



**BOARD OF DIRECTORS WORKSHOP -**

**POLICY/ADMINISTRATION**

**THURSDAY, MARCH 2, 2023 – 2:00 P.M.**

**PUBLIC PARTICIPATION**

Public participation is welcome and encouraged. You may participate in the March 2, 2023, meeting of the San Bernardino Valley Municipal Water District on-line, or by telephone as follows:

**Dial-in Info: (877) 853 5247 US Toll-free  
Meeting ID: 893 8624 1472  
PASSCODE: 3802020**

**<https://sbvmwd.zoom.us/j/89386241472>**

If you are unable to participate online or by telephone, you may also submit your comments and questions in writing for the District's consideration by sending them to [comments@sbvmwd.com](mailto:comments@sbvmwd.com) with the subject line "Public Comment Item #" (insert the agenda item number relevant to your comment) or "Public Comment Non-Agenda Item". Submit your written comments by 6:00 p.m. on Wednesday, March 1, 2023. All public comments will be provided to the Chair and may be read into the record or compiled as part of the record.

**IMPORTANT PRIVACY NOTE: Participation in the meeting via the Zoom app is strongly encouraged. Online participants MUST log in with a Zoom account. The Zoom app is a free download. Please keep in mind: (1) This is a public meeting; as such, the virtual meeting information is published on the World Wide Web and available to everyone. (2) Should you participate remotely via telephone, your telephone number will be your "identifier" during the meeting and available to all meeting participants; there is no way to protect your privacy if you elect to call in to the meeting.**



**SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT**  
380 E. Vanderbilt Way, San Bernardino, CA 92408

**Directors by Teleconference:**

**Director Hayes** - 75 Elizabeth St, Dallas, PA 18612

**Director Harrison** - 25 W. Market St. Lewistown, PA 17044

**BOARD OF DIRECTORS' WORKSHOP - POLICY/ADMINISTRATION**

**AGENDA**

**2:00 PM Thursday, March 2, 2023**

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**CALL TO ORDER**

Chairperson: Director Botello

Vice-Chair: Director Kielhold

**1) INTRODUCTIONS**

**2) PUBLIC COMMENT**

Members of the public may address the Board regarding any item within the subject matter jurisdiction of the Board; however, no action may be taken on off-agenda items except as authorized by law. Each speaker is limited to a maximum of three (3) minutes.

**3) DISCUSSION AND POSSIBLE ACTION ITEMS**

3.1 State Legislative Update(15 min) - Page 3

[Staff Memo - State Legislative Update](#)

3.2 Consider Right-of-Way Application with Bureau of Land Management for Enhanced Recharge Project(20 min) - Page 4

[Staff Memo - Consider a Right-of-Way Application with the Bureau of Land Management for Construction of the Santa Ana River Enhanced Recharge Phase 1B Project](#)  
[Right-of-Way Application with Bureau of Land Management \(Standard Form 299\)](#)  
[Final Design Santa Ana River Enhanced Recharge Phase 1B Project](#)

3.3 Consider Amendment to Riparian Bird Monitoring Consulting Agreement(15 min) - Page 13

[Staff Memo - Consider Amendment to Riparian Bird Monitoring Consulting Agreement](#)  
[Scope of Work](#)  
[SAWA Proposed Costs](#)

3.4 Presentation of California Water Commission's Annual Review of the State Water Project

[Staff Memo - Presentation of California Water Commission's Annual Review of the State Water Project\(15 min\) - Page 42](#)

4) **FUTURE BUSINESS**

5) **CLOSED SESSION**

5.1 Conference with legal counsel - Anticipated litigation

Closed session, pursuant to government code section 54956.9(d)(2): One potential case.

6) **ADJOURNMENT**

PLEASE NOTE:

Materials related to an item on this Agenda submitted to the Board after distribution of the agenda packet are available for public inspection in the District's office located at 380 E. Vanderbilt Way, San Bernardino, during normal business hours. Also, such documents are available on the District's website at [www.sbvmd.com](http://www.sbvmd.com) subject to staff's ability to post the documents before the meeting. The District recognizes its obligation to provide equal access to those individuals with disabilities. Please contact Melissa Zoba at (909) 387-9228 two working days prior to the meeting with any special requests for reasonable accommodation.



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**DATE:** March 2, 2023

**TO:** Board of Directors Workshop – Policy/Administration

**FROM:** Cindy Saks – Chief Financial Officer / Deputy General Manager  
Melissa Zoba – Chief Information Officer

**SUBJECT:** State Legislative Update

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**Staff Recommendation**

Receive and file.

**Summary**

Representatives from the District’s State Lobbyist firm, The Gualco Group will be available via Zoom to make a presentation on current significant State legislation.

**Background**

The Gualco Group, Inc., is the District’s State lobbyist in Sacramento. The team from The Gualco Group will participate in this month’s workshop to provide an update on current significant state legislation and regulatory updates.

**District Strategic Plan Application**

The District’s state and federal legislation program aligns with the District’s mission of *working collaboratively to provide a reliable and sustainable water supply to support the changing needs of our region’s people and environment*. By staying active and engaged in legislative issues, the District can establish a presence and build relationships with our State and Federal legislators. We have positioned ourselves to best represent our region on issues of concern regarding ensuring a reliable and sustainable water supply.

**Fiscal Impact**

There is no fiscal impact related to this update.



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**DATE:** March 2, 2023

**TO:** Board of Directors' Workshop – Policy/Administration

**FROM:** Wen Huang, Assistant General Manager/Chief Operating Officer

**SUBJECT:** Consider a Right-of-Way Application with the Bureau of Land Management for Construction of the Santa Ana River Enhanced Recharge Phase 1B Project

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### **Recommendation**

Staff recommends that the Board of Directors authorize the CEO/General Manager to execute the attached Standard Form 299, Application for Transportation, Utility Systems, Telecommunications and Facilities on Federal Lands and Property, a.k.a. Right-of-Way Application, with the Department of the Interior, Bureau of Land Management (BLM) for the construction of the Santa Ana River Enhanced Recharge Phase 1B (SARER 1B) Project.

### **Summary**

In order to facilitate the timely construction of the SARER 1-B Project, in which certain part of the project will be constructed on the a portion of the land that is subject to be exchanged with the BLM as part of the Wash Plan land exchange initiated by the San Bernardino Valley Water Conservation District (SBVWCD), through SBVWCD's ongoing consultation with BLM staff, it is requested that Valley District Board of Directors approve the attached ROW application with BLM. This would allow the construction of SARER 1B Project to proceed under the Collaborative Agreement with SBVWCD until the land exchange is executed, then the ROW will be issued and become effective; therefore no interruption for construction is anticipated.

### **Background**

At a meeting in October 2012, the Board of Directors approved the Collaborative Agreement to Develop and Operate Enhanced Recharge Facilities with the San Bernardino Valley Water Conservation District (SBVWCD) and Western Municipal Water District (Western). The main purpose of this agreement is for the Parties to collaboratively use all of their respective assets and skills to improve the reliability of

local water supplies for their respective constituents by establishing a collaborative partnership to coordinate the use of their separate resources for mutual advantage. This Agreement has an initial term of twenty-five years. Under the Agreement, SBVWCD made available lands it owns, and lands it has the existing rights to conduct water conservation activities upon owned by the BLM. A significant portion of the lands for the proposed SARER 1B Project are located on lands designated by the Congressional Act ordering the exchange ("Land Exchange Act") to become owned by BLM. These lands would be subject to the same SBVWCD's rights for water conservation as other BLM lands after the exchange is executed.

In December 2020, the Board of Directors approved an amendment to the Collaborative Agreement for the Enhanced Recharge Project. This action was suggested after BLM identified an issue with their review of the Collaborative Agreement and the preliminary title report. The original Exchange Agreement contains broad lease language regarding the use by the parties of Conservation District lands, and lands of BLM over which the SBVWCD has rights, for Enhanced Recharge purposes. BLM acknowledges the SBVWCD's rights for recharge activities over lands BLM owns, but is concerned that such rights be limited to exercise through the SBVWCD, for purposes limited to the nature of the SBVWCD's rights on BLM properties. It has expressed concern that the broad grant of rights under the leasing provisions of the Collaborative Agreement could be read as expanding the rights of other parties, perhaps beyond their historically perfected scope. As an attempt to avoid the delay associated with a BLM ROW and keep the land transfer moving, SBVWCD proposed to amend the Collaborative Agreement, to make clear the leased rights to Valley District and Western are to be limited to the exercise of those rights the SBVWCD has over BLM lands, and any such exercise would occur through SBVWCD. However, SBVWCD was recently informed that this approach is not acceptable to BLM.

Through SBVWCD's recent discussions with BLM, it was concluded that the following path will allow the SARER 1B Project to proceed on its current schedule while allowing the land exchange to do the same:

- The lease through the Collaborative Agreement shown on the title will function until the day that the land exchange is executed;
- SBVWCD will process the attached BLM ROW application on Valley District's and Western's behalf in conjunction with SBVWCD's own ROW application in order to allow construction to continue once the land transfers to BLM;
- The ROW will be issued the day of the land exchange, so there is interruption on construction; and
- SBVWCD will bear the costs associated with Valley District's and Western's BLM ROW applications which will utilize the NEPA already prepared for the SARER 1B Project.

The attached ROW application, which was drafted by SBVWCD, incorporated review comments by Staff and District's Special counsel. The ROW applications may be subject to additional non-substantive edits suggested by SBVWCD, BLM, and approved by District Counsel and the CEO/General Manager. Additionally, due to certain terms and provisions contained in the ROW, the Collaborative Agreement needs to be amended. It is currently being reviewed by District Special Counsel and will be brought forward to the Board for consideration soon.

### **Fiscal Impact**

The overall impact of the ROW application is revenue neutral to all parties. However, the cost savings from avoided delays on the SARER 1B Project and Wash Plan Land Exchange are significant. Perhaps most important, the year-over-year impact of these efforts moving forward sooner will significantly benefit the groundwater basin.

### **Staff Recommendation**

Authorize the CEO/General Manager to execute the ROW application with BLM, subject to non-substantive revisions approved by District Counsel and the CEO/General Manager.

### **Attachments**

Right-of-Way Application with Bureau of Land Management (Standard Form 299)  
Final Design Santa Ana River Enhanced Recharge Phase 1B Project

STANDARD FORM 299 (REV. 3/2020)

FORM APPROVED  
OMB Control Number: 0596-0249  
Expiration Date: 2/28/2023

APPLICATION FOR TRANSPORTATION, UTILITY SYSTEMS, TELECOMMUNICATIONS AND FACILITIES  
ON FEDERAL LANDS AND PROPERTY

FOR AGENCY USE ONLY

NOTE: Before completing and filing the application for an authorization (easement, right-of-way, lease, license or permit), the applicant should completely review this package, including instructions, and schedule a pre-application meeting with representatives of the agency responsible for processing the application. Each agency may have specific and unique requirements to be met in preparing and processing the application. Many times, with the help of the agency representative, the application can be completed at the pre-application meeting.

Application Number

Date Filed

1. Name and address of applicant  
San Bernardino Valley Municipal Water District  
380 E Vanderbilt Way  
San Bernardino, CA 92408

2. Name and address of authorized agent if different from item 1  
Betsy Miller  
San Bernardino Valley Water Conservation District  
1630 W Redlands Blvd. Suite A  
Redlands, CA 92373

3. Applicant telephone number and email:  
909-387-9200  
heatherd@sbvmwd.com

Authorized agent telephone number and email:  
909-793-2503  
bmiller@sbnwcd.org

4. As applicant are you? (check one)
- a.  Individual
  - b.  Corporation\*
  - c.  Partnership/Association\*
  - d.  State Government/State Agency
  - e.  Local Government
  - f.  Federal Agency

5. Specify what application is for: (check one)
- a.  New authorization
  - b.  Renewing existing authorization number
  - c.  Amend existing authorization number
  - d.  Assign existing authorization number
  - e.  Existing use for which no authorization has been received \*
  - f.  Other\*

\* If checked, complete supplemental page

\* If checked, provide details under item 7

6. If an individual, or partnership, are you a citizen(s) of the United States?  Yes  No

7. Project description (describe in detail): (a) Type of use or occupancy, (e.g., canal, pipeline, road, telecommunications); (b) related structures and facilities; (c) physical specifications (Length, width, grading, etc.); (d) term of days/years needed; (e) time of year of use or operation; (f) Volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for activity/construction (Attach additional sheets, if additional space is needed.)

Groundwater recharge activities have occurred on the Santa Ana River Wash (a portion of which is federal land) since 1910. Expansion of the existing facilities includes the addition of twenty (20) recharge basins (nine of which are on lands to be transferred to BLM and thus are included within this ROW application) with levees, access roads, canals, inter-basin pipelines and connectors, and flow control structures. Information on the sizes and number of the facilities can be found in the San Bernardino Valley Municipal Water District Plan of Development for Construction of the Enhanced Recharge Project ("Plan of Development"). Operations and maintenance of the expanded facilities will occur year-round after the completion of construction and would continue in perpetuity. Habitat management actions within habitat surrounding the expanded facilities will occur year-round and would continue in perpetuity. A full project description of the project is provided in Exhibit A attached.

8. Attach a map covering area and show location of project proposal.

9. State or Local government approval:  Attached  Applied for  Not Required

10. Nonrefundable application fee:  Attached  Not required  To be determined by agency

11. Does project cross international boundary or affect international waterways?  Yes  No (if "yes," indicate on map)

12. Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.

Phase 1A of the project has already been constructed and is operating east of the expanded recharge facilities. The new proposed facilities will be operated in tandem with existing water recharge facilities that are managed and operated by the San Bernardino Valley Water Conservation District ("Conservation District"). The Conservation District has over 100 years of experience managing and operating the existing groundwater recharge facilities.



13a. Describe other alternative locations considered.

The location of the proposed groundwater recharge basins is constrained by several factors, including soil percolation rates and nearness to surface flows. Within these parameters, alternative locations were evaluated in development of the Upper Santa Ana River Wash Plan Habitat Conservation Plan ("HCP").

b. Why were these alternatives not selected?

The alluvial fan of the Santa Ana River Wash is ideal for groundwater recharge, which has been conducted in this location for more than 100 years. The proposed spreading basins are designed to work with the existing facilities and therefore must be collocated.

c. Give explanation as to why it is necessary to use or occupy Federal assets (lands or buildings).

The spreading facilities were constructed on federal lands and have been operated in this location for more than 100 years. It is necessary to expand and continue operation of these facilities on both Conservation District and federal lands to ensure water supply is available for residents in the area.

14. List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency. (Specify number, date, code, or name)

n/a

15. Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal (construction, operation, and maintenance); (b) estimated cost of next best alternative; and (c) expected public benefits.

- a) Approximately \$60,000,000 to construct and \$500,000 per year to operate;
- b) Costs of alternatives not considered;
- c) Up to twenty-six billion (26,000,000,000) gallons of water to be recharged each year.

16. Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

The expansion of groundwater recharge facilities enhances local storm water capture and recharge in the groundwater basin to increase water supply reliability for the population in the area with a lower cost than purchasing and importing water, which may be interruptible.

17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability; and, (g) historic or archaeological resources or properties.

Environmental effects were analyzed as part of the HCP and EIR/EIS as well as the EA prepared for this application. Please see Exhibit A.

18. Describe the probable effects that the proposed project will have on (a) populations of fish, plant life, wildlife, and marine life, including threatened and endangered species; and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

Probable effects to species were studied as part of the HCP and EIR/EIS as well as the EA prepared for this application. A summary of federal cross-cutting authorities is provided in the Plan of Development.

19. State whether any hazardous material, as defined in this paragraph, would be used, produced, transported or stored on or in a federal building or federal lands or would be used in connection with the proposed use or occupancy. "Hazardous material" shall mean (a) any hazardous substance under section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9601(14); (b) any pollutant or contaminant under section 101(33) of CERCLA, 42 U.S.C. § 9601(33); (c) any petroleum product or its derivative, including fuel oil, and waste oils; and (d) any hazardous substance, extremely hazardous substance, toxic substance, hazardous waste, ignitable, reactive or corrosive materials, pollutant, contaminant, element, compound, mixture, solution or substance that may pose a present or potential hazard to human health or the environment under any applicable environmental laws. The holder shall not store any hazardous materials at the site without prior written approval from the authorized officer. This approval shall not be unreasonably withheld. If the authorized officer provides approval, this permit shall include (or in the case of approval provided after this permit is issued, shall be amended to include) specific terms addressing the storage of hazardous materials, including the specific type of materials to be stored, the volume, the type of storage, and a spill plan. Such terms shall be proposed by the holder and are subject to approval by the authorized officer.

Hazardous materials will not be produced, transported or stored on federal lands. Aquatic safe herbicides are utilized to manage invasive plants by Qualified Applicators under the State of California.

20. Name all the Federal Department(s)/Agency(ies) where this application is being filed.

Department of the Interior, Bureau of Land Management

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

Signature of Applicant

Date

Title 18, U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

GENERAL INFORMATION  
ALASKA NATIONAL INTEREST LANDS

This application will be used when applying for a right-of-way, permit, license, lease, or certificate for the use of Federal lands which lie within conservation system units and National Recreation or Conservation Areas as defined in the Alaska National Interest lands Conservation Act. Conservation system units include the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, and National Forest Monuments.

Transportation utility systems telecommunication installations facility uses for which the application may be used are:

1. Canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other systems for the transportation of water.
2. Pipelines and other systems for the transportation of liquids other than water, including oil, natural gas, synthetic liquid and gaseous fuels, and any refined product produced therefrom.
3. Pipelines, slurry and emulsion systems, and conveyor belts for transportation of solid materials.
4. Systems for the transmission and distribution of electric energy.
5. Wired and wireless systems for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communications.
6. Improved right-of-way for snow machines, air cushion vehicles, and all-terrain vehicles.
7. Roads, highways, railroads, tunnels, tramways, airports, landing strips, docks, and other systems of general transportation.

This application must be filed simultaneously with each Federal department or agency requiring authorization to establish and operate your proposal.

