AGENDA
REGULAR BOARD MEETING

Wednesday, January 13, 2021, 12:00 P.M.
Board Room, UWCD Headquarters
1701 N. Lombard Street, Oxnard CA 93030

Meeting attendees should be aware that the meetings of the Board are, as required by law, open to the public and the District has very limited powers to regulate who attends Board meetings. Therefore, attendees must exercise their own judgement with respect to protecting themselves from exposure to COVID-19, as the District cannot ensure that all attendees at public meetings will be free from COVID-19.

In addition to its public Regular Board of Directors meeting, people may choose to participate virtually using the Webex video conferencing application.

To participate in the Board of Directors meeting via Webex, please access:
https://unitedwaterconservationdistrict.my.webex.com/unitedwaterconservationdistrict.my/j.php?MTID=m24ae5db158b3b25f5fb45bb9ca5412ca

Use Meeting number: 126 404 6142 **Password:** Direct (347328 from phones)
Join by phone (audio only): +1-408-418-9388 (Toll rates apply) **Password**: Direct (347328)

BOARD MATTERS

Normally, Action (Motion) Items will be considered and acted upon separately; Consent Items will be considered and acted upon collectively, although a Consent Item may be considered and acted upon separately; and Information Items will be considered separately without action. The Board of Directors in its discretion may change the order of agenda items.

1. FIRST OPEN SESSION 12:00 P.M.

Items to be discussed in Executive (Closed) Session will be announced.

1.1 Public Comments

Information Item

Members of the public may address the Board on any matter on the Closed Session agenda or on any non-agenda item within the jurisdiction of the Board. All comments are subject to a five-minute time limit. Virtual participants, please use "raise hand" option in "participants" menu.

1.2 EXECUTIVE (CLOSED) SESSION 12:05 P.M.

The Board will discuss matters outlined in the attached Executive (Closed) Session Agenda (Exhibit A).

2. SECOND OPEN SESSION AND CALL TO ORDER 1:30 P.M.

2.1 Pledge of Allegiance

2.2 Public Comment
Information Item
Members of the public may address the Board on any item on the Consent Calendar or on any non-agenda item within the jurisdiction of the Board. No action will be taken by the Board on any non-agenda item. All comments are subject to a five-minute time limit.

2.3 Approval of Agenda
Motion

2.4 Oral Report Regarding Executive (Closed) Session
Information Item
Presented by District Legal Counsel David D. Boyer.

2.5 Board Communication
Information Item
Board members may present non-agenda information including, but not limited to, the following: 1) meetings, workshops, conferences and functions attended during the previous month on behalf of the District; 2) meetings, workshops, conferences and functions Directors plan to attend in the upcoming months; and 3) possible conflicts that Directors might have with respect to issues on the Agenda.

2.6 General Manager's Report
Information Item
The General Manager will present information on his activities of possible interest to the Board and that may have consequence to the District.

2.7 Update on Public Health Mandates Regarding Coronavirus Pandemic (COVID-19)
Information Item
The Board will receive an update on the latest measures being taken and recommended by the State of California Department of Public Health, Center for Disease Control and World Health Organization, among other sources, as well as executive orders from County Public Health officials, CA Governor Newsom and President Trump regarding the COVID-19 virus.

2.8 Election of Officers
Motion
The Board will accept nominations and elect officers for 2021.

2.9 Staff Service Awards for 2020
Ceremonial Item
The Board will present service awards to staff.

3. CONSENT CALENDAR: All matters listed under the Consent Calendar are considered routine by the Board and will be enacted by one motion. There will be no separate discussion of these items unless a Board member pulls an item from the Calendar. Pulled items will be discussed and acted on separately by the Board. Members of the public who want to comment on a Consent Calendar item should do so under Public Comments. (ROLL CALL VOTE REQUIRED)

A. Approval of Minutes
Motion
Approval of the Minutes for the Regular Board Meeting of December 9, 2020.

B. Groundwater Basin Status Reports
Information Item
Receive and file Monthly Hydrologic Conditions Report for the District.

C. Monthly Investment Report
Information Item
Report on the District's investments and the availability or restriction of these funds. All investments are in compliance with the District's investment policy, which is reviewed and approved annually by the Board.

