**REVISED**
**AGENDA ITEM SUBMITTAL**

**Meeting Date:** May 12, 2021

**To:** Water Issues Committee
Board of Directors

**From:** Mike Markus

**Staff Contact:** G. Woodside

**Budgeted:** NA
**Budgeted Amount:** NA
**Cost Estimate:** $17.8M
**Funding Source:** CIP, grants
**Program/Line Item No.** NA
**General Counsel Approval:** Yes
**Engineers/Feasibility Report:** This submittal
**CEQA Compliance:** This submittal

**Subject: APPROVAL OF PRADO BASIN FEASIBILITY STUDY**

## SUMMARY

The District has been working with the Army Corps of Engineers on the Prado Basin Feasibility Study (Study), which evaluates increased water conservation and ecosystem restoration. In June 2019, the Board selected Plan 9 as the Locally Preferred Plan for the Study. The final report for the Study is complete and the Corps has approved the Water Conservation Plan and Ecosystem Restoration Plan identified in the Study.

Attachment(s):

- Comment letter from Inland Empire Utilities Agency dated May 17, 2021
- Resolution
- Presentation
- **Posted Separately**: Final Environmental Impact Report

- Final Feasibility Report and appendices available at: https://www.ocwd.com/working-with-us/public-notices

## RECOMMENDATION

**RECOMMENDED BY COMMITTEE**

Agendize for May 19 Board meeting: Approve the attached resolution, which includes the following actions:

- Certify the Final Environmental Impact Report, adopt Findings of Fact, and adopt Mitigation, Monitoring and Reporting Plan
- Approve the Water Conservation Plan and Ecosystem Restoration Plan
- Authorize staff to complete the permitting process and execute permits

## BACKGROUND/ANALYSIS

**COMMENT LETTER RECEIVED AFTER WATER ISSUES COMMITTEE MEETING**

The following provides a response to a comment letter received from the Inland Empire Utility Agency (IEUA) dated May 17, 2021 related to the Prado Basin Ecosystem Restoration and Water Conservation Study, Final Integrated Feasibility Report (IFR).

IEUA previously provided a comment letter dated March 29, 2021 following the United States Army Corps of Engineers (USACE) publication of the Final IFR in February 2021. The USACE and OCWD prepared a response to each of the comments, which were sent by the USACE to IEUA in a response letter dated April 19, 2021. The previous IEUA comments and the response to the comments are incorporated herein by reference and are included in their entirety in Appendix R (sub-appendix R8) of the Final IFR/Environmental Impact Report.

The comments raised by IEUA in their May 17, 2021 letter were enumerated into three separate comments. OCWD's responses below are similarly enumerated to correspond with each of IEUA's comments.

The comments raised by IEUA in their May 17, 2021 letter do not raise any new environmental issues. The comments have been previously addressed in the Final EIR.

Response to Comment 1: The comment expresses IEUA's concern that native plantings within the Chino Creek and Mill Creek watersheds associated with the ecosystem restoration measure would result in an increased demand for water from IEUA's water reclamation facilities. This comment was thoroughly addressed in the USACE response letter dated April 19, 2021 that is included in Appendix R of the Final EIR.

As shown on Figure 3-4 of the IFR/EIR, invasive plant management activities would occur within the Chino Creek and Mill Creek watersheds. As stated in the Final EIR, invasive plants use significantly more water than native plant species. The removal of these invasive plants within the Chino Creek and Mill Creek watersheds and the establishment of native plantings would result in an overall net decrease in water demand for these areas, which would avoid any potential for an increased demand for discharges from IEUA's water reclamation facilities. As no additional demand would be created by the Project, no environmental impacts associated with changes in water demand would occur.

Response to Comment 2: The comment expresses concern about the effect of the project on groundwater management within Prado Basin and requests the commitment of OCWD and USACE to groundwater management efforts by assisting in compiling relevant groundwater monitoring data. OCWD acknowledges the importance of the ongoing groundwater management efforts throughout Prado Basin. In furtherance of these objectives, OCWD participates in the Prado Basin Habitat Sustainability Program (PBHSP) and related committee and will continue to participate in these efforts going forward. OCWD staff regularly shares data with the IEUA, the Chino Basin Water Master (CBWM) and their consultants. OCWD has an existing groundwater elevation monitoring program in Prado Basin and will continue this monitoring program as part OCWD's existing data collection program. This monitoring program includes OCWD monitoring wells and data from wells installed by CBWM and IEUA and the Western Riverside County Regional Wastewater Authority. OCWD is committed to continue data sharing efforts with IEUA and CBWM associated with the monitoring program going forward to ensure the adequate monitoring of groundwater levels.