In Alaska, the following agencies will help the applicant file an application and identify the other agencies the applicant should contact and possibly file with:

Department of Agriculture  
Regional Forester, Forest Service (USFS)  
P.O. Box 21628  
Juneau, Alaska 99802-1628  
Telephone: (907) 586-7847  
*(or a local Forest Service Office)*

Department of the Interior  
Bureau of Indian Affairs (BIA)  
Alaska Regional Office  
709 West 9th Street  
Juneau, Alaska 99802  
Telephone: (907) 586-7177

Department of the Interior  
Alaska State Office  
Bureau of Land Management  
222 West 7th Avenue #13  
Anchorage, Alaska 99513  
Public Room: 907-271-5960  
FAX: 907-271-3684  
*(or a local BLM Office)*

U.S. Fish & Wildlife Service (FWS)  
Office of the Regional Director  
1011 East Tudor Road  
Anchorage, Alaska 99503  
Telephone: (907) 786-3440

National Park Service (NPS)  
Alaska Regional Office  
240 West 5th Avenue  
Anchorage, Alaska 99501  
Telephone: (907) 644-3510

Note - Filings with any Interior agency may be filed with any office noted above or with the Office of the Secretary of the Interior, Regional Environmental Officer, P.O. Box 120, 1675 C Street, Anchorage, Alaska 99513.

Department of Transportation  
Federal Aviation Administration  
Alaska Region AAL-4, 222 West 7th Ave., Box 14  
Anchorage, Alaska 99513-7587  
Telephone: (907) 271-5285

NOTE - The Department of Transportation has established the above central filing point for agencies within that Department. Affected agencies are: Federal Aviation Administration (FAA), Coast Guard (USCG), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA).

OTHER THAN ALASKA NATIONAL INTEREST LANDS

Use of this form is not limited to National Interest Conservation Lands of Alaska.

Individual department/agencies may authorize the use of this form by applicants for transportation, utility systems, telecommunication installations and facilities on other Federal lands outside those areas described above.

For proposals located outside of Alaska, applications will be filed at the local agency office or at a location specified by the responsible Federal agency.

SPECIFIC INSTRUCTIONS  
*(Items not listed are self-explanatory)*

- 7 Attach preliminary site and facility construction plans. The responsible agency will provide instructions whenever specific plans are required.
- 8 Generally, the map must show the section(s), township(s), and range(s) within which the project is to be located. Show the proposed location of the project on the map as accurately as possible. Some agencies require detailed survey maps. The responsible agency will provide additional instructions.
- 9, 10, and 12 The responsible agency will provide additional instructions.
- 13 Providing information on alternate locations in as much detail as possible, discussing why certain locations were rejected and why it is necessary to use Federal assets will assist the agency(ies) in processing your application and reaching a final decision. Include only reasonable alternate locations as related to current technology and economics.
- 14 The responsible agency will provide instructions.
- 15 Generally, a simple statement of the purpose of the proposal will be sufficient. However, major proposals located in critical or sensitive areas may require a full analysis with additional specific information. The responsible agency will provide additional instructions.
- 16 through 19 Providing this information with as much detail as possible will assist the Federal agency(ies) in processing the application and reaching a decision. When completing these items, you should use a sound judgment in furnishing relevant information. For example, if the project is not near a stream or other body of water, do not address this subject. The responsible agency will provide additional instructions.

Application must be signed by the applicant or applicant's authorized representative.

**EFFECT OF NOT PROVIDING INFORMATION**

Disclosure of the information is voluntary. If all the information is not provided, the proposal or application may be rejected.

**DATA COLLECTION STATEMENT**

The Federal agencies collect this information from proponents and applicants requesting a right-of-way, permit, license, lease, or certification for use of Federal assets. The Federal agencies use this information to evaluate a proponent's or applicant's proposal to use Federal assets.

**BURDEN STATEMENT**

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0249. The time required to complete this information collection is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The authority to collect this information is derived from 47 U.S.C. 1455(c)(3) and 16 U.S.C. 3210.

**USDA NONDISCRIMINATION STATEMENT**

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call toll free (866) 632-9992 (voice). TDD users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice). USDA is an equal opportunity provider and employer.

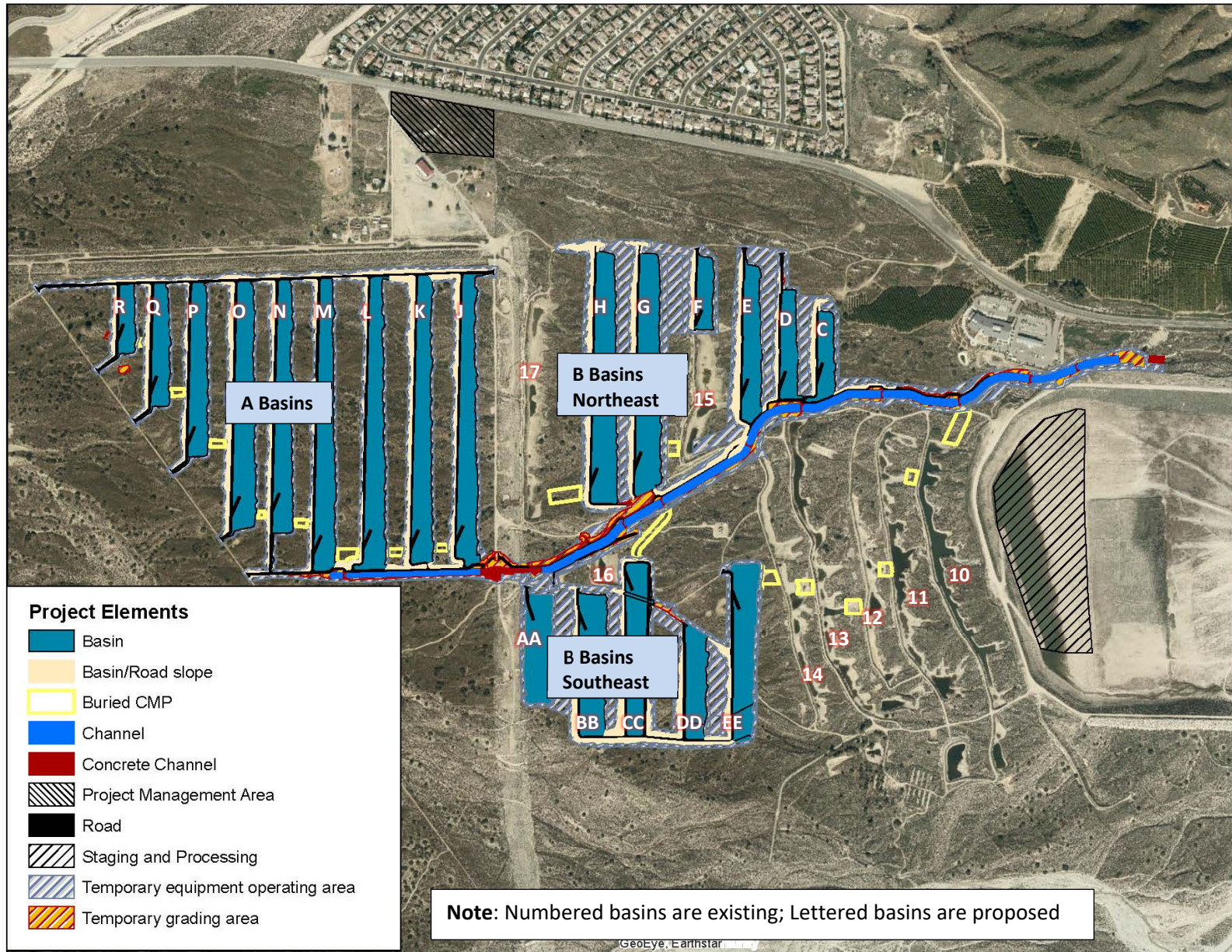
The Privacy Act of 1974 (5 U.S.C. 552a) and the Freedom of Information Act (5 U.S.C. 552) govern the confidentiality to be provided for information received by the Forest Service.

SUPPLEMENTAL

NOTE: The responsible agency(ies) will provide instructions	CHECK APPROPRIATE BLOCK	
	ATTACHED	FILED *
<b>I - PRIVATE CORPORATIONS</b>		
a. Articles of Incorporation	<input type="checkbox"/>	<input type="checkbox"/>
b. Corporation Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
c. A certification from the State showing the corporation is in good standing and is entitled to operate within the State	<input type="checkbox"/>	<input type="checkbox"/>
d. Copy of resolution authorizing filing	<input type="checkbox"/>	<input type="checkbox"/>
e. The name and address of each shareholder owning 3 percent or more of the shares, together with the number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote and the name and address of each affiliate of the entity together with, in the case of an affiliate controlled by the entity, the number of shares and the percentage of any class of voting stock of that affiliate owned, directly or indirectly, by that entity, and in the case of an affiliate which controls that entity, the number of shares and the percentage of any class of voting stock of that entity owned, directly or indirectly, by the affiliate.	<input type="checkbox"/>	<input type="checkbox"/>
f. If application is for an oil or gas pipeline, describe any related right-of-way or temporary use permit applications, and identify previous applications.	<input type="checkbox"/>	<input type="checkbox"/>
g. If application is for an oil and gas pipeline, identify all Federal lands by agency impacted by proposal.	<input type="checkbox"/>	<input type="checkbox"/>
<b>II - PUBLIC CORPORATIONS</b>		
a. Copy of law forming corporation	<input type="checkbox"/>	<input type="checkbox"/>
b. Proof of organization	<input type="checkbox"/>	<input type="checkbox"/>
c. Copy of Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
d. Copy of resolution authorizing filing	<input type="checkbox"/>	<input type="checkbox"/>
e. If application is for an oil or gas pipeline, provide information required by item "I - f" and "I - g" above.	<input type="checkbox"/>	<input type="checkbox"/>
<b>III - PARTNERSHIP OR OTHER UNINCORPORATED ENTITY</b>		
a. Articles of association, if any	<input type="checkbox"/>	<input type="checkbox"/>
b. If one partner is authorized to sign, resolution authorizing action is	<input type="checkbox"/>	<input type="checkbox"/>
c. Name and address of each participant, partner, association, or other	<input type="checkbox"/>	<input type="checkbox"/>
d. If application is for an oil or gas pipeline, provide information required by item "I - f" and "I - g" above.	<input type="checkbox"/>	<input type="checkbox"/>

\* If the required information is already filed with the agency processing this application and is current, check block entitled "Filed." Provide the file identification information (e.g., number, date, code, name). If not on file or current, attach the requested information.





1847249v1

Not to Scale



## Final Design for ERP Phase 1B Facilities

Source: SBVMWD GIS



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**DATE:** March 2, 2023

**TO:** Board of Directors' Workshop - Policy/Administration

**FROM:** Joanna Gibson, MS – Executive Director Upper SAR HCP Program  
Chris Jones, MESM – Preserve System Program Manager

**SUBJECT:** Consider Amendment to Riparian Bird Monitoring Consulting Agreement

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### **Staff Recommendation**

Staff recommends the Board of Directors consider the execution of an amendment to the existing consulting services agreement with the Santa Ana Watershed Association (SAWA) to conduct riparian bird surveys during the 2023 survey season for an amount not to exceed \$265,620.

### **Summary**

The tasks identified in the scope of work are a continuation of an ongoing study to establish baseline distribution and population data for riparian bird species covered by the Upper Santa Ana River HCP (HCP) and help evaluate the effect of our Tributary Restoration Projects on distribution and population. The Tributary Restoration Projects are the mitigation that will facilitate implementation of projects that will increase regional water supply reliability through the capture and recharge of approximately 87,000 AFY. The focal species of the consulting services agreement are important to monitor on an annual basis because annual fluctuations in precipitation, habitat disturbances, local land use changes, and a variety of other factors can affect their distribution and population. Comparison of monitoring results across years and to baseline will help evaluate the effectiveness of habitat restoration efforts for the species being monitored.

Riparian bird species covered by the HCP include:

- Least Bell's Vireo (*Vireo bellii pusillus*)
- Southwestern Willow Flycatcher (*Empidonax traillii extimus*)
- Yellow-Breasted Chat (*Icteria virens*)
- Western Yellow-Billed Cuckoo (*Coccyzus americanus*)

Tasks identified in the Scope of Work include:

1. Baseline Monitoring of Riparian Birds for Effects from HCP Covered Activities
2. Baseline Monitoring to Measure Success of Restored Tributaries and Management of Other Conservation Areas
3. Cowbird Trapping
4. Reporting

One optional task has been identified:

1. Security for high-risk locations

An annual report will be developed to summarize the methodology and results of the surveys. The annual report will also include a discussion of disturbances that could have an impact on habitats, nests, or birds. The report will also be submitted to the appropriate wildlife agencies, as needed.

SAWA has indicated they can complete the tasks in the scope of work for an amount not to exceed \$265,620. Additional details for each task are provide in the attached Scope of Work.

## **Background**

SAWA has been conducting riparian bird surveys in the watershed for over 20 years and for Valley District since the 2019 survey season. They are widely regarded as the subject matter experts for riparian birds regionally and in the Santa Ana Watershed more specifically. They have demonstrated their ability to produce high quality and reliable deliverables, engage collaboratively with stakeholders, including regulators, and routinely provide added value from incidental observations made while accomplishing given tasks.

Their longstanding experience within the HCP area of interest allows them to utilize efficiencies with study design, access, and coordination with landowners and regulators. They have tangible experience with the local homeless populations and how to navigate potential safety issues in the field. SAWA is utilizing digital data collection methods and standards developed by the USGS that make data collection and storage more efficient and accurate and will allow ease of analysis of data across not only the Santa Ana River Watershed but much of Southern California. This is very important as it will allow staff to appropriately compare observed local trends and signals against regional observations to determine if these trends/signals are local or more global in nature.



Staff advertised an RFP for appropriately qualified entities to competitively bid on surveys for riparian bird species covered by the HCP on January 31, 2022. Three entities provided bids. SAWA was the lowest bid by \$85,000. The second closest bid was \$500,000 more than SAWA's bid. The Board authorized the General Manager/CEO to execute a contract with SAWA for the RFP on March 15, 2022. The scope of work and cost that are the subject of this memo would amend the agreement authorized by the Board in 2022.

### **District Strategic Plan Application**

The riparian bird monitoring will support mitigation that is necessary to offset impacts associated with proposed water supply reliability projects that will facilitate the capture and recharge of approximately 87,000 AFY. The monitoring program produce reliable data that will be used to track potential impacts from implementation of water supply reliability projects and inform management decisions to meet commitments that are being negotiated as a part of the HCP and its associated permits. Staff's ability to utilize science-based results to manage potential risks to resources and meet HCP commitments will allow Valley District and its HCP Partners to build, operate, and maintain projects that will provide a reliable and sustainable water supply.

### **Fiscal Impact**

The total cost of the project proposal is \$265,620, which includes one optional item (security). Funds for these services were identified in the 6780 Environmental/HCP Implementation, Bird Surveys line item of the approved FY 2022-2023 General Fund Budget. Execution of the optional item for security assistance is contingent on field reconnaissance. SAWA will not charge to this item until written concurrence is received from Valley District staff. We anticipate that the Riverside County Rangers will be available to provide some security assistance but will not be able to accompany the survey teams on all surveys throughout the entirety of each survey.

The HCP Partners would reimburse Valley District 60% of the total cost (\$159,372). The remaining 40% (\$106,248) would be paid by Valley District. Costs associated with this amendment would be spread over fiscal years 2022/2023 and 2023/2024.

### **Attachments**

Scope of Work

SAWA Proposed Costs



# Scope of Work

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Riparian Bird Surveys for the 2023 Nesting Season

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San Bernardino Valley Municipal Water District on behalf of the  
Upper Santa Ana River Habitat Conservation Plan



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<sup>1</sup> Hamilton, Robert. Macaulay Library. California, May 16, 2017.  
[https://www.allaboutbirds.org/guide/Bells\\_Vireo/id#](https://www.allaboutbirds.org/guide/Bells_Vireo/id#)

## 1. INTRODUCTION

In the process of developing the Upper Santa Ana River Habitat Conservation Plan (HCP or Plan) the San Bernardino Valley Municipal Water District (Valley District), in cooperation with eleven other HCP Permittees, has the need to collect baseline data for the purposes of acquiring federal and potentially State incidental take permits. The HCP Conservation Strategy will include a comprehensive package of stream restoration, enhancement and preservation, threats management, and population augmentation through captive propagation and translocation, where appropriate.

The HCP will be required to monitor for effects to covered species and their habitats resulting from construction and operations of proposed covered activities. Effects monitoring for riparian migratory bird species will occur in the mainstem of the Santa Ana River generally between the Rialto Channel and Prado Dam. Additionally, the HCP proposes to restore or enhance multiple tributaries to the Santa Ana River located in the Riverside area. These restoration sites will have specific success criteria outlined in the HCP and associated mitigation documents that will need monitoring and reporting activities on a regular basis.

The tributaries restoration projects are scheduled to begin construction in the 2023. Therefore, quality monitoring data are needed in order to conduct comparative analyses between the current condition of the riparian bird community and altered future conditions (post-covered activity, post-restoration). The products derived from the Scope of Services in this Scope of Work (SOW) are intended to provide baseline information for riparian bird species covered by the HCP. The contract that will result from this SOW process will cover the 2023 nesting season.

## 2. CONSULTING TEAM

Proposer (Consultant) is responsible for assembling a team which meets all requirements outlined in this SOW.

## 3. REQUIRED EXPERIENCE AND QUALIFICATIONS

Consultant shall demonstrate the qualifications and experience necessary to successfully complete all aspects of Scope of Services detailed below.