4. MOTION ITEMS (By Department)

Engineering Department – Dr. Maryam Bral

4.1 Resolution 2021-02 Accepting California Environmental Quality Act (CEQA) Notice of Categorical Exemption Determination for the Oxnard Hueneme (OH) Backup Generator Project at the El Rio Booster Plant
Motion
The Board will consider approving Resolution 2021-02 accepting the California Environmental Quality Act (CEQA) Notice of categorical exemption determination for the Oxnard Hueneme (OH) Backup Generator project at the El Rio Booster Plant and allowing staff to file a Notice of Exemption (NOE) with the Ventura County Clerk and Recorder's Office.

4.2 Contract Amendment with Northwest Hydraulic Consultants for the Freeman Diversion Hardened Ramp Physical Modeling Support
Motion
The Board will consider authorizing the General Manager to execute an amendment to the professional services agreement with Northwest Hydraulic Consultants (NHC) in the amount of $125,595 to provide further analysis and support for the physical modeling of the Hardened Ramp as a Freeman Diversion Fish Passage Facility alternative

4.3 Contract Amendment with Stantec for the Freeman Diversion Modeling and Design of Vertical Slot Fish Ladder and Intake

Motion

The Board will consider authorizing the General Manager to execute an amendment to the professional services agreement with Stantec in the amount of $403,879 to provide further analysis and support of the physical modeling of the Vertical Slot as a Freeman Diversion Fish Passage Facility alternative.

Operations and Maintenance Department – Brian Collins

4.4 Resolution 2021-03 Authorization of a Purchase of Carryover Water from Ventura Water and Casitas Municipal Water District and Finding that the Associated State Water Project is Statutorily Exempt from CEQA

Motion

The Board will consider approving Resolution 2021-03 authorizing the General Manager or his designee to execute a contract for the purchase of carryover water from Ventura Water and/or Casitas Municipal Water District; and finding that the associated single year State Water Project (SWP) transfer from Ventura Water and/or Casitas Municipal Water District to the District is exempt from the California Environmental Quality Act (CEQA) and direct staff to post a Notice of Exemption consistent with applicable requirements.

4.5 Execution of a Contributed Funds Agreement for the Physical Modeling of the Freeman Diversion Rehabilitation Project with the Bureau of Reclamation.

Motion

The Board will consider authorizing the General Manager or his designee to execute a contributed funds agreement (CFA) with the Bureau of Reclamation (Bureau) for the physical modeling of the two proposed project alternatives for the Freeman Diversion Rehabilitation Project, currently under engineering design by Stantec and Northwest Hydraulic Consultants.

5. PRESENTATIONS AND MONTHLY STAFF REPORTS (By Department)

Administrative Services Department - Anthony Emmert

5.1 Monthly Administrative Services Department Report – Anthony Emmert

Information Item

Staff will report on and provide a presentation to the Board regarding Administration Department activities including issues associated with budget development, financial performance versus budget plan, financial accounting requirements and procedures, potential debt issuance and related financial services, status of District investments and reserves, updates on its capital improvement programs, human resources and safety, District property and facilities maintenance and administration, the search for new District offices, District records and reports, groundwater extraction statements administration, risk management and District liability insurance matters, management of District contracts, policy development, governance procedures, and supporting activities of Board and staff.

Engineering Department – Maryam Bral

5.2 Monthly Engineering Department Report

Information Item

Staff will report on and provide a presentation to the Board regarding various water resources, planning efforts and department programs affecting the District, including, but not limited to design and construction; dam safety; FERC license compliance; Freeman Diversion; recycled water; pipeline operations and various engineering analysis.

Environmental Services Department – Linda Purpus

5.3 Monthly Environmental Services Department Report

Information Item

Staff will report on and provide a presentation to the Board regarding environmental and regulatory issues of note to the District. The report will include water releases, operations of the fish ladder at the Freeman Diversion, various monitoring efforts, study plans and issues associated with the Endangered Species Act, including the Section 10 MSHCP process, future fish passage requirements, compliance with the District's FERC license/Biological Opinion, the Santa Felicia Dam, studies and operations in and near Piru Creek, any interactions with Rancho Temescal and Rancho Camulos.