Response to Comment 3: This comment reiterates IEUA's previous comment in their letter dated March 29, 2021 that the EIR should consider cumulative impacts associated

with the Upper Santa Ana River Habitat Conservation Plan (HCP) that is currently in development. This comment was addressed thoroughly in the response to comments contained in the Final EIR. As the HCP has not been adopted by any agencies, any analysis of this plan in the EIR would be regarded as speculative.

The Prado Basin Feasibility Study (Study) is a joint effort of the Army Corps of Engineers and the District. The Study evaluates ecosystem restoration opportunities in Prado Basin and increasing the flood season buffer pool to elevation 505 feet.

The Study began in 2012, when the District executed a cost-share agreement with the Corps to conduct the Study. Circa 2010-2012, the District was seeking to begin a new study of increased water conservation but had difficulty starting a new study due to the Congressional earmark ban in place. In 2012, the Corps identified an existing authority for a dual-purpose study of ecosystem restoration and water conservation in Prado Basin. This provided the mechanism to conduct the current Study with the Corps.

In June 2019, the Board selected Plan 9 as the Locally Preferred Plan for the Prado Basin Feasibility Study. Plan 9 is the smallest of the alternatives in the draft report for the Study that was circulated for public comment in February 2019. Since June 2019, the Corps and District staff compiled the final report with Plan 9 as the Recommended Plan. The ecosystem restoration measures are collectively referred to as the 'Ecosystem Restoration Plan', and include non-native plant removal, planting of native plants, restoration of Chino Creek, and increased cowbird trapping. The Ecosystem Restoration is designed to enhance the environment and is not mitigation for potential impacts of the Water Conservation Plan.

The increase in the maximum elevation of the buffer pool in the flood season from 498 feet to 505 feet is referred to as the 'Water Conservation Plan'.

The final report for the Study is complete. The Corps has completed their approval of the Study.

Project Description

Based on the Corps completion of the Feasibility Study, the Water Conservation Plan was incorporated into the Interim Water Control Plan for Prado Dam. This provides for the maximum elevation of the buffer pool to be 505 feet, which is the same elevation as allowed in the temporary deviation in place since 2018. The approval of the change to the Interim Water Control Plan was approved in April 2021 by the Corps' South Pacific Division Commander, Brigadier General Paul Owen. The project includes removal of sediment to offset incidental increased sedimentation that is estimated to occur with holding stormwater for a longer period of time behind the dam. A total of 250,000 cubic yards of sediment would be removed over a 50-year period.

The Ecosystem Restoration Plan includes the measures listed in Table 1. The measures are arranged by 'focal area', which is a specific geographic area targeted for restoration. These areas are shown in Figure 1.

