	0
Myotis occultus Arizona Myotis	G4G5 S1	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	250 250	3 S:1	0	0	0	0	0	1	1	0	1	0	0
Neotoma albigula venusta Colorado Valley woodrat	G5T3T4 S1S2	None None		255 420	22 S:2	0	0	0	0	0	2	2	0	2	0	0
Pyrocephalus rubinus vermilion flycatcher	G5 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	255 255	25 S:1	0	0	0	0	0	1	1	0	1	0	0
Teucrium cubense ssp. depressum dwarf germander	G4G5T3T4 S1	None None	Rare Plant Rank - 2B.2		5 S:1	0	0	0	0	0	1	1	0	1	0	0
Toxostoma crissale Crissal thrasher	G5 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	255 255	68 S:1	0	0	0	0	0	1	1	0	1	0	0
Xyrauchen texanus razorback sucker	G1 S2	Threatened Endangered	AFS_EN-Endangered CDFW_FP-Fully Protected IUCN_CR-Critically Endangered	230 230	28 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad Thumb Peak (3311447)

HIMES CONSULTING, LLC

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Antrozous pallidus pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	230 230	425 S:1	0	0	0	0	0	1	1	0	1	0	0
Astragalus insularis var. harwoodii Harwood's milk-vetch	G5T4 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	310 370	120 S:5	1	0	1	3	0	0	0	5	5	0	0
Athene cunicularia burrowing owl	G4 S2	None Candidate Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	310 310	2627 S:1	0	0	0	0	0	1	0	1	1	0	0
Carnegiea gigantea saguaro	G5 S1	None None	Rare Plant Rank - 2B.2 IUCN_LC-Least Concern SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	1,000 1,000	30 S:1	0	0	0	0	0	1	1	0	1	0	0
Castela emoryi Emory's crucifixion-thorn	G3G4 S2S3	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		55 S:1	0	0	0	0	0	1	0	1	1	0	0
Chaetodipus fallax pallidus pallid San Diego pocket mouse	G5T3T4 S3S4	None None		650 650	79 S:1	0	0	0	0	0	1	1	0	1	0	0
Corynorhinus townsendii Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	230 230	635 S:1	0	0	0	0	0	1	1	0	1	0	0

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California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Euphorbia abramsiana Abrams' spurge	G4 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	280 490	109 S:15	0	2	7	6	0	0	0	15	15	0	0
Falco columbarius merlin	G5 S3S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	381 381	38 S:1	0	0	0	0	0	1	0	1	1	0	0
Falco mexicanus prairie falcon	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	1,300 1,300	451 S:1	0	0	0	0	0	1	1	0	1	0	0
Gopherus agassizii Mojave desert tortoise	G2G3 S2S3	Threatened Endangered	IUCN_CR-Critically Endangered	256 844	988 S:11	0	1	1	0	0	9	4	7	11	0	0
Hymenoxys odorata bitter hymenoxys	G5 S2	None None	Rare Plant Rank - 2B.1	350 350	6 S:1	0	0	0	0	0	1	1	0	1	0	0
Kinosternon sonoriense Sonoran mud turtle	G3 SH	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	240 240	5 S:1	0	0	0	0	1	0	1	0	0	0	1
Lanius ludovicianus loggerhead shrike	G4 S4	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	359 665	110 S:5	0	0	0	0	0	5	0	5	5	0	0
Lasiurus cinereus hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern		238 S:1	0	0	0	0	0	1	1	0	1	0	0
Melanerpes uropygialis Gila woodpecker	G5 S2	None Endangered	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	235 282	62 S:2	0	1	0	0	0	1	2	0	2	0	0
Neotoma albigula venusta Colorado Valley woodrat	G5T3T4 S1S2	None None		230 420	22 S:2	0	0	0	0	0	2	2	0	2	0	0
Penstemon pseudospectabilis ssp. pseudospectabilis desert beardtongue	G4G5T4 S3	None None	Rare Plant Rank - 2B.2	689 689	25 S:1	0	0	0	0	0	1	1	0	1	0	0
Polioptila melanura black-tailed gnatcatcher	G5 S3S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	230 495	34 S:4	0	0	0	0	0	4	2	2	4	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Pyrocephalus rubinus vermilion flycatcher	G5 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	250 250	25 S:1	0	0	0	0	0	1	1	0	1	0	0
Sigmodon arizonae plenus Colorado River cotton rat	G5T2T3 S1S2	None None	CDFW_SSC-Species of Special Concern	230 230	6 S:1	0	0	0	0	0	1	1	0	1	0	0
Taxidea taxus American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	230 317	653 S:2	0	0	0	0	0	2	1	1	2	0	0
Toxostoma crissale Crissal thrasher	G5 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	275 431	68 S:13	0	0	0	0	0	13	0	13	13	0	0
Toxostoma lecontei Le Conte's thrasher	G4 S3	None Candidate Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	258 461	238 S:16	0	1	0	0	0	15	1	15	16	0	0
Uma scoparia Mojave fringe-toed lizard	G4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	363 363	59 S:1	0	0	0	0	0	1	0	1	1	0	0