Operations and Maintenance Department – Brian Collins

5.4 Monthly Operation and Maintenance Department Report

Information Item

Summary report on monthly operations and maintenance of District facilities including Santa Felicia Dam and hydroplant; the Piru Groundwater Recharge facility; the Freeman Diversion Dam; the Saticoy and El Rio Groundwater Recharge facilities; the Pleasant Valley and Pumping Trough Pipeline systems; and the Oxnard-Hueneme Pipeline system. The report covers operating plans, the quantity and quality of water diverted and delivered, fish ladder status, major maintenance problems and repairs, status of O&M projects and safety and training issues.

Park and Recreation Department – Clayton Strahan

5.5 Monthly Park and Recreation Department Report

Information Item

Summary report on operations and items of note relative to the Lake Piru Recreation Area. Items may include, but are not limited to, discussion of camping and boating policies at the lake; operations and activities; financing and status of facility improvement projects; maintenance activities; security issues; and emergency response activities.

Water Resources Department – Maryam Bral

5.6 Monthly Water Resources Department Report

Information Item

Summary report on monthly Water Resources Department activities. Department activities include, but are not limited to, updates to the Ventura Regional Groundwater Flow Model; brackish water treatment feasibility study; upper Santa Clara River Chloride TMDL; hydrologic and well conditions statewide and locally; available Forebay storage; Ventura County well ordinance update; Fox Canyon GMA issues; City of Oxnard's recycled water program; potential water supply and recycled water projects, including use of United's terminal reservoirs; user groups (including but not limited to Oxnard Plain and Pumping Trough Pipeline groups); and potential District solar power facilities.

5.7 Update on Groundwater Sustainability Agencies (GSAs) and Sustainable Groundwater Management Act (SGMA)

Information Item

Summary report on the monthly activities of the three local Groundwater Sustainability Agencies (Mound Basin GSA, Fillmore and Piru Basins GSA, and the Fox Canyon Groundwater Management Agency), for which the District serves as a member director, and Santa Paula basin (adjudicated) Technical Advisory Committee (including formation of groundwater sustainability agencies in the District's basins, stakeholder and basin user groups, joint powers or governance agreements, development of water markets, and potential basin boundary changes). Staff may also report on state-wide issues related to the implementation of the Sustainable Groundwater Management Act of 2014.

6. BOARD OF DIRECTORS READING FILE

7. FUTURE AGENDA ITEMS

8. SECOND EXECUTIVE (CLOSED) SESSION*

In the event that the Board does not conclude its discussion of Anticipated and Existing Litigation during the first 90-minute Executive Session, the Board will adjourn to a Second Executive Session to conclude its discussion of the matters listed in Exhibit A (Executive Session Agenda)

9. Oral Report Regarding Second Executive (Closed) Session*

Information Item

Presented by District Legal Counsel David D. Boyer.

10. ADJOURNMENT

The Board will adjourn to the **Regular Board Meeting scheduled for Wednesday, February 10, 2021** or call of the President.

- If needed

All testimony given before the Board of Directors is recorded. Materials, which are non-exempt public records and are provided to the Board of Directors to be used in consideration of the above agenda items, including any documents provided subsequent to the publishing of this agenda, are available for inspection at the District's offices at 1701 N. Lombard Street, Suite 200, Oxnard CA 93030 during normal business hours.

The Americans with Disabilities Act provides that no qualified individual with a disability shall be excluded from participation in, or denied the benefits of, the District's services, programs or activities because of any disability. If you need special assistance to participate in this meeting, or if you require agenda materials in an alternative format, please contact the District Office at (805) 525-4431. Notification of at least 48 hours prior to the meeting will enable the District to make appropriate arrangements.

Approved: _____
Mauricio E. Guardado, Jr. – General Manager

Posted: (date) January 8, 2021 (time) 9a.m. (attest) *Kris Sofley*
At: United Water Conservation District Headquarters, 1701 N. Lombard Street, Oxnard CA 93030

Posted: (date) January, 8, 2021 (time) 9:15a.m. (attest) *Kris Sofley*
At: www.unitedwater.org

EXHIBIT A
EXECUTIVE (CLOSED) SESSION AGENDA

1. LITIGATION

1.1 Conference with Legal Counsel – Existing Litigation
Pursuant to Government Code Section 54956.9 (d)(1)

A. City of San Buenaventura v. United Water Conservation District, et al, Santa Barbara County Superior Court Case No. VENCI00401714

B. City of San Buenaventura v. United Water Conservation District, et al, Santa Barbara Superior Court Case No. 1414739 (consolidated for purposes of trial with case in subsection A.)