## 4. SCOPE OF SERVICES

Valley District, on behalf of the HCP, is soliciting proposals from qualified firms with demonstrated technical expertise in surveying for riparian bird species covered by the HCP. Riparian associated bird species covered by the HCP (covered species) include:

- Least Bell's vireo (*Vireo bellii pusillus*)
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
- Yellow-breasted chat (*Icteria virens*)
- Western yellow-billed cuckoo (*Coccyzus americanus*)

Several other bird species are covered by the HCP. Recordation of incidental observations of these other bird species are also of interest. Therefore, firms should also have expertise conducting surveys for the following bird species:

- Tricolored blackbird (*Agelaius tricolor*)

- Burrowing owl (*Athene cunicularia*)
- Coastal California gnatcatcher (*Polioptila californica californica*)
- Cactus wren (*Campylorhynchus brunneicapillus*)

a. **Baseline Monitoring of Riparian Birds for Effects from HCP Covered Activities:**

The objective of monitoring within the mainstem of the Santa Ana River is to capture data reflecting possible changes to the riparian community due to decreased baseflow or stormflow from future proposed covered activities, and to document baseline and ongoing trends within the Plan's Preserve Areas. The preserve area can be viewed on the HCP website: <https://www.uppersarhcp.com/map>. The mainstem survey work is intended to detect changes over time in the size, distribution, and/or long-term health of the native riparian bird populations, with emphasis on those threatened or endangered species covered by the Plan. Bird species associated with riparian habitats covered by the HCP that are the focus of this task include the least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, and the western yellow-billed cuckoo.

Monitoring results gathered prior to implementing covered activities are intended to establish baseline population numbers and distribution of covered species within the mainstem Santa Ana River. The area of potential effects from the HCP covered activities includes riparian areas in the mainstem of the Santa Ana River. The geographic focus area of this task is between the Riverside County line to the north and the Prado Basin to the south, as is shown in Figure 1, HCP Effects Monitoring Area, attached.

The Orange County Water District (OCWD) and the Santa Ana Watershed Association (SAWA) have and continue to conduct riparian bird monitoring within and around the Prado Basin and a few other locations within the HCP area of interest. Therefore, surveys executed as a part of the contract that will result from this SOW will be limited to areas that are not already being surveyed by HCP Partners or other entities. The Contractor shall coordinate with SAWA, OCWD, and other entities conducting least Bell's vireo, southwestern willow flycatcher, and other riparian bird surveys in the survey area to ensure double counting of birds and/or territories does not occur.

Results of these surveys will be shared with HCP Permittees and partners and will be consistent in methodology to those other survey efforts so that the data can be looked at together to enable regional analysis.

i. Least Bell's Vireo

Surveys for the least Bell's vireo should follow the Least Bell's Vireo Survey Guidelines ([https://www.fws.gov/ventura/docs/species/protocols/lbv/leastbellsvireo\\_survey-guidelines.pdf](https://www.fws.gov/ventura/docs/species/protocols/lbv/leastbellsvireo_survey-guidelines.pdf)) with the exceptions of deviations from that protocol detailed in this paragraph. Areas associated with Task 5(a) will be monitored at least three (3) times and up to eight (8) times during the breeding season in an attempt to document territory locations, numbers, densities, incidental reproductive data, and parasitism rates as well as the location and number of individuals that either do not pair or are migrating through the survey area.

ii. Southwestern Willow Flycatcher, Western Yellow-Billed Cuckoo, and Yellow-Breasted Chat

Presence monitoring of migratory willow flycatchers and for southwestern willow flycatcher occupancy in the Santa Ana Preserve Area has been conducted using informal surveys (without playback) from 2000 to 2020 (SAWA 2020) and involves marking the locations of willow

flycatchers observed during least Bell's vireo nest and territory monitoring, and then returning after the migratory period to see if southwestern willow flycatchers are present and nesting (SAWA 2020). To compare with monitoring conducted to date, this method will be used to survey for southwestern willow flycatcher and western yellow-billed cuckoo. If occupancy and nesting by southwestern willow flycatchers or western yellow-billed cuckoo is suspected, the Contractor shall coordinate with Valley District to determine if additional focused or protocol surveys should be conducted. If additional surveys are determined to be necessary, Valley District would contract that work separate from this scope of work via contract modification or other means.

The location and number of chat breeding territories have been monitored incidentally to least Bell's vireo annual territory mapping in locations within the Santa Ana River for many years by SAWA. The location of breeding territories shall also be marked utilizing GPS based on locations of singing male chat during repeat visits as has been conducted according to the incidental methodology SAWA has implemented in the past (2019; 2020).

### iii. General Requirements

The Consultant is responsible for obtaining rights of entry on all lands where surveys are to be conducted prior to the start of surveys.

The Consultant shall also collect pertinent information like GPS coordinates, notes and photographs whenever any HCP covered species or species covered by the Federal or State Endangered Species Acts are observed. A list of species covered by the HCP can be found here: [https://www.uppersarhcp.com/covered\\_species](https://www.uppersarhcp.com/covered_species).

#### b. *Baseline Monitoring to Measure Success of Restored Tributaries and Management of other Conservation Areas:*

The objective of monitoring at the Tributary Restoration Project areas and other Preserve Areas is to establish a record of baseline conditions prior to restoration and to demonstrate functional habitat improvement over time. The functional lift associated with increased health and abundance of native riparian plants and perennial water supply in the streams (for the restored tributaries only) is expected to result in an increase in populations of native species and improved reproductive success. We are open to survey methodology recommendations from the Consultant to achieve this objective based on experience and expertise in the field.

In order to meet this monitoring objective, the Consultant is expected to conduct at least 8 visits through the entirety of habitat suitable to each of the riparian bird species that are the focus of this SOW (least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, and western yellow-billed cuckoo) at each of the tributary restoration sites listed below and shown on Figure 2, Tributary Restoration Sites, attached. The Consultant is responsible for obtaining rights of entry on all lands where surveys are to be conducted prior to the start of surveys. There are 6 tributary restoration sites shown on Figure 2:

1. Hidden Valley Wetlands (112 acres)
2. Lower Hole Creek (18 acres)
3. Anza Creek (114 acres)
4. Old Ranch Creek (208 acres)
5. Sunnyslope Creek & Vicinity (300 acres)

For least Bell's vireo, the Consultant shall follow the Least Bell's Vireo Survey Guidelines

([https://www.fws.gov/ventura/docs/species/protocols/lbv/leastbellsvireo\\_survey-guidelines.pdf](https://www.fws.gov/ventura/docs/species/protocols/lbv/leastbellsvireo_survey-guidelines.pdf)) with the exception of deviations detailed in the paragraphs of this section of this SOW. Delineate the territory boundary of each vireo territory observed and collect points for each unpaired vireo observed. Intensive nest monitoring shall also occur on as many pairs as possible, but no less than 30% of the observed pairs unless otherwise coordinated with Valley District biologists. Data to be collected at the nest shall include the following parameters:

- Date vireo arrived
- Date paired
- Date of first nest
- Date of first eggs
- Number of eggs
- Number and age of nestlings
- Follow nest through fledging process to document success/failure
- If applicable, reason for failure
- Collect nest placement data (e.g. height above ground, type of plant, placement in plant, etc.)
- Date vireo last observed

Repeat this for every nesting attempt. The Consultant shall analyze and document nesting success, reproductive success, productivity values, parasitism, and depredation rates at each site and across all sites. This analysis shall then extend to a comparison to the rest of the watershed for a given year and across years at each location and watershed wide.

For all other covered species or other T&E species, GPS points, notes and photos shall be taken to document the species and habitat it was observed in. Notes shall be taken on habitat type, structure, behavior of the species, reproductive success, and any other information that can help meet the objective of establishing a baseline understanding of covered species to analyze potential impacts of HCP covered activities in the future.

If nesting is suspected by the southwestern willow flycatcher or western yellow-billed cuckoo, the Contractor shall coordinate with Valley District to determine if additional survey effort is required. Any additional survey effort to monitor nests of southwestern willow flycatcher or western yellow-billed cuckoo would be contracted separately from this scope of work through contract modification or other means.

The Contractor shall coordinate with SAWA, OCWD, and other entities conducting least Bell's vireo, southwestern willow flycatcher, and other riparian bird surveys in the survey area to ensure double counting of birds and/or territories does not occur.

### c. *Meetings*

The Consultant shall participate in an annual meeting. The purpose of the annual meeting is to provide the Valley District Board of Directors and stakeholders with a summary of observations made during the year. It is assumed that this annual meeting will include a PowerPoint presentation or similar format that summarizes information presented in the annual report, as described in 9. Deliverables, below.

## 6. COWBIRD TRAPPING

### a. *Provide and Operate and Maintain 11 Cowbird Traps:*

The Consultant shall provide and operate and maintain 11 cowbird traps within the survey area during the 2023 survey season, unless otherwise coordinated and approved by Valley District. The Consultant shall coordinate the location of these traps with Valley District and other stakeholders to ensure traps are in locations that complement, rather than duplicate, other trapping efforts in the area. The Consultant shall obtain all rights of entry and permits necessary to place and operate and maintain the cowbird traps.

## 7. IMPACT CONSIDERATIONS

The Contractor shall provide a narrative on disturbances (i.e. fires, unhoused encampments, dumping, etc.) that were observed throughout the survey effort that could have had an impact on riparian bird presence, absence, or productivity. This analysis should include relevant maps, photographs, or other means to help visualize the potential impacts. Recommendations on how to avoid or minimize those potential impacts in the future and restore impacted areas shall also be included.

## 8. REPORTING

### a. *Annual Reporting:*

An annual report shall be produced that documents the agreed upon methodologies that are utilized and survey results for each of the survey methods employed for each species, each site and across all sites. The annual report shall compare survey results from the current year to previous years and provide analysis on observed trends as well as provide recommendations for future monitoring and restoration efforts. The annual report shall also include cowbird trapping results for each trap. Cowbird trapping results shall be summarized in a spreadsheet that shows the number and species trapped for each trap along with other pertinent information, including but not limited to dates of capture and any mortality. This spreadsheet can be included as an appendix to the annual report. The annual report shall include pertinent maps and photographs to show relevant information including, but not limited to, areas surveyed, location of traps, location of observations and territories of least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, western yellow-billed cuckoo and any other species covered by the HCP or listed in the Federal or California Endangered Species Acts. The annual report shall also provide a narrative on disturbances encountered during the survey period as well as recommendations on how to avoid, minimize, or restore observed impacts as described in Section 7, above.

A draft report shall be provided to Valley District to review and comment on. The Contractor will incorporate comments from Valley District into a final report. This final report shall be provided to Valley District no later than January 31, 2023, unless otherwise coordinated with Valley District.

### b. *Protocol Reports:*

If protocol surveys are triggered, the reports required by each of the triggered protocols shall be appended to the annual report. The annual report shall document analysis and discussion of observations of the field surveys.

## 9. DELIVERABLES

- a. Annual Reports: Annual reports to satisfy the Contractors' permit requirements (e.g. 10(a)1(a) permit or scientific collector's permit) shall be finalized and submitted to relevant agencies prior to deadlines required by those permits. A final annual report, as described in Section 9, above, and corresponding figures and maps shall be provided to Valley District no later than January 31, 2023, unless otherwise coordinated and approved by Valley District.
- b. Photographs: All photographs taken during surveys shall be provided to Valley District along with GPS points of where they were taken by January 31, 2023, or as requested by Valley District, unless otherwise coordinated and approved by Valley District.
- c. Mapping and GIS Data: All final iterations of spatial data created to support figures or analysis shall be provided to Valley District in ESRI ArcGIS formats by January 31, 2023, or as requested by Valley District, unless otherwise coordinated and approved by Valley District.

Please provide proposed costs to conduct the scope of work detailed in this SOW to Chris Jones at [chrisj@sbumwd.com](mailto:chrisj@sbumwd.com). Please direct all questions regarding this SOW to Chris Jones.

## 10. CONTRACT

A sample copy of Valley District's Standard Agreement for Consulting Services is attached (Attachment A) for your information. Upon approval of the Valley District Board of Directors, the selected Consultant is required to execute the agreement. Consultant is to notify Valley District immediately if they are unwilling to sign the contract so that Valley District can begin negotiation with another firm.

## 11. REFERENCES

- Hall, L.S. and A. Plesetz. 2020. Final report on bird counts on Nature Conservancy properties on the Santa Clara River. Unpublished report prepared for The Nature Conservancy, Ventura, CA.
- Hall, L.S., B.K. Orr, J.R. Hatten, A. Lambert, and T. Dudley. 2020. Final Report: Southwestern Willow Flycatcher (*Empidonax traillii extimus*) and Western Yellow-Billed Cuckoo (*Coccyzus americanus occidentalis*) surveys and habitat availability modeling on the Santa Clara River, California.
- Halterman, M.D., M.J. Johnson, J.A. Holmes, and S.A. Laymon. 2016. A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-Billed Cuckoo: Draft. U.S. Fish and Wildlife Techniques and Methods.
- Hughes, J.M. 2020. Yellow-Billed Cuckoo (*Coccyzus americanus*), version 1.0. In Birds of the World (P.G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, New York.  
<https://doi.org/10.2173/bow.yebuc.01>
- McNeil, S.E., D. Tracy, J.R. Stanek, and J.E. Stanek. 2013. Yellow-Billed Cuckoo Distribution, Abundance and Habitat Use on the Lower Colorado River and Tributaries, 2008-2012 Summary Report. Unpublished report prepared for Lower Colorado River Multi-Species Conservation Program, Boulder City, Bureau of Reclamation.

Ralph, C.J., Sauer, J.R., Droege, S., Technical Editors. 1995. Monitoring Bird Populations by Point Counts. General Technical Report PSW-GTR-149, Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture, Albany, California.

Rourke, J.W., T.D. McCarthey, R.F. Davidson, and A.M. Santaniello. 1999. Southwestern Willow Flycatcher nest monitoring protocol: Nongame and Endangered Wildlife Program Technical Report 144, Arizona Game and Fish Department, Phoenix, Arizona.

Santa Ana Watershed Association (SAWA). 2019. Status and Management of the Least Bell's Vireo and Southwestern Willow Flycatcher in the Santa Ana River Watershed, 2019, and Summary Data by Site and Watershed-Wide, 2000-2019. Prepared for U.S. Fish and Wildlife Service, U.S. Army Corp of Engineers, San Bernardino Valley Municipal Water District, and Orange County Water District. December 2019.

SAWA. 2020. Status and Management of the Least Bell's Vireo and Southwestern Willow Flycatcher in the Santa Ana Watershed, 2020, and Summary Data by Site and Watershed-Wide, 2000-2020. Prepared for U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, San Bernardino Valley Municipal Water District, Orange County Water District.

Sogge, M.K., D. Ahlers, and S.J. Sferra. 2010. A natural history summary and survey protocol for the southwestern willow flycatcher: U.S. Geological Survey Techniques and Methods 2A-10.

Stillwater Sciences and ICF. 2021. Upper Santa Ana River Habitat Conservation Plan Comprehensive Adaptive Management and Monitoring Program: A Living Document – Version 1. September. Prepared by Stillwater Sciences, Los Angeles, CA and ICF, San Diego, CA for San Bernardino Valley Municipal Water District, San Bernardino, CA.