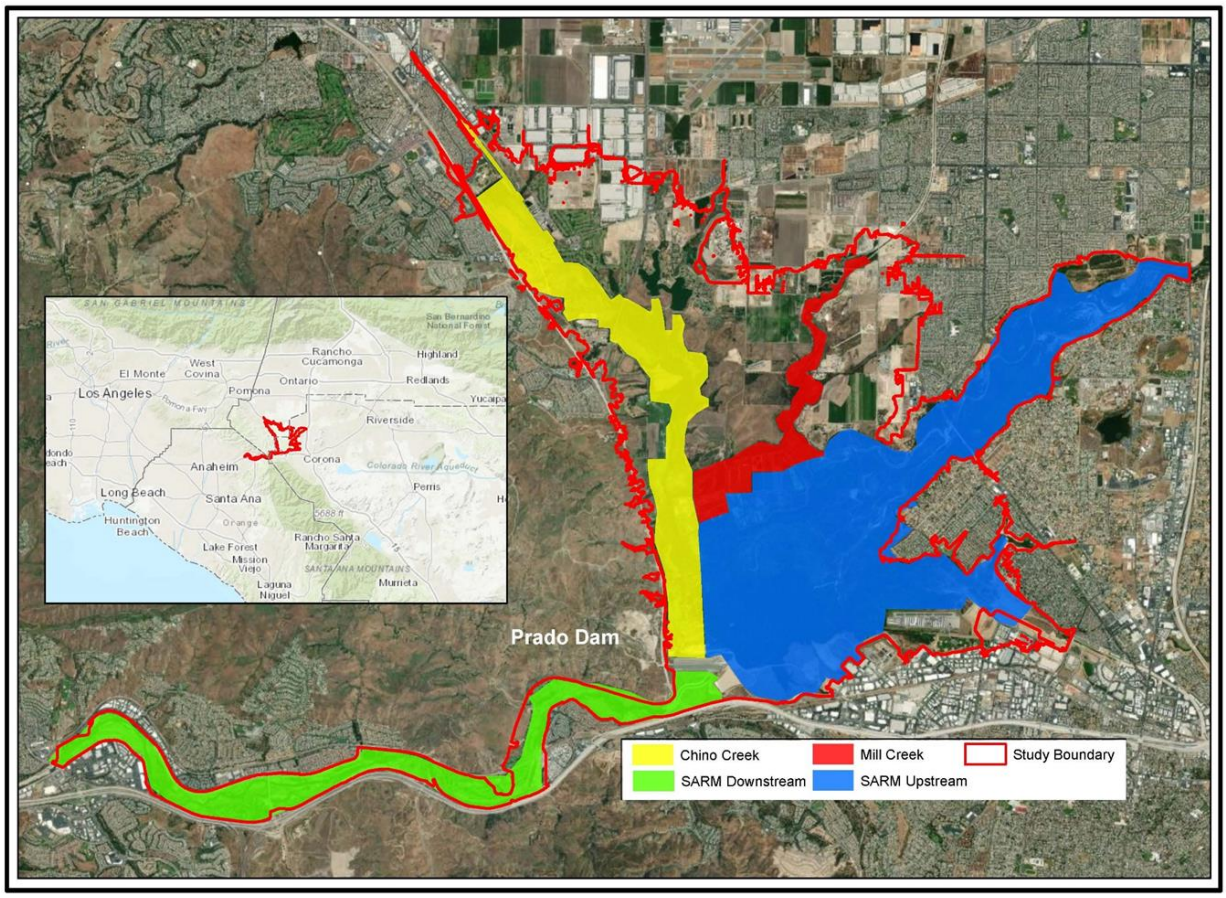
**Table 1**

## Summary of Measures in Ecosystem Restoration Plan

| SAR Mainstem (SARM) Upstream of Dam Focal Area | SAR Mainstem (SARM) Downstream of Prado Dam Focal Area | Chino Creek Focal Area | Mill Creek Focal Area | Total Acres Restored |
|---|---|---|---|---|
| Invasive Plant Management | Invasive Plant Management | Invasive Plant Management | Invasive Plant Management | 390 |
| Native Plantings | | Native Plantings | Native Plantings | 104 |
| | | Chino Creek Channel Restoration | | 112 |
| Cowbird Trapping | | Cowbird Trapping | Cowbird Trapping | Distributed across 1000's of acres |

Invasive plant management is removal of non-native plants such as Arundo Donax, palm trees and eucalyptus that crowd out native vegetation. These areas include Corps property and District property. Removal of invasive plants allows for regrowth of native vegetation that provides habitat for endangered birds and other native species. In areas targeted for invasive plant management, native vegetation is anticipated to naturally return.

**Figure 1**
**Prado Basin Study Focal Area Map**




Native plantings is a separate measure that will plant riparian vegetation such as mulefat and willows in areas with minimal invasive vegetation. These areas include Corps property and District property.

The Chino Creek Channel Restoration would be located along Chino Creek, upstream (northwest) of Euclid Avenue. The area of the channel restoration is owned by the Corps.

Benefits

The Water Conservation Plan provides approximately 10,000 acre-feet of additional storage space at Prado Dam during the flood season. During the time when the deviation was in place and we had good rainfall years (Jan-February 2017 and January-February 2019), we captured 19,000 acre-feet of additional stormwater with the increased storage capacity in the flood season. Approval of the Water Conservation Plan makes this a permanent part of the Corps' operating plan for Prado Dam. Modeling by the Corps that accounts for the greater volume of stormwater capture at Prado Dam estimates that an additional 6,000 acre-feet per year of stormwater will be captured under year 2020 conditions. In year 2070 conditions, the modeling estimates that the increased recharge will be 11,600 acre-feet per year. The benefit of the higher storage volume becomes greater through time as sedimentation occurs and the lower elevations of Prado

Reservoir store less water. In general terms, as the volume that can be stored at elevation 498 feet becomes less through time due to sedimentation, the benefit of being able to store water to elevation 505 feet becomes greater (since a given inflow volume rises to a higher elevation as sedimentation occurs).

For a particular year, if we capture 6,000 acre-feet of additional river water, using the current MWD replenishment water cost of $857 per acre-foot, there is an annual benefit of $5,142,000 savings from avoided MWD water purchases. This financial benefit would vary through time as the cost of MWD water changes and the project costs change.