Note: 1.2 A and B consolidated in the California Supreme Court, 2nd Civil No. S226036, Review granted on June 24, 2015 of published decision of Division Six, Second District of the Court of Appeal of the State of California, 2d Civil No. B251810.

C. City of San Buenaventura v. United Water Conservation District, et al, Santa Barbara County Superior Court Case No. 1467531

D. Wishtoyo Foundation, et al v. United Water Conservation District, U.S. District Court for the Central District of California, Case No.2:16-cv-03869 GHK (PLAx)

E. Josey Hollis Dorsey, a minor, through his guardian ad litem Ryan Dorsey; and The Estate of Naya Rivera, through its personal representative, Justin Stiegemeyer, v. County of Ventura, a California public entity; United Water Conservation District, a California public entity; and Parks and Recreation Management, d/b/a Parks Management Company, a California corporation; and Does 1-20, inclusive, Superior Court of the State of California for the County of Ventura Case No. 56-2020-00547077-CU-PO-VTA

1.2 Conference with Legal Counsel-Anticipated Litigation
Pursuant to Government Code Section 54956.9(d)(2), two (2) cases.

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager

From: Kris Sofley, Clerk of the Board

Date: **January 5, 2021 (January 13, 2021 Meeting)**

Agenda Item: **2.5 Board Communication**
Information Item

Staff Recommendation:
Receive information provided by the Board of Directors and review the calendar of upcoming District meetings and events.

Discussion:
This item is provided on the agenda of each regular District Board of Directors meeting in order to allow Directors to present non-agenda information including, but not limited to, the following:

1. UWCD Committee participation – Committee Chair to report on Committee's objectives and actions to Board.
2. Meetings, workshops, conferences and functions attended during the previous month on behalf of the District.
3. Meetings, workshops, conferences and functions Directors plan to attend in the upcoming months.
4. Possible conflicts that Directors might have with respect to issues on the Agenda.

A calendar of scheduled District meetings and other events for 2020 and 2021 is attached, along with the AWA-VC calendar for 2021.

Attachments: A – 2020 Calendar of District's Standing Committee and Outside Agency meetings
B -- 2021 Calendar of District's Standing Committee and Outside Agency meetings
C -- 2021AWA VC Meeting and Events Calendar