Figure 1: HCP Effects Monitoring Area

**Legend**

 HCP Effects Area

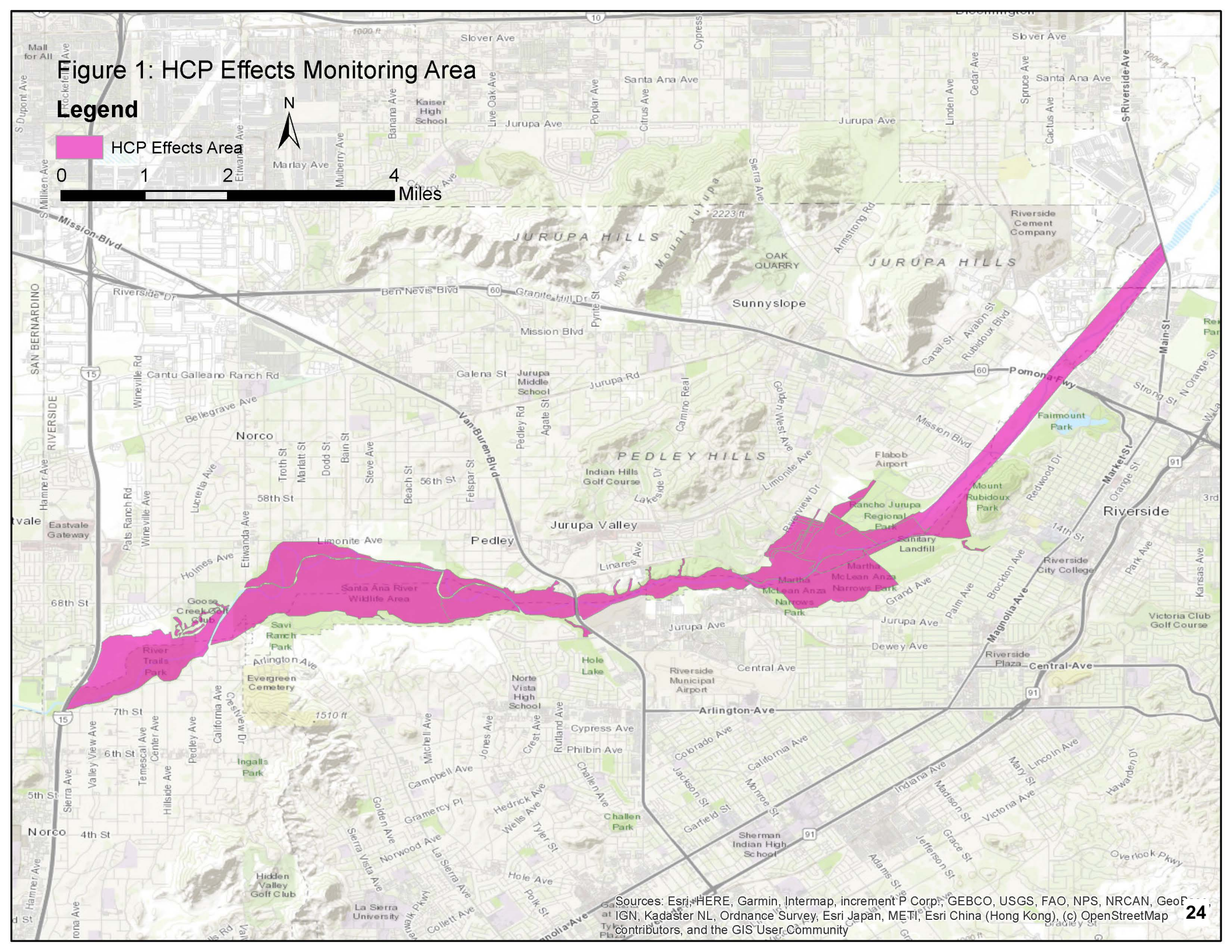


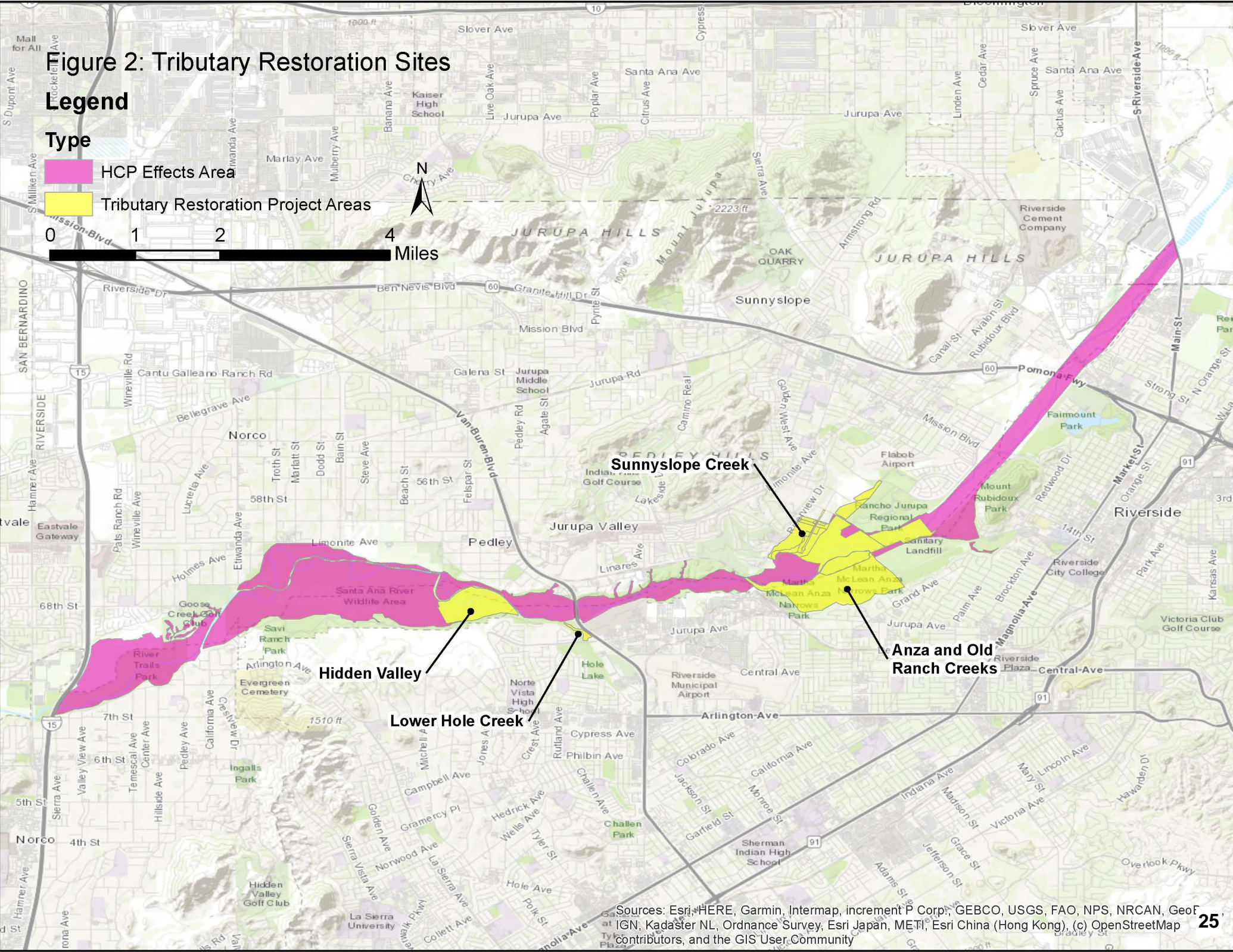


Figure 2: Tributary Restoration Sites

Legend

Type

- HCP Effects Area
- Tributary Restoration Project Areas



**Attachment A: Sample Copy of Valley District Contract**



**CONSULTING SERVICES AGREEMENT**

**THIS CONSULTING SERVICES AGREEMENT (“Agreement”)** is entered into as of \_\_\_\_\_, 2022 (“*Effective Date*”), by and between San Bernardino Valley Municipal Water District, a municipal water district organized and operating under the Municipal Water District Law of 1911 (“*District*”), and [REDACTED], a [REDACTED] (“*Consultant*”). District and Consultant are sometimes referred to herein collectively as “*Parties*” and individually as “*Party*.”

**RECITALS**

A. District is a public agency of the State of California and is in need of a qualified consultant to provide professional services for the following project:

**JOB NAME:** [PROJECT NAME]

**JOB NUMBER:** [PROJECT NUMBER]

B. Consultant is duly licensed in the State of California and has the necessary qualifications to provide such professional services.

C. The Parties desire to enter into this Agreement for the purpose of setting forth the terms and conditions upon which Consultant will render such professional services to District.

**NOW, THEREFORE,** the Parties agree as follows:

**ARTICLE I  
SCOPE OF SERVICES TO BE PERFORMED, TIME OF  
PERFORMANCE AND TERM**

1.1 Term. The term (“*Term*”) of this Agreement shall commence on the Effective Date and shall automatically terminate upon earlier of: (a) [REDACTED]; or (b) the successful completion of Services (as defined below), unless earlier terminated.

1.2 Scope of Services and Time of Performance. During the Term of this Agreement, Consultant shall perform all services, and provide all materials, equipment, tools, labor, and expertise, necessary to furnish the professional services set forth in Consultant’s proposal in response to the RFP (“*Proposal*”), a true and correct copy of which is attached as *Exhibit “A”* hereto and incorporated herein by reference (collectively, “*Services*”). All Services shall be performed in accordance with the timeframes set forth in the Proposal.

1.3 Task Orders. From time to time, the Parties may make changes to or authorize certain work set forth in the scope of Services, including without limitation issuing additional instructions, requiring additional work, or deleting work previously ordered, by executing one or more task orders (each a “*Task Order*”). The provisions of this Agreement shall apply to all such Task Orders. The costs of each Task Order, or any modification of time for completion that might be required thereby, shall be mutually agreed upon in writing by District and Consultant before

commencement of the work called for by such Task Order. A Task Order is a request for additional Services and/or changes to Services, and shall not be effective unless and until accepted in writing by both Parties. Consultant shall be solely responsible for all costs and expenses associated with any additional Services, including additional Services already performed, that have not been specifically agreed upon in writing by Consultant and District. As used in this Agreement, the term “*Services*” shall include Services added, deleted, or modified by any Task Order.

1.4 Qualifications. Consultant represents and warrants to District that it has the qualifications, experience, licenses, and facilities necessary to properly perform the Services in a timely, competent, and professional manner.

1.5 Licenses. Consultant shall, in accordance with applicable laws and ordinances, obtain and maintain at its expense all permits and licenses necessary to accomplish the Services. Failure to maintain a required permit or license may result in immediate termination of this Agreement.

1.6 Standard of Care. Consultant shall perform all Services in accordance with generally accepted professional practices and principles and in a manner consistent with the level of care and competence ordinarily exercised by members of the profession currently practicing under similar conditions and in compliance with all federal, state, and local laws, rules, regulations, or ordinances applicable to the Services.

1.7 Relations with Construction Contractor. Consultant shall not directly or indirectly communicate with or consult with any construction or other District contractor utilized in the project, except in the presence of or with the specific written consent of the District.

1.8 Non-Exclusivity. District agrees that Consultant may perform services in matters that are not substantially related to the Services for people or entities that are or might be adverse to District. Subject to the restrictions of this Section 1.8 and Sections 3.2 and 3.3, Consultant will have no obligation to limit or restrict the assignment of its consultants, employees, and principals to other projects as a result of their performance of the Services.

## ARTICLE II COMPENSATION AND EXPENSES

2.1 Compensation. As full and complete compensation for the Services to be rendered by Consultant, District shall pay Consultant for all Services performed pursuant to this Agreement, inclusive of subconsultants and miscellaneous expenses, in the amount and on the schedule set forth in the Proposal (“*Compensation*”), which amount shall not exceed [COST IN WORDS] (\$[X,XXX.XX]) (“*Maximum Fee*”). To the extent different payment terms are set forth in a Task Order that conflict with the general payment terms set forth in the Proposal, the terms in the Task Order shall control. Consultant acknowledges and agrees that in no event shall Consultant receive or have a claim of any kind for any payment in excess of the Maximum Fee for any work, including additional Services under any Task Order, performed under this Agreement, unless such amount exceeding the Maximum Fee is specifically approved in writing by District.

2.2 Billing Procedure. On or before the tenth (10th) day of each month, Consultant will submit to District an accurate and complete statement (“**Invoice**”) for Services actually performed during the previous month and other amounts due under this Agreement. Each Invoice shall include, at a minimum: (a) District’s job name; (b) District’s job number; (c) Consultant’s point of contact for billing questions; (d) basis of billing; (e) total contract value; (f) total billing to date; (g) amount remaining in contract; (h) estimated percentage of completion at time of billing; and (i) a summary of Services actually performed during the billing period. Each Invoice shall be supported by such data substantiating Consultant’s right to payment as District may reasonably require.

2.3 Payment. District shall pay to Consultant within thirty (30) calendar days after receipt of an Invoice, or the resolution of any billing dispute, all undisputed amounts. District may withhold a portion of an Invoice because of defective Services not remedied or unsatisfactory prosecution of the Services by Consultant. District will release any withheld funds upon Consultant satisfactorily remedying the issue that resulted in the withholding. District will not pay late fees to Consultant on the compensation due Consultant under the terms of this Agreement. Payment of any Invoice shall not constitute acceptance of any Services completed by Consultant, and the making of final payment shall not constitute a waiver of any claims by District for any reason whatsoever.

2.4 Disputed Invoices. In the event District disputes an Invoice, District shall provide a written explanation of the dispute to Consultant within thirty (30) days after receiving the Invoice. District and Consultant shall cooperate to resolve any disputed amount. District shall not be penalized for any reasonable dispute and shall not be obligated to pay any amount in dispute until the dispute has been resolved.

2.5 Expenses. District must pre-approve in writing each reasonable and necessary expense for which Consultant intends to seek reimbursement, which expenses are directly related to the performance of the Services. If pre-approved, such expenses for reasonable and necessary travel, lodging, or miscellaneous expenses incurred in the performance of this Agreement will be reimbursed to Consultant in accordance with District’s general reimbursement policy. Consultant shall submit an Invoice of all incurred expenses accompanied by reasonable supporting documentation or transaction receipts. Invoices that fail to include reasonable supporting documentation or receipts will not be honored and District will have no obligation of any kind to reimburse Consultant for unsupported expenses listed on such Invoices.

2.6 Taxes. Any Taxes imposed by governing taxing authorities with respect to the Services will be the responsibility of Consultant. “**Taxes**” shall mean all taxes imposed with respect to the provision of the Services and associated amounts payable with respect to the Services, whether denominated as sales taxes, gross receipts taxes, transaction privilege taxes, use taxes, excise taxes, or otherwise.

**ARTICLE III**  
**WORK PRODUCT; CONFIDENTIAL INFORMATION**

3.1 Project Data. Consultant shall be exclusively responsible for obtaining from the appropriate sources, persons or third parties, all data and information necessary for the proper, timely and complete performance and satisfaction of the Services.

3.2 Work Product. Upon completion or other termination of this Agreement, Consultant shall provide to District, and such other consultants approved by District, all papers, maps, models, designs, calculations, surveys, reports, data, notes, computer files, documents, drawings and other work product (collectively “**Work Product**”) developed from or associated with the Services. Upon completion of the Services, Consultant shall provide one reproducible physical copy and one electronic copy of all final Work Product described in the Proposal, in forms acceptable to District. Consultant acknowledges that all Services performed or Work Product prepared for District by Consultant hereunder, including without limitation all data, calculations, reports, models, working notes, drawings, designs, improvements, trademarks, patents, copyrights (whether or not registered or patentable), and specifications developed or prepared by Consultant in connection with or related to such Services or Work Product shall become the sole and exclusive property of District, unless specifically otherwise agreed upon in writing by District and Consultant. Consultant hereby unconditionally assigns, transfers and conveys to District all rights, interests and claims of any kind related thereto, including copyright. Consultant shall promptly disclose such Work Product to District and, at the District’s expense, perform all actions reasonably requested by District (whether during or after the Term) to establish and confirm such ownership (including, without limitation, executing any necessary assignments, consents, powers of attorney, and other instruments). Notwithstanding the preceding, all pre-existing intellectual property owned by Consultant which is incorporated in or utilized to develop the Services performed or Work Product prepared for District hereunder shall remain the sole and exclusive property of Consultant; provided, however, that Consultant grants to District a non-exclusive, perpetual, fully transferable, worldwide, royalty-free, limited license to use such pre-existing intellectual property in connection with such Services or Work Product. Consultant shall not be held liable for reuse of Work Product or modifications thereof by District or its representatives for any purpose other than the original intent of this Agreement, without written authorization of Consultant.

3.3 Confidential Information. Consultant acknowledges that during the Term it may receive or have access to certain information, observations, and data (including without limitation trade secrets, designs, ideas, products, research, software, financial data, and personal information) concerning the business or affairs of District which is designated as confidential or proprietary or should reasonably be understood to be confidential given the nature of the information and the circumstances surrounding its disclosure (“**Confidential Information**”). All Confidential Information is, and shall remain, the property of District. Consultant shall: (a) use all Confidential Information solely for the purpose of providing the Services described in this Agreement; (b) hold all Confidential Information in strict confidence; (c) protect all Confidential Information from dissemination to, and unauthorized access or use by, any third party, using the same level of care and discretion that it uses with its own similar information, which in no case will be less than commercially reasonable care; (d) restrict access to all Confidential Information to such of its personnel, agents, and/or subconsultants, if any, who have a need to have access in order to provide

the Services and who are under obligations of confidentiality substantially similar to those in this Agreement; and (e) return or destroy all Confidential Information of the other Party in its possession upon termination or expiration of this Agreement and promptly confirm such return or destruction. Consultant shall not sell or make any unauthorized use of any Confidential Information.

#### **ARTICLE IV BOOKS AND RECORDS**

4.1 Books and Records. Consultant shall keep and preserve for no less than four (4) years after the date of final billing or termination of this Agreement, whichever shall first occur, accurate and detailed records of all ledgers, books of account, invoices, vouchers, cancelled checks, and other documents or records evidencing or relating to the Services and disbursements charged to District under this Agreement (collectively, “*Books and Records*”). All Books and Records shall be maintained in accordance with generally accepted accounting principles and must be sufficiently complete and detailed so as to permit an accurate evaluation of the Services provided by Consultant under this Agreement. District and its agents shall be given full access to such Books and Records during normal business hours. District and its agents shall have the right to make copies of any of the said Books and Records.

4.2 Work Product Documentation. Consultant further agrees to maintain all design calculations and final Work Product on file in legible and readily accessible form. In addition to the requirements of Section 3.2, Consultant shall make copies of such material available to District, at District’s sole cost and expense, and Consultant shall not destroy the originals of such materials and items, including any additions, amendments or modification thereto, unless District fails to object to such destruction upon Consultant providing District with sixty (60) days advance written notice, indicating that such material is scheduled to be destroyed.

#### **ARTICLE V INDEPENDENT CONTRACTOR**

5.1 Status. The Parties hereby acknowledge that in rendering the Services provided hereunder, Consultant shall be deemed to be an independent contractor and shall not be deemed in any way an agent, partner, or joint venturer of District. Consultant acknowledges and agrees that, as an independent contractor, it is solely responsible for the payment of any and all taxes and/or assessments imposed on account of payment to Consultant or the performance of Services by Consultant pursuant to this Agreement.

5.2 Agency Restrictions. Consultant understands and agrees that Consultant shall not represent itself to third parties to be the agent, employee, partner, or joint venturer of District. Furthermore, Consultant shall not make any statements on behalf of or otherwise purporting to bind the District in any contract or otherwise related agreement. Consultant further agrees and acknowledges that Consultant does not have the authority to and shall not sign any contract on behalf of District. Consultant shall not obligate District to do any other act that would bind District in any manner.



5.3 Further Assurances. Consultant shall furnish District with any documents or records that District reasonably believes necessary to properly and timely carry out the Services. District shall first tender written notice to Consultant regarding any documents or records that it reasonably believes necessary to properly carry out the Services. Consultant shall then have ten (10) days from the receipt of such notice to provide District with the requested documents or records.

## **ARTICLE VI TERMINATION**

6.1 Termination. At any time during the Term of this Agreement, District may terminate this Agreement, in whole or in part, with or without cause, upon ten (10) working days' written notice to Consultant. Upon receipt of the termination notice, Consultant shall promptly discontinue Services except to the extent the notice otherwise directs. In the event District renders such written termination notice to Consultant, Consultant shall be entitled to compensation for all Services properly rendered prior to the effective date of the notice and all further Services set forth in the notice. District shall be entitled to reimbursement for any compensation paid in excess of Services properly rendered and shall be entitled to withhold compensation for defective Services or other damages caused by Consultant's work. Consultant acknowledges District's right to terminate this Agreement as provided in this Article VI, and hereby waives any and all claims for damages that might arise from District's termination of this Agreement. Consultant shall deliver to District and transfer title (if necessary) to all completed Work Product. District shall not be liable for any costs other than the charges or portions thereof which are specified herein. Consultant shall not be entitled to payment for unperformed Services, and shall not be entitled to damages or compensation for termination of Services.

## **ARTICLE VII CALIFORNIA LABOR CODE PROVISIONS FOR PUBLIC WORKS PROJECTS**

7.1 Prevailing Wage Rates. Consultant is aware of the requirements of California Labor Code sections 1720 *et seq.* and 1770 *et seq.* (collectively, "**Prevailing Wage Laws**"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. If the Services are being performed as part of an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and if the total compensation is \$1,000 or more, Consultant agrees to fully comply with such Prevailing Wage Laws, if applicable. Consultant shall indemnify, defend, and hold harmless District and its directors, officers, employees, and agents from any claims, liabilities, costs, fines, penalties, or interest arising out of any failure or alleged failure of Consultant or its subconsultants to comply with the Prevailing Wage Laws. It shall be mandatory upon the Consultant and all subconsultants to comply with all California Labor Code provisions, including without limitation prevailing wages, employment of apprentices, hours of labor, and debarment of contractors and subcontractors.