The ecosystem restoration benefits relate to restoring riparian and associated habitats in Prado Basin and along the SAR downstream of Prado Dam. Removal on invasive plants, primarily Arundo Donax, also saves water. Because Arundo Donax consumes much more water than native riparian plants, removal of Arundo Donax and regrowth of native plants reduces vegetation water use by at least 4 acre-foot per acre.

The habitats that are restored by ecosystem restoration provide nesting and foraging habitats for endangered species such as the least Bell's vireo and southwestern willow flycatcher. The Ecosystem Restoration Plan will restore 606 acres. The draft Study, released in 2019, included a range of alternatives to achieve ecosystem restoration. The alternative selected and carried forward in the Final Plan was identified as the least costly Ecosystem Restoration Plan, demonstrating that it would be the most effective and efficient of the alternatives considered for restoring habitat. Economic benefits of the Ecosystem Restoration Plan are not quantified.

Costs

The Water Conservation Plan and Ecosystem Restoration have a combined capital cost of $48.6M. OCWD's would be responsible for 100% of the Water Conservation Plan cost and 35% of the capital cost for the Ecosystem Restoration Plan. The Corps' cost estimate for the Ecosystem Restoration Plan assigned a land value to OCWD land used for ecosystem restoration (such as invasive plant removal on District land). Since the use of this land is not a direct cost to OCWD, this amount was subtracted from the OCWD capital cost estimate for the purpose of calculating OCWD's direct costs. Accordingly, OCWD's estimated capital cost for both plans is $17.8M. The project features would likely be constructed over a five- to eight-year period, so the capital cost would be incurred incrementally over a multi-year period.

Staff will submit the ecosystem restoration measures for grant funding. Since the ecosystem restoration measures are designed to enhance the environment and are not mitigation for water conservation impacts, they are eligible for grant funding.

In accordance with federal legislation, the District would be responsible for 100% of the Operations and Maintenance costs. The O&M costs include the cost associated with the Water Conservation Plan and the Ecosystem Restoration Plan. The project duration is 50 years. The O&M cost in the Feasibility Study is a fixed amount per year, adjusted for inflation. In year 2021 dollars, the cost is estimated to be $733,000 per year. This amount would be lower in years 1 through 9, since the O&M costs are mostly related to

the ecosystem restoration measures and these measures would not require significant O&M for the first seven to eight years.

During the environmental review of the Water Conservation Plan, it was determined that no mitigation is needed prior to implementing the Water Conservation Plan. The environmental commitments in the Study would require the District to continue monitoring of riparian habitat and bird nesting in Prado Basin. In the unlikely event that the increased inundation exceeded a 30% impact threshold on riparian vegetation, then mitigation on District property would be required.

Benefit-Cost Comparison

The Benefit-Cost comparison for the combined Water Conservation Plan and Ecosystem Restoration Plan is calculated using the following steps:

- The capital cost is assumed to be financed over 30 years with a loan at 5% interest
- The annual O&M cost starts at $163,000 in year 1, increases to the full amount incrementally over the first 10 years, and then continues to year 50 with 3% per year increases to account for inflation
- The Net Present Value of the costs over 50 years are calculated using a discount rate of 4%

The results of the Net Present Value (NPV) calculation are:

| | |
|---|---|
| NPV Total expenses | $38,780,000 |
| NPV total avoided costs | $281,420,000 |
| NPV return | $242,640,000 |

Based on the Net Present Value calculation, the benefit to cost ratio is 7.

The cost per acre-foot of new water is $200. This compares favorably with the current $877/af cost of untreated MWD replenishment water.

Environmental Documentation

In compliance with the requirements of the California Environmental Quality Act (CEQA) Public Resources Code Section 21000 et seq. and the CEQA Guidelines, the Orange County Water District (District) and the United States Army Corps of Engineers (USACE) has conducted an environmental review of the proposed Prado Basin Ecosystem Restoration and Water Conservation Feasibility Study (Project) through the preparation of Draft Environmental Impact Statement (EIS)/Environmental Impact Report (EIR). A Notice of Preparation (NOP) was released for public review on April 1, 2016 to May 2, 2016. On February 8, 2019, the Draft EIS/EIR was released for a 45-day public review period, which concluded on March 25, 2019.

After receiving public comment on the Draft EIR, the District and the USACE prepared a document titled the Final Integrated Feasibility Report (IFR), which incorporated applicable revisions made pursuant to public comments. The Final IFR was circulated again for review on February 21, 2021 to March 29, 2021, resulting in additional comments.