United Water CONSERVATION DISTRICT

2020 Board and Standing Committee Meetings

January 07- Executive Committee (5:30pm-8:30pm)
14- Finance Committee (9am- 10am)
14- Executive Committee -Canceled
15- Board of Directors (12noon – 3:14pm)
16- AWA Waterwise Breakfast (Oxnard)
16- Fillmore Piru Basins GSA (5pm - 7:01pm)
22-Fox Canyon GMA
February 03- Legislative & Outreach Committee - Canceled
04- Water Resources Committee - Canceled
06- Engineering & Operations Committee - Canceled
11- Finance Committee (9am-10:05am)
12- Board of Directors (12noon - 3:35pm)
20- AWA Waterwise Breakfast (ThousandOaks)
20- Mound Basin GSA (1pm-2pm)
20- Fillmore Piru Basins GSA (5pm-7:45pm)
26- Fox Canyon GMA
March 02- Legislative & Outreach Committee (9am-10:08am)
03- Water Resources Committee - Canceled
05- Engineering & Operations Committee (9am-10:58am)
10- Finance Committee (9am-10:05am)
11- Board of Directors (12noon-3:31pm
19- AWA Waterwise Breakfast (Oxnard)
19- Mound Basin GSA (canceled)
19- Fillmore Piru Basins GSA (canceled)
25- Fox Canyon GMA (Canceled)
30- Executive Committee (8am-10:am)
30 - Special Board of Directors (10am - 12:15pm)
April 02- Engineering & Operation (canceled)
6- Legislative & Outreach Committee (canceled)
7- Finance Committee (canceled)
7- Water Resources Committee (canceled)
8- Board of Directors (12noon-1:32pm)
16- AWA Waterwise Breakfast (Thousand Oaks - canceled)
16-Mound Basin GSA (1pm -
16- Fillmore Piru Basins GSA (5pm -
22- Fox Canyon GMA (12noon-
May 04- Legislative & Outreach Committee (9am-9:58am)
05- Water Resources Committee (9am-10:26am)
07- Engineering & Operations Committee (9:01am -10:31am)
12- Finance Committee (9am-10:28am)
13- Board of Directors (12:10pm - 2:30pm
21- AWA Waterwise Breakfast (virtual)
21- Mound Basin GSA (1pm-1:55pm)
21- Fillmore Piru Basins GSA (5pm-7:10pm)
27- Fox Canyon GMA
June 01- Legislative & Outreach Committee (canceled)
02- Water Resources Committee (canceled)
04- Engineering & Operation(canceled)
9- Finance Committee (9am- 10:24a.m.)
10- Board of Directors (12noon- 2:47p.m.)
18- AWA Waterwise Breakfast (Thousand Oaks)
18- Mound Basin GSA (1pm)
18- Fillmore Piru Basins GSA (5pm)
24- Fox Canyon GMA
29 - Legislative & Outreach Committee (9am-9:48am)
30- Water Resources (9am - ?)
July 02- Engineering & Operations Committee(9am-10:20am)
7- Finance Committee (9am - 10:07am)
8- Board of Directors (12noon - 3:25pm)
16- AWA Waterwise Breakfast (Oxnard)
16- Mound Basin GSA (1pm -2:30pm)
16- Fillmore Piru Basins GSA (5pm - 6:45pm)
22- Fox Canyon GMA (1:30
August (UWCD is typically dark in August)
3- Legislative & Outreach Committee- Canceled
4- Water Resources Committee- Canceled
06- Engineering & Operations Committee- Canceled
11- Finance Committee - Canceled
12- Board of Directors - Canceled
20- Mound Basin GSA (1pm - 3:15p.m.)
20- Fillmore Piru Basings GSA (5pm-7:15pm)
26- Fox Canyon GMA
September 02- Water Resources Committee (1pm-2:41pm)
03- Engineering & Operations Committee (9am-10:18am)
08- Legislative and Outreach Committee (11:30am-12:40pm)
8- Finance Committee (9am- 9:55am)
9- Board of Directors (12noon - 3:59pm)
17- AWA Wasterwise Breakfast (Thousand Oaks)
17- Mound Basin GSA (1pm - 2:10pm)
17- Fillmore Piru Basins GSA (5pm - 7:43pm)
23- Fox Canyon GMA
October 01- Engineering & Operations Committee (9am-10:38am)
5- Legislative & Outreach Committee (9am-9:45am)
6- Water Resources Committee (9am-10:57am)
13- Finance Committee (9am-
14- Board of Directors (12noon - 3:34pm)
15- AWA Waterwise Breakfast (Oxnard)
15- Mound Basin GSA (1pm)
15- Fillmore Piru Basins GSA (5pm)
27- Special Board of Directors Meeting (12noon-3:55pm)
28- Fox Canyon GMA (1:30pm)
November 03- GENERAL ELECTION DAY
03- Water Resources Committee (9am-10:57am)
05- Engineering & Operations Committee
09- Finance Committee (9am -9:51am)
11- Board of Directors (12noon- 3:37pm)
19- AWA Waterwise Breakfast (Thousand Oaks)
19- Mound Basin GSA (1pm)
19- Fillmore Piru Basins GSA (5pm)
December 01- Water Resources Committee canceled
3- Engineering & Operations Committee (9am-10:34am)
3- Fox Canyon GMA (1:30pm
8- Finance Committee (9am - 10:17am)
9- Board of Directors (12noon -3:29pm)
17- Mound Basin GSA (1pm)
17- Fillmore Piru Basins GSA (5pm)
21- Special Finance Committee meeting (3pm - 3:59p.m.)