7.2 Registration. If the Services are being performed as part of an applicable “public works” or “maintenance” project, in addition to the foregoing, then pursuant to California Labor Code sections 1725.5 and 1771.1, Consultant and all subconsultants must be registered with the Department of Industrial Relations (“**DIR**”). Consultant shall maintain registration for the duration of this Agreement and require the same of any of its subconsultants. This Agreement may also be subject to compliance monitoring and enforcement by the DIR. Consultant shall have sole responsibility to comply with all applicable registration and labor compliance requirements, including the submission of payroll records directly to the DIR.

7.3 Labor Certification. By its signature hereunder, Consultant certifies that it is aware of the provisions of California Labor Code section 3700, which requires every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of that code, and Consultant agrees to comply with such provisions before commencing the performance of any Services.

## **ARTICLE VIII PROJECT MANAGEMENT**

8.1 Consultant’s Representative. [REDACTED] (“**Consultant’s Representative**”) is hereby designated as the principal and representative of Consultant authorized to act on its behalf with respect to the Services specified herein and to make all decisions in connection herewith. Consultant shall not substitute Consultant’s Representative without first notifying District in writing of Consultant’s intent. District shall have the right to review the qualifications of said substitute. If District determines said substitute Consultant’s Representative is unacceptable, Consultant shall submit alternate candidates until District determines the substitute Consultant Representative is acceptable.

8.2 District’s Representative. [REDACTED] (“**District’s Representative**”) is hereby designated to represent District and except as otherwise provided herein authorized to act on its behalf with respect to the Services specified herein and to make all decisions in connection therewith. District may substitute District’s Representative at any time upon written notice to Consultant.

## **ARTICLE IX INDEMNIFICATION; LIMITATION OF LIABILITY**

9.1 Indemnification. Consultant shall indemnify, defend, and hold harmless District and District’s directors, officers, employees, representatives, agents, affiliates, subsidiaries, predecessors, successors, and assigns from and against any and all claims, demands, losses, costs, expenses, obligations, liabilities, damages, judgments, fines, penalties, and deficiencies, including attorneys’ fees (collectively, “**Claims**”), arising out of or related to any acts or omissions, or goods, products, or services made, furnished, or otherwise provided, or alleged to be made, furnished, or otherwise provided, by Consultant or Consultant’s employees, representatives, agents, subconsultants, contractors, subcontractors, suppliers, successors, permitted assigns, or anyone acting on behalf of Consultant in connection with the performance of the Services. Consultant’s indemnification responsibility with respect to the Services shall exist and continue regardless of

the extent to which District may have reviewed and approved the Services performed by Consultant, except that Consultant shall not be responsible for any Claim attributable to the Services to the extent such Claim is attributable to a decision made by District with respect to which Consultant and District have specifically agreed in writing that District shall be the responsible party. Consultant's indemnification obligations shall not be affected by any insurance provisions or limitations of liability contained in this Agreement. Consultant's indemnification obligations shall continue in full force and effect notwithstanding the completion, expiration, or other termination of this Agreement.

9.2 Limitation of Liability. DISTRICT'S CUMULATIVE AGGREGATE LIABILITY IN CONNECTION WITH THIS AGREEMENT, WHETHER ARISING UNDER CONTRACT OR BASED UPON A CLAIM OF STRICT LIABILITY, NEGLIGENCE, OR ANY OTHER TORT OR STATUTORY BASIS, SHALL BE LIMITED TO THE TOTAL PAYMENTS MADE BY DISTRICT TO CONSULTANT HEREUNDER DURING THE 12-MONTH PERIOD IMMEDIATELY PRECEDING THE EVENT UPON WHICH LIABILITY IS PREDICATED. IN NO EVENT WILL DISTRICT OR ANY OF ITS DIRECTORS, OFFICERS, EMPLOYEES, REPRESENTATIVES, AGENTS, OR AFFILIATES BE LIABLE FOR LOST PROFITS, LOST BUSINESS OPPORTUNITIES, LOST REVENUES, OR FOR EXEMPLARY, PUNITIVE, SPECIAL, INCIDENTAL, DELAY, INDIRECT, OR CONSEQUENTIAL DAMAGES OR THE LIKE, EACH OF WHICH IS HEREBY EXCLUDED BY AGREEMENT OF THE PARTIES REGARDLESS OF WHETHER SUCH DAMAGES WERE FORESEEABLE OR WHETHER DISTRICT HAS BEEN ADVISED OF THE POSSIBILITY THEREOF. THE PARTIES EACH ACKNOWLEDGE THAT THE FORGOING LIMITATION OF LIABILITY IS A MATERIAL CONDITION OF DISTRICT'S WILLINGNESS TO ENTER INTO THIS AGREEMENT, AND THAT DISTRICT WOULD NOT ENTER INTO THIS AGREEMENT BUT FOR SUCH LIMITATION.

## **ARTICLE X INSURANCE**

10.1 Insurance. Consultant shall provide, pay for, and maintain in force at all times during the performance of the Services hereunder, the policies of insurance set forth below. Consultant shall provide original certificates of insurance and endorsements evidencing coverage on forms reasonably acceptable to District prior to commencing any Services under this Agreement and promptly upon request thereafter. The existence of the required insurance coverage under this Agreement shall not be deemed to satisfy, substitute for, or otherwise limit Consultant's indemnification obligations under this Agreement. Consultant acknowledges that the insurance coverage and the policy limits set forth in this Agreement constitute the minimum coverage and policy limits required.

(a) Commercial General Liability Insurance covering liabilities for death and personal injury, liabilities for loss of or damage to property, and contractual indemnity obligations with a combined single limit of \$1,000,000 per occurrence and \$2,000,000 in the aggregate.

(b) Automobile Liability Insurance for bodily injury or death and property damage, including coverage for owned, non-owned, leased, and hired auto, with a minimum \$1,000,000 per person and \$2,000,000 per occurrence.

(c) Workers' Compensation Insurance as required by applicable law.

(d) Employers' Liability Insurance with limits of at least \$1,000,000 per occurrence.

(e) Professional Liability Insurance/Errors and Omissions Liability Insurance appropriate to Consultant's profession, with limits of liability of not less than \$2,000,000 each claim/annual aggregate.

10.2 Policy Requirements. All insurance policies required pursuant to this Agreement shall:

(a) For all liability policies, include an additional insured endorsement at least as broad as ISO CG 2010 07 04 and consistent therewith naming as additional insureds "San Bernardino Valley Municipal Water District and its directors, officers, employees, representatives, agents, affiliates, subsidiaries, predecessors, successors, and assigns".

(b) Be on an "occurrence" basis, not a "claims-made" basis. The foregoing policies must contain an aggregate limit not less than the occurrence limit. The required limits may be satisfied by a combination of a primary policy and an excess or umbrella policy.

(c) Be primary and non-contributory with any insurance programs carried by or available to District.

(d) Waive all rights of subrogation and contribution against District and its insurers.

(e) Provide that coverage shall not be revised, cancelled or reduced until at least thirty (30) days' written notice of such revision, cancellation or reduction shall have been given to District. In the event any policies of insurance are revised, cancelled or reduced, Consultant shall prior to the revision, reduction or cancellation date, submit evidence of new insurance to District complying with this Agreement.

(f) Be issued by insurance companies which are qualified to do business in the State of California and which have a current rating of A-VIII or better in Best's Insurance Report.

10.3 Subconsultant Insurance. In the event Consultant subcontracts any portion of its performance, the agreement between Consultant and the subconsultant shall require the subconsultant to carry the same policies of insurance that Consultant is required to maintain pursuant to this Agreement.

**ARTICLE XI  
REPRESENTATIONS AND WARRANTIES**

11.1 Representations and Warranties. Each Party represents and warrants the following:

(a) Such Party is duly organized, validly existing, and in good standing under the laws of its state of formation or incorporation and has all requisite power and authority to conduct the business with which it conducts and proposes to conduct.

(b) All action on the part of such Party necessary for the authorization, execution, delivery, and performance of this Agreement, and the consummation of the transactions contemplated herein, has been properly taken and obtained in compliance with applicable law.

(c) Such Party has not entered into nor will either enter into any agreement (whether written or oral) in conflict with this Agreement or which would prevent such Party from performing its obligations under this Agreement.

(d) Such Party has the contacts and expertise, and will reasonably allocate its financial and time resources on a best efforts basis to enable it to perform its obligations hereunder.

**ARTICLE XII  
MISCELLANEOUS**

12.1 Entire Agreement. This Agreement contains the entire understanding between the Parties, and supersedes any prior understanding and/or written or oral agreements between them, respecting the subject matter of this Agreement. There are no representations, agreements, arrangements, or understandings, oral or written, by and between the Parties relating to the subject matter of this Agreement that are not fully expressed herein.

12.2 Assignment. Consultant may not assign its rights and obligations hereunder, in part or in whole, without the prior written consent of District, which consent may be granted or withheld in District's sole discretion.

12.3 Succession. This Agreement shall be binding upon and inure to the benefit of the Parties named herein and their respective successors and permitted assigns.

12.4 No Third-Party Beneficiaries. This Agreement shall not confer any rights or remedies upon any person or entity other than the Parties and their respective successors and permitted assigns.

12.5 Headings. The section headings contained in this Agreement are inserted for convenience only and shall not affect in any way the meaning or interpretation of this Agreement.

12.6 Notices. Any notice to be given or to be served upon either Party hereto in connection with this Agreement must be in writing and shall be deemed to have been given and received: (a) when personally delivered; (b) two (2) days after it is sent by Federal Express or similar overnight courier, postage prepaid and addressed to the Party for whom it is intended, at

that Party's address specified below; (c) three (3) days after it is sent by certified or registered United States mail, return receipt requested, postage prepaid and addressed to the Party for whom it is intended, at that Party's address specified below; or (d) as of the date of electronic mail transmission addressed to the Party for whom it is intended, at that Party's electronic mail address specified below, and provided that an original of such notice is also sent to the intended addressee by means described in clauses (a), (b), or (c) within two (2) business days after such transmission. Either Party may change the place for the giving of notice to it by thirty (30) days prior written notice to the other Party as provided herein.

If to District: San Bernardino Valley Municipal Water District  
Attn: \_\_\_\_\_  
380 East Vanderbilt Way  
San Bernardino, CA 92408  
Telephone: (909) 387-9253  
E-Mail: \_\_\_\_\_

If to Consultant: \_\_\_\_\_  
Attn: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Telephone: (\_\_\_\_) \_\_\_\_\_  
E-Mail: \_\_\_\_\_

12.7 Governing Law; Venue. This Agreement shall be governed by and interpreted in accordance with the laws of the State of California, excluding any choice of law provision that would apply the laws of any other jurisdiction. The Superior Court of the State of California in and for San Bernardino County shall have exclusive jurisdiction to adjudicate any dispute arising out of or relating to this Agreement. Each Party hereby consents to the jurisdiction of such court and waives any right it may otherwise have to challenge the appropriateness of such forum, whether on the basis of the doctrine of forum *non conveniens* or otherwise.

12.8 Waivers. No waiver by any Party of any default, misrepresentation, or breach of warranty or covenant hereunder, whether intentional or not, shall be deemed to extend to any prior or subsequent default, misrepresentation, or breach of warranty or covenant hereunder or affect in any way any rights arising by virtue of any prior or subsequent occurrence.

12.9 Amendment. Except as expressly provided otherwise herein, this Agreement may not be modified, altered, or changed in any manner whatsoever except by a written instrument duly executed by authorized representatives of both Parties.

12.10 Severability. If any provision of this Agreement shall be deemed or held to be invalid or unenforceable for any reason, such provision shall be adjusted, if possible, rather than voided, so as to achieve the intent of the Parties to the fullest extent possible. In any event, such provision shall be severable from, and shall not be construed to have any effect on, the remaining provisions of this Agreement, which shall continue in full force and effect.

12.11 Time of the Essence. Time is of the essence in the performance of each and every provision or obligation of this Agreement as to which time is an element.

12.12 Release of Information and Advertising. Consultant shall not, without the prior written consent of District, make any news release or other public disclosure regarding this Agreement.

12.13 Construction. The Parties have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any of the provisions of this Agreement. Any reference to any federal, state, local, or foreign statute or law shall be deemed also to refer to all rules and regulations promulgated thereunder, unless the context requires otherwise. The word “including” shall mean including without limitation.

12.14 Attorneys’ Fees. If any legal action is necessary to enforce or interpret the terms of this Agreement, the prevailing Party shall be entitled to reasonable attorneys’ fees, reasonable expert witness fees, costs, and necessary disbursements in addition to any other relief to which that Party may be entitled.

12.15 Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same instrument. Signatures may be delivered electronically or by facsimile and shall be binding upon the Parties as if they were originals.

***[Signature Page Follows]***

**IN WITNESS WHEREOF**, the Parties hereby execute this Agreement as of the Effective Date.

**DISTRICT:**

**SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

**CONSULTANT:**

[REDACTED]

By: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_



**EXHIBIT “A”**

*[Insert Consultant's Proposal]*

Upper SAR HCP 2023 Riparian Bird Monitoring and Cowbird Trapping Costs						
Task	Staff	Hourly Rate	Hours	Costs	Costs by Task	Total Costs
Baseline Monitoring for effects from HCP Covered Activities (Sec. I.a-d)	Vireo-permitted Biologist-JC	90.00	110	\$9,900.00		
Baseline Monitoring for effects from HCP Covered Activities (Sec. I.a-d)	Vireo-permitted Biologist-JB	88.88	120	\$10,665.60		
Baseline Monitoring for effects from HCP Covered Activities (Sec. I.a-d)	Vireo-permitted Biologist-LS	78.47	210	\$16,478.70		
Baseline Monitoring for effects from HCP Covered Activities (Sec. I.a-d)	Vireo-permitted Biologist-AG	73.00	255	\$18,615.00	\$55,659.30	
Baseline Monitoring to Measure Success of Restored Tributaries (Sec. II)	Vireo-permitted Biologist-LS	78.47	210	\$16,478.70		
Baseline Monitoring to Measure Success of Restored Tributaries (Sec. II)	Vireo-permitted Biologist-AB	140.43	128	\$17,975.04		
Baseline Monitoring to Measure Success in Sunnyslope Creek and adjacent habitat (Sec. II)	Vireo-permitted Biologist-JC	90.00	100	\$9,000.00	\$43,453.74	
Reporting (Sec. VIII.a and IX)	WHMS Manager	191.80	50	\$9,590.00		
	WHMS Supervisor	140.43	150	\$21,064.50		
	Vireo-permitted Biologist	85.00	630	\$53,550.00	\$84,204.50	
Total Annual Hours			1963			
Administration	WHMS Manager	191.80	20	\$3,836.00		
Monthly reports, annual meeting	WHMS Supervisor	140.43	40	\$5,617.20		
	Vireo-permitted Biologist	85.00	60	\$5,100.00	\$14,553.20	
Mileage Reimbursement			5300	\$3,736.50	\$3,736.50	
Total Avian Monitoring						\$201,607.24
Cowbird Trapping (11 traps) - (Sec. V)	WHMS Manager	191.80	5	\$959.00		
	WHMS Supervisor	140.43	40	\$5,617.20		
	Seasonal Trap Assistant	31.45	690	\$21,700.50		
	Permitted Biologist	78.47	90	\$7,062.30		
Reporting (Sec. V and IX)	Permitted Biologist	88.88	91	\$8,088.08		
Total Annual Hours			916			
Supplies (seed, bowls, locks, etc)				\$411.18		
Mileage Reimbursement			7000	\$4,585.00		
Total Cowbird Trapping (Sec. V)						\$48,423.26
<b>Overall Total (Avian Monitoring/Cowbird Trapping in Upper SAR)</b>						<b>\$250,030.50</b>
Optional Tasks (Sec. VII)						
d. Sub-contract Security for High Risk Locations	Personal detail (estimate)	100.00	150	\$15,000.00		
Mileage Reimbursement			900	\$589.50	\$15,589.50	
Total Optional Task Costs (Sec VII.d)						\$15,589.50
<b>2023 Total Costs (with one optional task)</b>						<b>\$265,620.00</b>



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**DATE:** March 2, 2023

**TO:** Board of Directors' Workshop – Policy/Administration

**FROM:** Bob Tincher, Deputy General Manager/Chief of State Water Initiatives  
Adekunle Ojo, Manager of Water Resources

**SUBJECT:** Presentation of California Water Commission's Annual Review of the State Water Project

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**Staff Recommendation**

Receive and File.

**Summary**

Section 165 of the California Water Code requires the California Water Commission (CWC) to conduct an annual review of the construction and operation of the State Water Project (SWP) and to report its findings and recommendations to the Director of the Department of Water Resources (DWR) and the State Legislature (Legislature). The Commission's 2022 Annual Review of the State Water Project (2022 Review) highlights drought response and planning, climate change and wildfire response planning, improvements in forecasting, updates to the Delivery Capability Report, the annual SWP budget, multi-year planning and asset management, and major construction projects. At its January 18, 2023 meeting, the Commission approved the 2022 Review and authorized its distribution to DWR and the Legislature to fulfill its statutory obligation. Some of the key recommendations from the 2022 Review are that:

- DWR provide the Commission with information about how SWP operations will need to adapt to increasing aridity and the reduction in available water supply caused by hotter, drier conditions, including how this will impact water supply contracts.
- DWR inform the Commission of how it balances the needs of its multiple beneficiaries – including the environment and smaller water districts and communities –over the long term and particularly in years of extreme drought.
- DWR keep the Commission apprised of its work to better understand atmospheric rivers, and how it is using this knowledge to prepare for floods and to improve SWP climate resiliency.