CALIFORNIA NATIVE PLANT SOCIETY

21 results · Quads: 3311476, 3311455, 3311465, 3311436, 3311464, 3311466, 3311445, 3311446, 3311456, 3311447 • CBR: Excluded

Scientific Name	Common Name	Family	Lifeform	Blooming Period	Fed List	State List	Global Rank	State Rank	CA Rare Plant Rank
Acleisanthes longiflora	angel trumpets	Nyctaginaceae	perennial herb	May	None	None	G5	S1	2B.3
Astragalus insularis var. harwoodii	Harwood's milk-vetch	Fabaceae	annual herb	Jan-May	None	None	G5T4	S2	2B.2
Astragalus lentiginosus var. borreganus	Borrego milk-vetch	Fabaceae	annual herb	Feb-May	None	None	G5T5?	S4	4.3
Carnegiea gigantea	saguaro	Cactaceae	perennial stem	May-Jun	None	None	G5	S1	2B.2
Castela emoryi	Emory's crucifixion-thorn	Simaroubaceae	perennial deciduous shrub	(Apr)Jun-Jul(Sep-Oct)	None	None	G3G4	S2S3	2B.2
Chylismia arenaria	sand evening-primrose	Onagraceae	annual/perennial herb	Nov-May	None	None	G4?	S2S3	2B.2
Condalia globosa var. pubescens	spiny abrojo	Rhamnaceae	perennial deciduous shrub	Mar-May(Nov)	None	None	G5T4	S3	4.2
Ditaxis serrata var. californica	California ditaxis	Euphorbiaceae	perennial herb	Mar-Dec	None	None	G5T3T4	S2?	3.2
Escobaria alversonii	Alverson's foxtail cactus	Cactaceae	perennial stem	Apr-Jun(Sep-Oct)	None	None	G3	S3	4.3
Euphorbia abramsiana	Abrams' spurge	Euphorbiaceae	annual herb	(Aug)Sep-Nov	None	None	G4	S2	2B.2
Funastrum utahense	Utah vine milkweed	Apocynaceae	perennial herb	(Mar)Apr-Jun(Sep-Oct)	None	None	G4	S4	4.2
Hymenoxys odorata	bitter hymenoxys	Asteraceae	annual herb	Feb-Nov	None	None	G5	S2	2B.1
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	None	None	G3	S3	2B.1
Johnstonella costata	ribbed cryptantha	Boraginaceae	annual herb	Feb-May	None	None	G4G5	S4	4.3
Johnstonella holoptera	winged cryptantha	Boraginaceae	annual herb	Mar-Apr	None	None	G4G5	S4	4.3
Lycium torreyi	Torrey's box-thorn	Solanaceae	perennial shrub	(Jan-Feb)Mar-Jun(Sep-Nov)	None	None	G4G5	S3	4.2
Mentzelia puberula	Darlington's blazing star	Loasaceae	perennial herb	Mar-May	None	None	G5	S2	2B.2
Opuntia wigginsii	Wiggins' cholla	Cactaceae	perennial stem	Mar	None	None	G3?Q	S1?	3.3
Penstemon pseudospectabilis ssp. pseudospectabilis	desert beardtongue	Plantaginaceae	perennial herb	Jan-May	None	None	G4G5T4	S3	2B.2
Proboscidea althaeifolia	desert unicorn-plant	Martyniaceae	perennial herb	May-Sep(Oct)	None	None	G5	S4	4.3
Teucrium cubense ssp. depressum	dwarf germander	Lamiaceae	annual herb	Mar-May(Sep-Nov)	None	None	G4G5T3T4	S1	2B.2