Following the completion of the required public review periods, the District and USACE has prepared the Final EIR. The Final EIR includes the Draft EIS/EIR, a formal Response to Comments document that includes verbatim comments received on the Draft EIR along with the District and/or USACE's response to each comment, and the Mitigation, Monitoring, and Reporting Program (MMRP). The District also prepared the mandatory CEQA Findings document, which identifies each of the potentially significant environmental impacts and specifies the mitigation measures that would reduce these impacts below a level of significance. There are no significant adverse environmental impacts after incorporation of mitigation. A statement of overriding considerations is not needed.

Following the adoption of the Final EIR, District staff would prepare and file a Notice of Determination and proceed with any applicable regulatory permit approvals, as appropriate.

Staff recommends that the Board:

- Certify the Final Environmental Impact Report, which includes the CEQA Findings of Fact
- Adopt the Mitigation, Monitoring and Reporting Plan to comply with CEQA
- Approve the Water Conservation Plan and Ecosystem Restoration Plan in the Study
- Authorize staff to complete the permitting process and execute any necessary permits

Permits which may be needed to implement the projects include a Lake and Streambed Alteration Agreement (LSAA) with the CA Department of Fish and Wildlife for the sediment removal associated with the Water Conservation Plan and an LSAA for maintenance of the ecosystem restoration features.

Next Steps

If the Board approves the recommended action, the next steps on the project include:

- Working with the Corps as the Study is reviewed by the President's Office of Management and Budget and the Assistant Secretary of the Army for Civil Works
- Seeking authorization for the Ecosystem Restoration Plan through Congress, likely in the 2022 Water Resources Development Act
- Amending our existing agreement with the Corps for water conservation; this agreement outlines how the Corps operates Prado Dam for water conservation and specifies our current annual payment to cover the Corps' cost to operate

Prado Dam for water conservation; the proposed amendment would be brought to the Board for review and consideration of approval

- Develop a proposed agreement with the Corps for the cost share of capital costs with the Corps for the Ecosystem Restoration Plan and OCWD's commitment to fund the O&M cost

**PRIOR RELEVANT BOARD ACTION(S)**

06/17/2020 M20-64: Authorize Board President to sign the letter of support for the Prado Basin Feasibility Study

06/05/2019 R19-6-77: Direct staff to notify the United States Army Corps of Engineers that the District has identified Plan 9 as the Locally Preferred Plan for the Prado Basin Feasibility Study; Approve Amendment No. 3 to Agreement No. 1170 with Ruth Villalobos and Associates for a cost not to exceed $50,000 to support preparation of the final Feasibility Study report.

3/6/2019 M19-34: Authorize payment of $350,000 to the Army Corps of Engineers for the Prado Basin Feasibility Study and authorize District staff to transfer said funding to the Army Corps of Engineers

5/23/2018 M16-63: Approve the revised cost to complete the Prado Basin Feasibility Study of $4,860,000 and the District's cost share of $4,392,950; authorize the General Manager to sign the April 23, 2018 letter from the Corps indicating the District's concurrence with the cost increase for the Prado Basin Feasibility Study; authorize payment of $350,000 to the federal government for the Prado Basin Feasibility Study, and authorize District staff to transfer said funding to the federal government

4/18/2018 R18-4-45: Authorize Amendment to Agreement with Ruth Villalobos and Associates to support the Prado Basin Feasibility Study

4/19/2017 M17-55: Authorize the General Manager to sign the April 4, 2017 letter from the Corps indicating the District's concurrence with the cost increase for the Prado Basin Feasibility Study; Authorize payment of $731,393 to the federal government for the Prado Basin Feasibility Study, and authorize District staff to transfer said funding to the federal government; Authorize execution of Amendment No. 1 to Agreement No. 1222 with Scheevel Engineering for technical support for an amount not to exceed $90,818 to support the Prado Basin Feasibility Study; Authorize Work Order to Psomas under existing on-call environmental services Agreement No. 0675 for an amount not to exceed $21,690 for traffic analyses.

3/15/2017 R17-3-35: Authorize execution of Amendment No. 1 to Agreement No. 1170 with Ruth Villalobos and Associates for an amount not to exceed $60,000 to support the Prado Basin Feasibility Study.

6/15/2016 R16-6-79: Authorize execution of Agreement with Ruth Villalobos and Associates for an amount not to exceed $45,000 to support the Prado Basin Feasibility Study.

4/20/2016 R16-4-45: Authorize issuance of Amendment No. 3 to Agreement No. 0911 with Northwest Habitat Institute for an amount not to exceed $45,232 to conduct additional tasks for

habitat assessment and modeling for the Prado Basin CA Feasibility Study bringing the total Agreement to $288,194.

3/21/2012 R12-3-28: Approve and authorize revised Agreement with the Department of the Army for the Prado Basin, California Study for the evaluation of water conservation and ecosystem restoration opportunities in Prado Basin