- DWR continue to provide the Commission with information about water supply forecasting, allocations and the use of latest technologies to help with water management decision-making.
- DWR share with the Commission its long-term plans for aging infrastructure repair and keep it apprised of efforts to advance large-scale infrastructure construction and maintenance in an inclusive and climate-sensitive manner.

### **Background**

The State Water Project consists of 36 water storage facilities and 700 miles of rivers, pipelines and canals that supplies water to 27 million people and irrigates 750,000 acres of farmland. The system includes 23 pumping plants powered by a system of power generation and power recovery plants; SWP is the fourth largest power generator in the State and plans to be carbon neutral by 2035. DWR operates the SWP in coordination with the federal Central Valley Project operated by the U.S. Bureau of Reclamation. Thirty percent of SWP water is used for irrigation, mostly in the San Joaquin Valley, and the other seventy percent is used for residential, municipal, and industrial use. In addition to its primary purpose of supplying water, the SWP also provides flood protection, offers recreational opportunities such as boating and hiking and generates hydroelectric power.

The SWP is funded by the 29 public agencies and local water districts that receive SWP water through long-term water supply contracts with DWR. The approved SWP budget for calendar year 2022 was almost \$1 billion - \$610 million for operations & maintenance, and \$313 million in capital improvement projects. At almost 60 years old, the SWP requires investments to meet the challenges of the 21<sup>st</sup> century, especially how it operates and maintains the extensive aging infrastructure in the more extreme scenarios brought on by a changing climate.

### **Fiscal Impact**

None

### **Attachment**

2022 Annual Review of the State Water Project

PowerPoint from the January 18, 2023 CWC Meeting



# 2022 Annual Review

of the construction and operation of the

# State Water Project



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*On the cover: Low water conditions at Bidwell Canyon Marina at Lake Oroville in Butte County. On October 5, 2022, the storage was 1,218,591 acre-feet, 34 percent of the total capacity.  
Photo by Florence Low/DWR*



## 2022 CALIFORNIA WATER COMMISSION

**Matthew Swanson, Chair**  
**Fern Steiner, Vice-Chair**  
**Samantha Arthur**  
**Tyrone Bland**  
**Danny Curtin**  
**Kimberly Gallagher**  
**Alexandre Makler**  
**Sandra Matsumoto**  
**Jose Solorio**

### Introduction

Planned, constructed, and operated by the Department of Water Resources (DWR), the California State Water Project (SWP) is the nation's largest state-built, multi-purpose, user-financed water project. Built in the 1960s, the system consists of 36 water storage facilities and 700 miles of rivers, pipelines, and canals that supply water to 27 million people and irrigate 750,000 acres of farmland. Thirty percent of SWP water is used for irrigation, mostly in the San Joaquin Valley, and the other 70 percent is used for residential, municipal, and industrial use. In addition to its primary purpose of supplying water, the SWP also provides flood protection, offers recreational opportunities such as boating and hiking, and generates hydroelectric power. Twenty-three pumping plants move water around the state, powered by a system of power-generation and power-recovery plants. The SWP is the fourth largest power generator in the state, and will be carbon neutral by 2035. DWR operates the SWP in coordination with the federal U.S. Bureau of Reclamation's (USBR) Central Valley Project (CVP), which also moves water throughout California. At almost 60 years old, the SWP requires innovative solutions to meet the challenges of the 21st century, especially how it operates in the more extreme scenarios brought on by a changing climate.

While the SWP was under construction, the public agencies and local water districts that receive water from the SWP signed long-term water supply contracts with DWR. Today, these 29 public agencies and local water districts are collectively known as the SWP contractors, and they serve communities in the Central Valley, desert, and coast of California, providing the water on which agriculture, industry, and households depend. The water supply contracts that were signed six decades ago specify the maximum amount of SWP water a contractor may request annually. However, the amount of SWP water available for delivery varies,

## California Water Commission

The nine-member California Water Commission uses its public forum to explore water management issues from multiple perspectives and to formulate recommendations to advise the director of the California Department of Water Resources, and as appropriate, the California Natural Resources Agency, the Governor and Legislature on ways to improve water planning and management in response to California’s changing hydrology. For more information regarding the California Water Commission, visit [cwc.ca.gov](http://cwc.ca.gov).

based on rainfall, snowpack, runoff, water in reservoirs, pumping capacity in the Sacramento-San Joaquin Delta, and operating constraints that protect fish, wildlife, and Delta water quality. As California’s hydrologic patterns shift, water deliveries will become increasingly variable, impacting water supply reliability for the SWP’s users.

As the state continues to get hotter and drier, it will see, on average, less snowfall, increased evaporation, and greater consumption of water by vegetation, soil, and the atmosphere itself. These hotter, drier conditions, which scientists call “aridification,” are impacting the entire American West. Scientists using hydrological modeling and tree-ring reconstruction conclude that the period from 2000 to 2021 was the driest 22-year span since the late 1500s in the American Southwest. Scientists predict a more extreme trend toward megadrought as global warming continues. The SWP is not impervious to these impacts, nor to the wildfires and sea level rise that accompany global climate change.

Over the next 20 years, California could lose 10 percent of its water supplies to aridification. Already, water supplies in the state are stretched thin, serving 40 million Californians. When the SWP was built, there were 16 million people in California, and water was considered more abundant in relation to the population it needed to support. The role of the SWP is more critical than ever and will continue to be hugely important for supplying water for agriculture, urban areas, and ecosystems in a changing climate. Positioning the SWP to be resilient to climate change will ensure the system’s functionality for years to come.

In response to California’s aridification and loss of water supplies, Governor Gavin Newsom’s Water Supply Strategy, published in August 2022, calls for investing in new sources of water supply, accelerating projects, and modernizing how the state manages water through new technology. The actions outlined in the Water Supply Strategy include plans to expand the San Luis Reservoir in Merced





Photo by Kelly M. Grow/DWR

The South Bay Aqueduct was the first delivery system completed in the State Water Project, and has been delivering water to Alameda and Santa Clara counties since 1962 and 1965, respectively.

County by 135,000 acre-feet to capture more winter storm runoff, part of a set of inter-related joint projects to benefit the SWP and CVP; to improve the flexibility of current water systems to move water throughout the state by modernizing SWP conveyance in the Delta; and to repair four major San Joaquin Valley canals damaged by subsidence - the Delta Mendota Canal, the Friant Kern Canal, and two stretches of the California Aqueduct. These actions, once implemented, will spur the SWP's climate resilience.

Water Code section 165 requires the California Water Commission (Commission) to conduct an annual review of the progress of the construction and operation of the SWP. This review highlights SWP planning and operations in 2022 and includes findings and specific recommendations for DWR to keep the Commission apprised of operations and construction activities in 2023. This year, the Commission offers its report in the midst of ongoing drought conditions and the specter of increasing aridification.

In 2022, DWR made 10 presentations to the Commission on various SWP topics centered around the theme: "Preparing for climate extremes – ensuring a reliable State Water Project to meet the challenges of drought, flood, and wildfire." These presentations are a continuation of the public transparency that the Commission has provided since 1967: They utilize the Commission's public forum to help the public stay informed of DWR's efforts, and they provide the basis of the findings and recommendations that the Commission makes to DWR and the Legislature regarding operation of the SWP.

# State Water Project Facilities



## Findings

### The Commission finds that, in 2022:

- DWR took steps to better account for climate change in its water supply forecasting by pursuing data augmentation, forecast model improvements, and partner collaboration.
- DWR advanced multiple climate change-informed planning processes, which included initiating a SWP Climate Change Adaptation Plan, and integrating a range of risk-informed future climate change projections and robust data in the drafting of the 2023 Delivery Capability Report.
- DWR improved its modeling of burn-scarred areas in the Feather River watershed to evaluate how fire has and will continue to impact snowpack accumulation and the timing and amount of runoff.
- DWR took actions to mitigate the impacts from the 2022 drought by considering more extreme scenarios in its water supply planning and engaging in more frequent, earlier cross-agency coordination. DWR is involved in early drought planning for 2023, which entails conservative planning for increased resiliency and continued multi-agency collaboration.
- DWR apprised the Commission of its financial goals, SWP budget, and cost projections, indicating that its 2022 approved SWP budget was \$923 million, including operations and capital costs.
- To address the challenges of aging SWP infrastructure, DWR employed its Asset Management Program to use a risk-informed process to prioritize capital and extraordinary operations and maintenance projects for the repair, refurbishment, and replacement of SWP infrastructure. Additionally, DWR filled 67 positions during the 2021-2022 fiscal year to assist with these projects and received authorization for 35 new positions for fiscal year 2022-2023.
- DWR executed contract extension amendments with 25 SWP Contractors, extending their terms for an additional 50 years (from 2035 to 2085) to ensure long-term financing of SWP capital needs and to mitigate affordability concerns due to cost compression. DWR is in the process of executing the remaining four amendments.
- DWR informed the Commission about key construction activities undertaken in the past year to manage and maintain the SWP, including the installation of an emergency drought barrier to prevent Delta saltwater intrusion.

## Recommendations

### The Commission recommends that:

- DWR provide the Commission with information about how SWP operations will need to adapt to increasing aridity and the reduction in available water supply caused by hotter, drier conditions, including how this will impact water supply contracts.
- DWR inform the Commission of how it balances the needs of its multiple beneficiaries – including the environment and smaller water districts and communities – over the long term and particularly in years of extreme drought.
- DWR inform the Commission about how it is continuing to respond to drought conditions, including how it supports water transfers to offset drought impacts.
- DWR continue to provide the Commission with information about water supply forecasting and allocations.
- DWR keep the Commission updated on its employment of the latest technologies for real-time data collection and measurement to help with water management decision making.
- DWR keep the Commission apprised of its work to better understand atmospheric rivers, and how it is using this knowledge to prepare for flood and to improve SWP climate resiliency.
- DWR keep the Commission apprised of its work to understand the water supply implications of wildfire and any subsequent actions taken to address wildfire-related issues.
- DWR continue to provide the Commission with financial and capacity updates and projections that reflect future resource needs to address the anticipated challenges of climate change and aging infrastructure.
- DWR share with the Commission its long-term plans for aging infrastructure repair.
- DWR keep the Commission apprised of its efforts to advance large-scale infrastructure construction and maintenance in a manner that is inclusive of diverse stakeholders and accounts for the challenges of a changing climate. Specifically:
  - how planning for new Delta Conveyance Project is progressing, and how DWR is considering impacts to the Delta as place; and
  - how projects to address the near-term impacts of subsidence on the California Aqueduct are being coupled with efforts to stem the underlying causes of subsidence.
- DWR work with Commission staff to arrange in-person visits by the Commissioners to SWP facilities and project sites.

Year	Water Delivered (acre-feet)	Power Generated (GWh/year)	Power Used (GWh/year)
2000	3,584,667	6,832	8,518
2001	2,042,118	4,588	6,358
2002	2,850,215	5,631	8,191
2003	3,167,604	6,117	8,862
2004	3,119,578	6,887	9,661
2005	3,627,004	5,661	8,282
2006	3,691,568	7,515	9,109
2007	2,996,629	6,410	9,276
2008	1,950,968	4,100	5,701
2009	1,933,735	4,255	5,438
2010	2,660,960	4,368	7,184
2011	3,596,749	5,258	8,583
2012	2,848,082	4,810	7,404
2013	2,107,572	3,679	5,721
2014	1,079,839	1,426	2,780
2015	1,375,536	1,699	3,483
2016	2,299,679	3,535	6,598
2017	3,732,527	5,011	9,652
2018	1,984,723	2,933	5,723
2019	3,049,485	4,842	7,662
2020	1,457,500	2,484	3,877
2021	1,160,082	1,371	2,771
2022 <sup>2</sup>	885,311	1,854	2,339

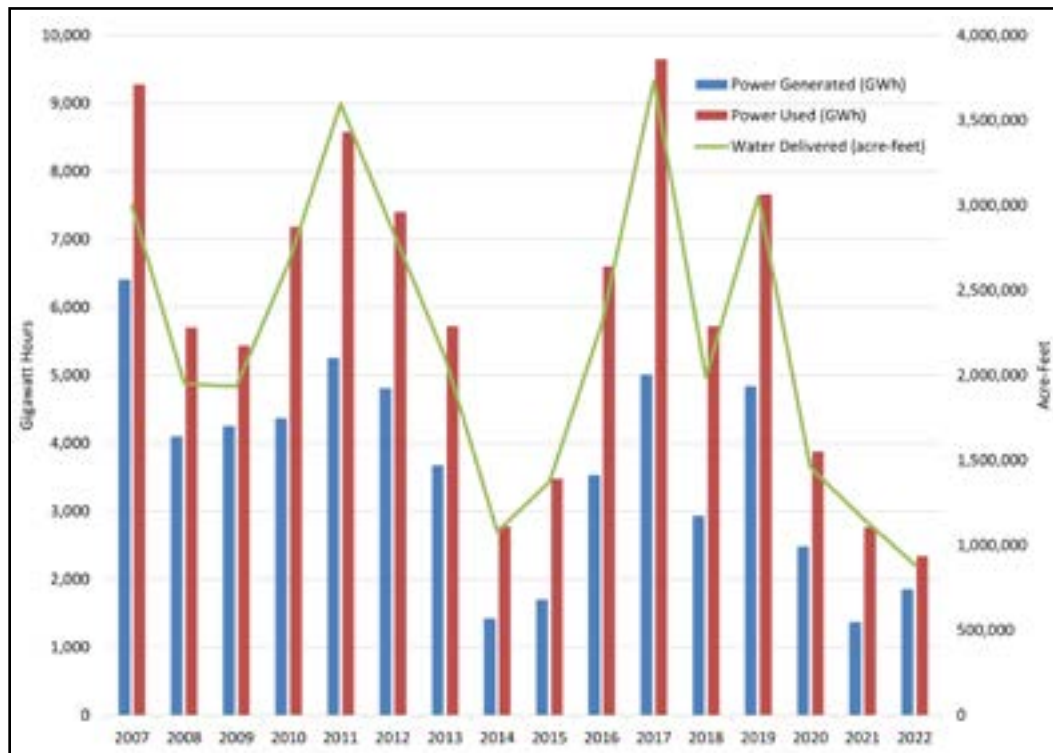
1) Source: Department of Water Resources' State Water Project Analysis Office. (In addition to Table A, reported deliveries include Carryover, Article 21, other SWP deliveries such as Settlement, Permit and Flexible Storage, and other non-SWP deliveries such as Dry Purchase, Temporary Transfer and Water Bank Recoveries.)

2) Table A Water is the maximum amount of SWP water that the State agreed to make available to an SWP Contractor for delivery during the year. Table A amounts determine the maximum water a contractor may request each year from DWR. The State and SWP contractors also use Table A amounts to serve as a basis for allocation of some SWP costs among the contractors.

3) Estimate as of October 31, 2022 (water delivered is through September 2022).



**Figure 1: SWP Water Deliveries and Power**



### SWP Water Deliveries, Power Generation, and Use

The SWP delivered 885,311 acre-feet of water in 2022. The initial allocation to SWP Contractors was limited to any unmet human health the safety needs. The allocation was increased to 15 percent in January 2022, then decreased to five percent in March 2022. The contractors’ allocations were based on their maximum Table A2 amount, which equals 4,172,786 acre-feet for all 29 contractors combined. During 2022, the SWP facilities generated 1,854 gigawatt hours (GWh) of energy. During the same period, the SWP used 2,339 GWh of energy.<sup>3</sup>

Table 1 displays recent years’ water deliveries and energy generation and usage. In general, SWP power usage increases with SWP water deliveries. Figure 1 shows that 2022 power generation was higher than in 2021, and power use was lower. Low water deliveries numbers were driven by the limited precipitation and diminished runoff in 2022.

### Preparing for Climate Extremes

During the 2021-2022 water year, California experienced torrential rain; a record-breaking, prolonged spring dry spell; a record-breaking fall heat wave; and its third year of drought. The year was preceded by massive, destructive wildfires – made worse by drought – that continued to impact water supplies long after they were extinguished. Like all aspects of water management in California, the SWP



Photo by Florence Low/DWR

Andrew Schwartz, UC Berkeley's Central Sierra Snow Laboratory manager and lead scientist, conducts a snow survey on January 26, 2022, in Soda Springs. DWR partners with UC Berkeley in joint efforts to research better tools and understanding of the hydrometeorological data and processes in the Sierra Nevada.

must adapt its operations and increase its resiliency to the hydrologic extremes caused by climate change.

## Forecasting

Extreme climate conditions over the past three years highlighted issues and challenges related to forecasting capabilities. Above-average warm years have gone from an extreme event in the 1930s, to episodic events in the 1980s, to commonplace the last decade. The comparative precipitation index shows wet years are not offsetting accumulated dryness of dry years over the last decade.

Water years 2021 and 2022 brought new extremes and consequences. Water year 2021 was the second worst single year and driest two-year period in statewide precipitation, the second-warmest year for statewide mean temperature, and the driest and warmest spring in 126 years. Water year 2022 had record-setting October precipitation, record snowfall at the Central Sierra Snow Laboratory in December, and the driest start to a calendar year on record. The historical relationships between precipitation, snowpack, and runoff did not accurately predict available water for 2021 because they did not account for the record heat

and dryness during the fall of 2020, the lack of fall precipitation, and the record warmth and dryness of spring 2021. The timing, pace, and scale of storms in 2022 set the stage for better forecasts, but the amounts were among the lowest in history. To increase climate resilience, DWR is adapting its water forecasting processes for climate change to improve its ability to determine SWP water allocations for the coming year, and to better manage water availability over longer time horizons.

As a result, DWR engaged in multiple efforts to improve forecasting practices for water management. DWR is pursuing data augmentation, forecast model improvements, and partner collaboration. DWR is updating hydrologic averages from a 50-year to a 30-year average to better reflect most recent years; updating precipitation and snow median increments based on new averages; improving automation of daily precipitation data collection, full natural flow calculations, and the quality control process; and developing new statistical models based on updated data. Forecast improvement efforts include adopting emerging technologies to improve and expand the collection of weather and water data used in the forecasting models. New models are being developed that can simulate watershed processes and their change with climate change. These new forecasting capabilities synthesize and include observations, modeling methods, and tools to help the forecaster understand the influence of different components of the climate system. For instance, the changing patterns of snow and changing relationships between precipitation, snowpack, and runoff can be accounted for with the new tools, which should lead to fewer surprises if conditions are not the same as they have been. DWR is currently collaborating with the National Oceanic and Atmospheric Administration, the U.S. Geological Survey, and Scripps Institution of Oceanography Center for Western Weather and Water Extremes to advance observing capabilities and help to develop the physically based watershed modeling that will provide the foundation for improved forecasting.

DWR has divided its improvement efforts into two groups: those that can be immediately implemented, and others that DWR will implement over multiple years as long-term adaptation efforts. DWR has initiated a 12-month project to develop machine learning models that incorporate new variables (like the climatic water deficit), observe daily full natural flow, incorporate May 1 snow data, and separate out precipitation and snow parameters that were previously lumped together. These models help modernize forecasting by improving empirical data and removing outdated assumptions. Some of those models will be available to forecasters for their use in the coming forecasting season. The airborne remote sensing of snow data (see Airborne Snow Observatory box, below) is being expanded to cover the Feather River basin and watersheds above Shasta Reservoir. Over the next three years, DWR will integrate airborne remote sensing of snow data and modeling into the forecasting process, expand coverage of airborne lidar data collection, integrate weather and climate forecast information into the modeling process, and continue partner collaborations to improve observation and forecast capabilities.





Photo by Kelly M. Grow/DWR

The Airborne Snow Observatory (ASO) makes a stop at Truckee Tahoe Airport in Nevada County. The ASO is a private company that contracts with DWR and the Bureau of Reclamation to provide snow measurement data to inform water supply forecasts. Use of the ASO and the data it is capable of collecting is part of DWR's effort to utilize the latest technology to improve forecasting models.

## Airborne Snow Observatory

Airborne Snow Observatory (ASO) involves the flying of manned aircraft equipped with specialized radar and sensors over the snowpack to assess its extent and depth. Collecting this data will help correct estimates of snow, which will improve forecasting of water availability. In 2022, the SWP funded DWR's Division of Flood Management to expand their ASO program into the Feather River watershed that feeds Oroville Reservoir. Combining this information with the long-standing, ground-based Cooperative Snow Survey network of sensors provides for significant improvements in the estimates of water supply trapped in the Sierra snowpack. In 2022, four flights occurred over the Feather watershed, allowing water supply forecasters to predict end-of-year water supply conditions more accurately. SWP staff has committed to funding of ASO again in 2023 and is supporting the Division of Flood Management as they incorporate additional data, modeling, and other improvements to their forecasting process.

## **Climate Change Planning**

### **Delivery Capability Report**

The Delivery Capability Report (DCR), issued every two years, is a key source of information for SWP water contractors and other water districts that use SWP water. The DCR provides SWP water users and the public with information about the existing capability of the SWP to deliver water over a range of hydrologic conditions. The most important information used by SWP contractors is the long-term average and single dry year delivery. It also includes analysis of extended drought periods, such as the period from 1928-1935, and how such conditions would play out with today's infrastructure, operations, and regulations. DWR started incorporating climate change projections in the DCR in 2007. The current DCR provides existing delivery capability and future capability informed by climate change. The DCR serves as a default climate change scenario for SWP planning.

The 2023 DCR, anticipated in late 2023, will move away from a single future climate change projection, as has been provided in the past, and will provide a range of risk-informed future climate change projections. This range of projections will give water agencies more information about potential future conditions and the ability to plan for more extreme outcomes. Each agency will have a different risk tolerance and dependence on SWP supplies. DWR is working with climate scientists, hydrology experts, and agency partners at the U.S. Bureau of Reclamation to develop new tools and data that will retain important information from historical observational records while incorporating adjustments to reflect more recent changes in climate demonstrated by recent extreme dry (2014), extreme wet (2017), and anomalously low runoff efficiency (2021) events. The 2023 DCR's new risk-informed future climate projections will also contain new guidance on using those projections.

### **Climate Change Adaptation Plan**

In July 2022, the SWP completed scoping and began work on its first Climate Change Adaptation Plan, which will provide SWP's portion of DWR's broader Climate Action Plan Phase 3: Adaptation Process. The goal of the SWP Climate Change Adaptation Plan is to evaluate the extent to which projects that are currently in the planning stage would adapt the SWP and make it resilient to expected future changes in climate. The Adaptation Plan will evaluate how the system would perform under future extreme climate conditions if several major improvement projects, including Delta conveyance and a California Aqueduct subsidence project, are implemented. It will consider a suite of operations and management adaptations, including forecast informed reservoir operations, improved seasonal forecasting, an update to the Lake Oroville water control manual, Feather River watershed wildfire mitigation, and SWP enhanced asset management. The Adaptation Plan will use the same baseline and climate change hydrology data as the 2023 DCR so that users are able to evaluate future water supply availability estimates under a business-as-usual scenario (DCR) and with potential adaptations (Adaptation Plan).



Photo by Kelly M. Grow/DWR

Fuel load management work, including controlled burns, is conducted by CalFire in conjunction with DWR at Loafer Creek State Recreation Area in Oroville. The work is part of the fuel load management program which reduces fire risk, protects public safety, and enhances forest and watershed health.

### **Wildfire Response Planning**

The Upper Feather River Watershed is the water source for the SWP's largest storage project, Lake Oroville. Since 2018, 57% of the Feather River watershed has burned. The impacts of a wildfire on a watershed are many, including black carbon deposition onto snowpack (increasing snow albedo), vegetation change, hydrophobic soils, debris flows, and sedimentation in rivers. To respond to these conditions, DWR has stepped up activities to monitor, coordinate, and assess conditions in the Upper Feather River Watershed. DWR did a comprehensive impact assessment after the 2021 fire season, looked at all watershed systems and processes, and identified a need to better understand fire-related changes to hydrology and water supply, which could result from the changes in forest structure and groundcover. To fill this gap, DWR has begun work with the National Center for Atmospheric Research and the Airborne Snow Observatory (ASO) to improve modeling of burn-scarred areas in the Feather River watershed and evaluate how fire has and will continue to impact snowpack accumulation, as well as the timing and amount of runoff. DWR anticipates having a series of model runs available in January of 2023; this data would be used to evaluate the impact of burn areas on water supply operations in February and March 2023.

## 2022 and 2023 Drought Planning

California endured its third year of drought in 2022, and drought conditions are expected for the coming year. The hydrologic extremes of 2021 – with record dry and hot conditions – challenged traditional water supply forecasting methods, resulting in inaccurate run-off projections. Heading into the 2022 dry season, DWR heeded the lessons learned from 2021 and took proactive steps to prepare for dry conditions. It considered more extreme scenarios in its water supply planning, adjusted water supply forecasting approaches, and engaged in more frequent and earlier cross-agency coordination. SWP staff coordinated with the USBR and senior water rights holders to facilitate water transfers and closely monitored and evaluated on-the-ground conditions. In 2022, DWR set the following objectives for drought-responsive water management:

- provide minimum health and safety needs,
- maintain Delta water quality,
- meet environmental needs to protect endangered species,
- conserve water storage to meet future critical needs, and
- deliver water based on priority.

A staircase hydrologic pattern in water year 2022 exemplifies new extremes and variability associated with climate change. Two storms in October and December were followed by three straight dry months. Those two storms gave the state the bulk of the water supply for the year. Patterns like this challenge how DWR plans and operates the State Water Project for the next year and underscore the need for improved forecasting. Because of the low carry-over storage in key reservoirs, instead of completely removing the West False River Salinity Barrier, DWR coordinated with the various resource agencies to only partially remove the barrier so that it would be more readily re-installed if needed.

Seeing the potential for its need, in December 2021, DWR and USBR filed a Temporary Urgency Change Petition (TUCP) at the State Water Resources Control Board for the SWP and the CVP. The TUCP sought to modify certain Delta water quality standards during February through April in a way that would allow the SWP and CVP to reduce releases from key storage reservoirs such as Oroville. The TUCP filing was made well in advance of when the modified standards might be needed in order to increase the time for the SWRCB to conduct its public review process. In January 2022, after the wet October and December, DWR withdrew the TUCP. After the driest January to March period on record, SWP filed a new TUCP for modification of certain Delta water quality standards for April through June. In April, SWP re-installed the salinity barrier. The TUCP example illustrates the difficulty of planning for water management under variable hydrologic conditions.

Other drought actions taken in 2022 include limited deliveries to Feather River settlement contractors for rice decomposition to preserve storage and an SWP allocation of five percent.





Photo by Ken James/DWR

Low water conditions at Enterprise Bridge (looking west) located at Lake Oroville. On December 21, 2022, the water storage was 1,042,146 acre-feet, 29 percent of the total capacity.

At the conclusion of the 2022 dry season, water storage levels were slightly better than the prior year, but still well below average. Similarly, mean temperatures were very warm in 2022 but cooler than water year 2021, and precipitation overall was very dry but wetter than water year 2021. Recently observed extremes require conservative planning and continued aggressive multi-agency action.

Looking ahead to 2023, DWR has developed the following principles for operating the SWP:

- support the human right to water,
- protect imperiled fish and wildlife,
- balance and protect beneficial uses of water,
- honor water rights,
- promote fairness and equity in policy decisions,
- prioritize effective and efficient strategies,
- harness science and collaboration, and
- and continue to explore and implement creative ideas.

The 2023 drought objectives are the same as those for 2022. October through December 2022 saw continued reduced releases at Oroville to conserve storage and a low initial water allocation to SWP contractors. Potential 2023 drought management actions will again include rigorous multi-agency coordination; an SWP allocation focused on meeting critical domestic, sanitary, and fire suppression needs; potential modifications of Delta water quality standards; and continued support for robust conservation measures.

## Annual Budget and Multi-year Cost Planning

The SWP annually plans its budget for operation, maintenance, and capital improvements, a process that is integrated with the State budget process. The process involves reviewing annual programs, extraordinary activities, and projection of the capital projects that help secure the reliable operation of the system as it addresses the impacts of climate change and the challenges of aging infrastructure. SWP conducts financial analysis to forecast future revenue needs. The cost projection includes personnel, operating expenses and equipment, costs for water supply and other purposes such as recreation and flood control, and cost-share. Costs are fairly allocated across reaches, project purposes, cost components, and SWP contractors.

DWR bills the 29 SWP contractors annually through the Statement of Charges (SOCs) based on the projected costs and true-up of the historical costs. The SOCs are issued no later than end of June annually for the next calendar year. During annual budget planning (September through December), the plans for the next calendar year are validated by DWR through project planning and prioritization. DWR may make changes due to unplanned work, therefore requiring adjustment of the budget even though the SOCs have been issued to the Contractors. The objective of the annual planning is to prioritize work activities and maintain a budget in line with the SOCs. The SOCs, which make up 90 percent of the SWP revenue, only include the water supply and power generation costs that are reimbursable by the contractors.

Having a solid, sustainable financing plan is critical to the SWP, whose annual revenue is more than \$1 billion, not counting the revenue from power sale, which was \$68 million in 2021. Without a reliable financing plan, the SWP will not be able to collect revenues to sustain its operation and capital improvement, resulting in significant impacts to California's economy and life. Funding for the SWP primarily comes from the 29 SWP contractors. Other funding sources include USBR, which contributes funding for facilities that are jointly operated; revenue from power generation and sales; and the Davis-Dolwig Fund, annually appropriated under a 60-year-old state law that specifies that the cost of fish and wildlife enhancements and recreation components of the SWP be paid for from the state General Fund. Funds are used for operations and maintenance (O&M), debt service payments for capital projects, and other associated financing costs. The approved SWP budget for calendar year 2022 was \$313 million in capital improvement projects, and \$610 million for O&M.

## Asset Management

The SWP Division of O&M Asset Management is responsible for developing and implementing asset management policies, strategies, and objectives for operations, maintenance, repair, and replacement of SWP equipment and infrastructure. At its most basic level, asset management effectively manages the lifecycle of SWP water storage and conveyance assets. Prioritization of capital



Photo by Florence Low/DWR

A worker carries a core sample drilled from the spillway at Cedar Springs Dam at Silverwood Lake, a large reservoir in San Bernardino County.

## Additional Staffing to Address Aging Infrastructure

In 2021, the SWP received legislative authorization to recruit 150 positions to support its aging infrastructure initiatives. These initiatives include the SWP's asset management and maintenance management efforts to enhance the planning, execution, and documentation of operations, maintenance, repair, refurbishment, and replacement of aging SWP infrastructure, as well as related efforts such as emergency preparedness and aqueduct subsidence. These positions will be phased in over four years and funded entirely by the SWP. Sixty-seven positions began in fiscal year 2021-22.

### Division of O&M

No. of positions	Department
28	Asset and Maintenance Management
20	Maintenance
3	Emergency Preparedness
2	Operations Planning

### Division of Engineering

No. of positions	Department
14	Engineering and Support

DWR received authorization for 35 new positions for fiscal year 2022-2023.

and extraordinary O&M projects is a key component of the asset management system. During any given year, there are more than 200 studies and projects being worked on, many of which are dam safety projects.

The primary climate change-induced challenges to asset management include changing hydrology, wildfire impacts to watersheds, and aqueduct subsidence, which represents the greatest current threat to operational flexibility south of the Delta. Proactive management of SWP assets is needed to prepare for climate extremes and to maintain system resilience and operational flexibility.

DWR's asset management efforts are modeled after the International Standard Organization (ISO) 55001 standard for asset management systems which defines best practices, including risk management, maintenance planning and tracking, capital investment planning, and emergency preparedness. Current SWP Strategic Asset Management Initiatives include reliability actions, such as the development of asset management plans for SWP transformers and the South Bay Aqueduct, and resilience actions, which include emergency response exercises, forecast-informed reservoir operations in the Feather River Watershed, and an update of the Lake Oroville Water Control Manual.

### **SWP Long-term Contract Extensions**

The State of California entered into long-term water supply contracts with water agencies in the 1960s. Under the contract terms, DWR provides water service from the SWP to the SWP contractors in exchange for payments that will recoup all costs associated with providing this water service over the repayment period of the SWP. The contracts originally included 75-year stated terms with ending dates that ranged from November 2035 to August 2042, depending on when each specific contract was executed. The Water Supply Contract Extension Amendment will extend them for 50 more years to secure long-term financing and help mitigate cost compression to the contractors, making it more affordable by extending capital financing from 13 years (with the original contract ending by 2035) to 30 years (typical long-term bond terms for repayment).

The majority of the capital costs associated with the development and maintenance of the SWP are financed using revenue bonds. These bonds have historically been sold with 30-year terms, but bonds cannot be sold with maturity dates that extend beyond the year 2035, the year the original contracts begin to expire. Issuance of bonds with shorter repayment periods (15-year bonds versus 30-year bonds, for instance) compresses the timeframe for repayment and results in higher annual costs. DWR and the SWP contractors agreed to extend the contract termination date to ensure the affordability of the SWP's water supply. The Water Supply Contract Extension Amendment will allow DWR to sell bonds with 30-year terms or longer, commensurate with the economic life of the project being financed. Longer bond terms ensure the debt service on these bonds remains affordable to SWP contractors and their water customers.





## Status of SWP Construction Projects

DWR manages the SWP to ensure adequate water supplies are available under various hydrologic and legal conditions while maintaining SWP operational flexibility. Key construction activities undertaken in the past year to manage and maintain the SWP occurred across the entire length of the SWP and include all major facility types – dams, canals, pipelines, and pumping and generating plants – and represent DWR’s efforts to modernize fire and life safety programs, to upgrade physical security, to identify and implement needed repairs, and to refurbish aging infrastructure. The 13 projects or programs that follow are a sampling of the more than 300 distinct projects and programs that are contributing to the no-fail operation of the SWP.



Photo by Jonathan Wong/DWR

A sign provides details for the construction of the Big Notch project at the Fremont Weir Wildlife area in Yolo County. The name “Big Notch” refers to the large section of earth and concrete that will be removed from the Fremont Weir. In that space, a headworks structure containing three bladder gates will be constructed that allows the fish to pass through. DWR and U.S. Bureau of Reclamation are partnering to reconnect floodplain habitat and improve fish passage in the Yolo Bypass, the largest contiguous floodplain remaining in the Central Valley.

**SWP Fire and Life Safety Modernization:** This program was implemented in response to the 2012 Thanksgiving Day fire at Thermalito (Robie) Pump-Generating Plant and covers fire detection and alarms, fire suppression systems, protected egress routes, HVAC modifications, new domestic and raw water lines, and emergency responder communications. In the Oroville Field Division, Thermalito was completed in 2021, and the Hyatt Powerplant was completed in 2022. Construction is to begin in the San Luis Field Division in June 2023, and in the San Joaquin Field Division in January 2025.

**SWP Physical Security Upgrades:** Physical security upgrades at each Field Division include security operations centers, guard shacks, impact rated gates and bollards, security fencing and cameras, hardened doors and windows, and key card readers and door contacts. In the Oroville Field Division, the project is expected to be completed by March 2023, with construction in the Delta and San Luis Field Divisions to begin in early 2023, and in the San Joaquin and Southern Field Divisions in 2024.

**Salmonid Habitat Restoration and Fish Passage (Big Notch):** The Big Notch project will create critical floodplain habitat for juvenile fish and improve a migration corridor for adult fish, as required by the SWP Biological Opinion



Photo by Kelly M. Grow/DWR

One of the refurbished gates is reinstalled with the help of a large crane at the Suisun Marsh Salinity Control Gates. Located at the eastern end of the Montezuma Slough in the Sacramento-San Joaquin Delta near Collinsville, the Suisun Marsh Salinity Control Gates maintain proper salinity levels in the Suisun Marsh during periods of low Delta outflow.

and Incidental Take Permit. The project includes an intake channel, headworks structure and control building, transport channel, pedestrian bridge, and an electrical communications connection to the adult fish passage facility. The contract was awarded in May 2022. Construction is expected to be completed in November 2023.

**California Aqueduct Canal Liner and Embankment Repairs:** There are several regionally based construction contracts awarded to address liner and embankment issues along the California Aqueduct. Repair sites were identified through a condition assessment team and prioritized based upon risk. There are multiple panel replacement and repair methodologies, and the repairs are scheduled based on operational constraints and environmental limitations. Fifty-two sites were completed in 2022, with 40 sites planned for 2023. The project should be completed in 2025.

**California Aqueduct Radial Gate Maintenance and Repairs:** Radial gates on the California Aqueduct control the flow between canals and pipelines. Many of the radial gates have been in place for more than 50 years. Refurbishment includes structural improvements, blasting and recoating, and modifications for future maintenance. Four new gates have been installed in 2022, followed by two more in 2023 and the remaining four in 2024.





Photo by Kelly M. Grow/DWR

Bethany Dams and Reservoir, located on the California Aqueduct and downstream from the Harvey O. Banks Pumping Plant, serves as the forebay for the South Bay Pumping Plant and recreational opportunities in Alameda County.

**Montezuma Slough Radial Gates Refurbishment:** The Montezuma Slough radial gates refurbishment project includes the repair and recoating of all gate trunnions, fabricating stoplogs for bay isolation during the gate outage, and maintenance and repairs on the gate hoists and gearboxes. All onsite work must occur between August and October of each year due to environmental permitting requirements and is limited to one gate at a time due to operations. One gate has been refurbished and reinstalled, another is currently out for refurbishment and will be installed in August 2023, and a third is expected to be finished by October 2024.

**Bethany Dams Restoration and Rodent Burrow Prevention:** Construction was completed in 2022 on the Bethany Dams Restoration and Rodent Burrow Prevention Project, ensuring dam safety by refacing dam with wire mesh and armoring with rip rap. Rodent burrowing at Bethany Dams has been a long-standing problem that could lead to a piping failure mode for the dams, but the presence of endangered species and habitat prevented routine maintenance and led to a lengthy environmental permitting process. DWR's Division of Engineering designed a veneer of permanent armoring to protect the dams from future burrowing.



Photo by Andrew Innerarity/DWR

Construction crews remove the Emergency Drought Salinity Barrier on the West False River near Oakley in the Sacramento-San Joaquin Delta in Contra Costa County. The rock barrier was placed to help deter the tidal incursion of saltwater from San Francisco Bay into the central Delta.

**Clifton Court Forebay Initial Burrow Remediation and Maintenance:** The Clifton Court Forebay Initial Burrow Remediation and Maintenance will address long-standing maintenance needs at Dyer, Patterson, and Clifton Court Forebay dams. The presence of endangered species and habitat has prevented routine maintenance and led to a lengthy and costly environmental permitting process. Enhanced monitoring is being performed at all three dams until maintenance is complete. Work on Clifton Court Forebay began in October 2022. Work on Dyer and Patterson Dams will take longer due to greater impacts and significant mitigation costs.

**Oroville Dam River Valve Outlet System Rehabilitation Project:** This project will install two additional 72-inch spherical valves over a 12-month construction schedule, and will include demolition and reconstruction of thrust block, pressure relief wall, and existing hydraulic and electrical equipment; and installation of a new hydraulic system, electrical system, ventilation system, and seat water system. This is a drought- and safety-critical project as it allows DWR to safely meet water delivery requirements during periods of low water elevations at Lake Oroville. This multi-year planning effort requires approval from DWR's Division of the Safety of Dams and, because the Oroville Complex is a power-generating facility, the Federal Energy Regulatory Commission. Phase one construction activities are underway, and phase two construction start is dependent upon a favorable water year.



Photo by Andrew Innerarity/DWR

A view of the San Luis' B.F. Sisk Dam Safety Modification Project underway in Merced County.

**Gianelli Pumping-Generating Plant Unit Refurbishment:** This project includes redesign, replacement, and refurbishment of rotating and embedded components to Original Equipment Manufacturer (OEM) design, as components are at the end of their service life. Components include pump-turbine head cover and impeller, packing box and equalizing line, 156-inch butterfly discharge valve, stator cores, and rotor poles. Seven of the eight units have been refurbished to date; the last unit will be completed by 2024.

**Dos Amigos Pumping Plant Unit Refurbishment and AVR Replacement:** This project includes the redesign, replacement, and refurbishment of rotating and embedded components to OEM design, as components are at the end of their service life. Components include blade trolley carts, impeller stands, variable pitch pumps, rotor poles, stator platforms, and automatic voltage regulators. The project is a multi-year effort to complete the six units at Dos Amigos, approximately one unit every two years. The first unit is scheduled for completion by the end of 2023.

**Emergency Drought Barrier – West False River:** During extreme drought conditions, the West False River barrier mitigates the negative impacts of drought by slowing salinity intrusion into the central and south Delta to prevent contamination of water supplies. The barrier was constructed in 2021. Construction of a notch to facilitate fish and boat passage began in January 2022 and the barrier was refilled in April 2022 due to the ongoing drought. The barrier was fully removed by December 2022.



**SB 626 – New SWP Construction Delivery Authorization:** Senate Bill 626, signed by the Governor in 2021, includes two additional public works construction procurement methods: Construction Management/General Contractor (CM/CG) and Design-Build (DB). These went into effect on January 1, 2022, and authorization ends January 1, 2033. The bill allows contractors to be selected on qualifications and not solely on cost, and to become partners in the development of the project. Risks are reduced or transferred to the contractor, and the construction phase can commence prior to completion of design. Authorization is limited to projects necessary for the construction, maintenance, or operation of elements of SWP facilities, and limited to seven projects under each procurement method. New procurement methods are not authorized for Delta conveyance. SWP will implement a Project Delivery Selection Method framework to document why a particular delivery method was selected for a project. CM/GC Pilot Project Procurement Development in 2022 include the Chipps Island Tidal Habitat Restoration and San Joaquin Field Division Fire and Life Safety Modernization. Options for DB Pilot Project Procurement in 2023 include the Electric Vehicle Charging Station Phase 3.

## Conclusion

This document fulfills the Commission’s requirement to review the progress of the construction and operation of the SWP. The Commission has determined that DWR is working to maintain the operations of the SWP, preparing for and responding to climate extremes so that the SWP continues to benefit California. The Commission requests that DWR continue to keep the Commission apprised of operations and construction activities in 2023. These findings and recommendations will be presented to DWR and the Legislature.



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# 2022 Annual Review of the Construction and Operation of the State Water Project

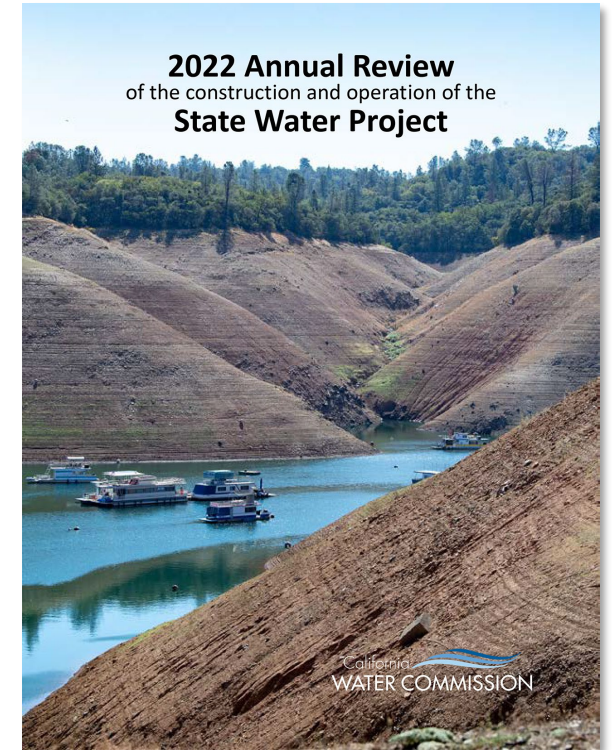
January 18, 2023





# The Commission's Obligation

- Water Code section 165 – conduct an annual review of the progress of the construction and operation of the State Water Project.
- The Commission reports its findings and recommendations to DWR and the Legislature.
- Goal 2 of the Strategic Plan – “focus on how the SWP adapts and responds to hydrological extremes expected with climate change, restores critical ecosystems, and addresses aging infrastructure.”

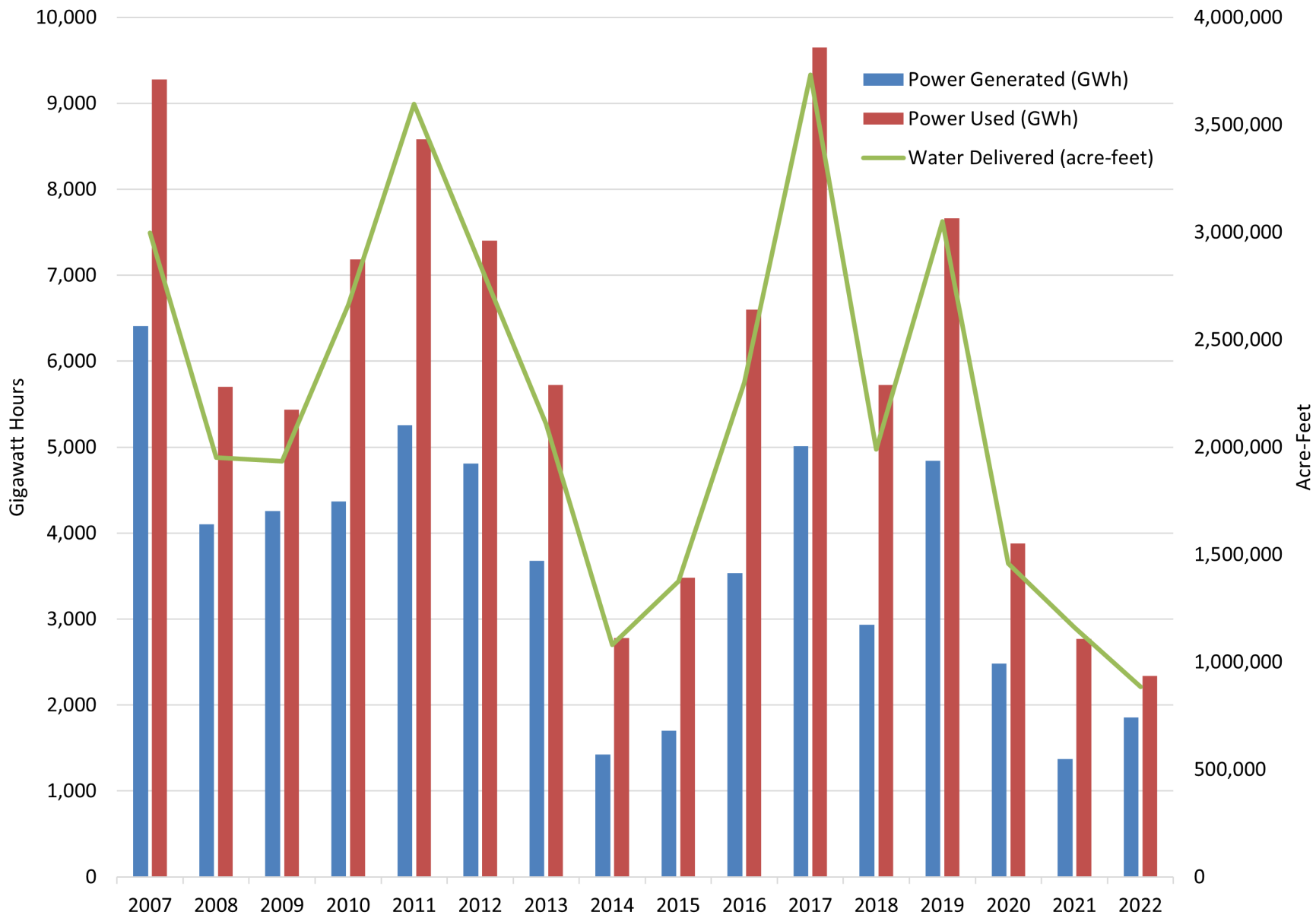




# 2022 Theme: Preparing for climate extremes – Ensuring a reliable State Water Project to meet the challenges of drought, flood, and wildfire.



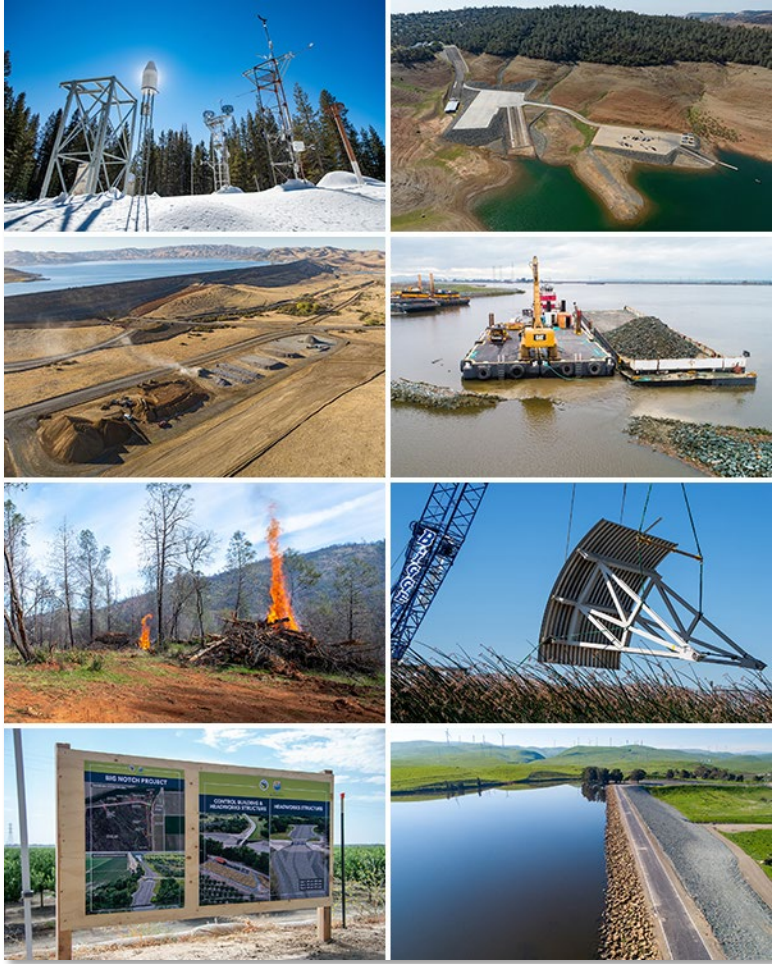




# SWP Water Delivery and Power Generation and Use



# 2022 Briefings



- Adaptive Forecasting Processes
- Delivery Capability Report
- Drought Planning for 2022
- Annual Budget & Multi-year Cost Planning
- Asset Management & Staffing Changes
- Drought Outlook for 2023
- Wildfire Response Planning
- Climate Change Adaptation Plan
- Water Supply Contract Extensions
- Construction Update

# Findings

## **The Commission finds that, in 2022:**

- DWR took steps to better account for climate change in its water supply forecasting by pursuing data augmentation, forecast model improvements, and partner collaboration.
- DWR advanced multiple climate change-informed planning processes, which included initiating a SWP Climate Change Adaptation Plan, and integrating a range of risk-informed future climate change projections and robust data in the drafting of the 2023 Delivery Capability Report.

# Findings

- DWR improved its modeling of burn-scarred areas in the Feather River watershed to evaluate how fire has and will continue to impact snowpack accumulation and the timing and amount of runoff
- DWR took actions to mitigate the impacts from the 2022 drought by considering more extreme scenarios in its water supply planning and engaging in more frequent, earlier cross-agency coordination. DWR is involved in early drought planning for 2023, which entails conservative planning and continued multi-agency collaboration.

# Findings

- DWR apprised the Commission of its financial goals, SWP budget, and cost projections, indicating that its 2022 approved SWP budget was \$923 million, including operations and capital costs.
- To address the challenges of aging SWP infrastructure, DWR's Asset Management Program used a risk-informed process to prioritize capital and extraordinary operations and projects for the repair, refurbishment, and replacement of infrastructure. DWR filled 67 positions during the 2021-22 fiscal year to assist with these projects and received authorization for 35 new positions for fiscal year 2022-23.

# Findings

- To ensure long-term financing of the capital needs and mitigate affordability concerns due to cost compression, DWR executed contract extension amendments with 25 SWP Contractors, extending their terms for an additional 50 years (from 2035 to 2085). DWR is in the process of executing the remaining four amendments.
- DWR informed the Commission about key construction activities undertaken in the past year to manage and maintain the SWP, including the installation of an emergency drought barrier to prevent Delta saltwater intrusion.

# Recommendations

## The Commission recommends that:

- DWR provide the Commission with information about how SWP operations will need to adapt to increasing aridity and the reduction in available water supply caused by hotter, drier conditions, including how this will impact water supply contracts.
- DWR inform the Commission of how it balances the needs of its multiple beneficiaries – including the environment and smaller water districts and communities – over the long term and particularly in years of extreme drought.



# Recommendations

- DWR inform the Commission about how it is continuing to respond to drought conditions, including how it supports water transfers to offset drought impacts.
- DWR continue to provide the Commission with information about water supply forecasting and allocations.
- DWR keep the Commission updated on its employment of the latest technologies for real-time data collection and measurement to help with water management decision making.

# Recommendations

- DWR keep the Commission apprised of its work to better understand atmospheric rivers, and how it is using this knowledge to prepare for floods and to improve SWP climate resiliency.
- DWR keep the Commission apprised of its work to understand the water supply implications of wildfire and any subsequent actions taken to address wildfire-related issues.

# Recommendations

- DWR continue to provide the Commission with financial and capacity updates and projections that reflect future resource needs to address the anticipated challenges of climate change and aging infrastructure.
- DWR share with the Commission its long-term plans for aging infrastructure repair.

# Recommendations

- DWR keep the Commission apprised of its efforts to advance large-scale infrastructure construction and maintenance in a manner that is inclusive of diverse stakeholders and accounts for the challenges of a changing climate. Specifically:
  - how planning for new Delta Conveyance Project is progressing, and how DWR is considering impacts to the Delta as place; and
  - how projects to address the near-term impacts of subsidence on the California Aqueduct are being coupled with efforts to stem the underlying causes of subsidence.

# Recommendations

- DWR works with Commission staff to increase the Commission's understanding of SWP operations through facility tours.





<https://cwc.ca.gov/Programs-and-Topics>