United Water
CONSERVATION DISTRICT

2021 UWCD Standing Committee and Outside Agencies Meeting Dates

JANUARY: 04 - Legislative and Outreach (9am-10:15am)
05- Water Resources (9am -)
06- Recreation (9am -)
07- Engineering and Operations (9am -)
12- Finance and Audit (9am)
13- Board Meeting (12noon)
20- CoLAB VC WHEEL (1pm)
21- Mound Basin GSA (1pm)
Fillmore and Piru Basin GSA (5pm)
27- Fox Canyon GMA (1:30pm)
FEBRUARY: 02- Water Resources (9am)
03- Recreation (9am)
04- Engineering and Operations (9am)
09- Finance and Audit (9am)
10- Board Meeting (12noon)
17- CoLAB VC WHEEL (1pm)
18- Mound Basin GSA (1pm)
Fillmore and Piru Basin GSA (5pm)
24- Fox Canyon GMA (1:30pm)
MARCH: 02- Water Resources (9am)
03- Recreation (9am)
04- Engineering and Operations (9am)
09- Finance and Audit (9am)
10- Board Meeting (12noon)
17- CoLAB VC WHEEL (1pm)
18- Mound Basin GSA (1pm)
Fillmore and Piru Basin GSA (5pm)
24- Fox Canyon GMA (1:30pm)
APRIL: 01- Engineering and Operations (9am)
05- Legislative and Outreach (9am)
06- Water Resources (9am)
07- Recreation (9am)
13- Finance and Audit (9am)
14- Board Meeting (12noon)
21- CoLAB VC WHEEL (1pm)
22- Mound Basin GSA (1pm)
Fillmore and Piru Basin GSA (5pm)
28- Fox Canyon GMA (1:30pm)
MAY: 04 - Water Resources (9am)
05- Recreation (9am)
06- Engineering and Operations (9am)
11- Finance and Audit (9am)
12- Board Meeting (12noon)
19- CoLAB VC WHEEL (1pm)
20- Mound Basin GSA (1pm)
Fillmore and Piru Basin GSA (5pm)
26- Fox Canyon GMA (1:30pm)
JUNE: 01 - Water Resources (9am)
02- Recreation (9am)
03- Engineering and Operations (9am)
08- Finance and Audit (9am)
09- Board Meeting (12noon)
16- CoLAB VC WHEEL (1pm)
17- Mound Basin GSA (1pm)
Fillmore and Piru Basin GSA (5pm)
JUNE, continued: 23- Fox Canyon GMA (1:30pm)
JULY: 01 - Engineering and Operations (9am)
05- Legislative and Outreach (9am)
06- Water Resources (9am)
07- Recreation (9am)
13- Finance and Audit (9am)
14- Board Meeting (12noon)
21- CoLAB VC WHEEL (1pm)
22- Mound Basin GSA (1pm)
Fillmore and Piru Basin GSA (5pm)
28- Fox Canyon GMA (1:30pm)
AUGUST – UWCD is DARK
18- CoLAB VC WHEEL (1pm)
19- Mound Basin GSA (1pm)
Fillmore and Piru Basin GSA (5pm)
25- Fox Canyon GMA (1:30pm)
31- Water Resources (9am)*
SEPTEMBER: 01- Recreation (9am)
02- Engineering and Operations (9am)
07- Finance and Audit (9am)
08- Board Meeting (12noon)
15- CoLAB VC WHEEL (1pm)
16- Mound Basin GSA (1pm)
Fillmore and Piru Basin GSA (5pm)
22- Fox Canyon GMA (1:30pm)
OCTOBER: 04 - Legislative and Outreach (9am)
05- Water Resources (9am)
06- Recreation (9am)
07- Engineering and Operations (9am)
12- Finance and Audit (9am)
13- Board Meeting (12noon)
20- CoLAB VC WHEEL (1pm)
21- Mound Basin GSA (1pm)
Fillmore and Piru Basin GSA (5pm)
27- Fox Canyon GMA (1:30pm)
NOVEMBER: 02 - Water Resources (9am)
03- Recreation (9am)
04- Engineering and Operations (9am)
09- Finance and Audit (9am)
10- Board Meeting (12noon)
17- CoLAB VC WHEEL (1pm)
18- Mound Basin GSA (1pm)
Fillmore and Piru Basin GSA (5pm)
30- Water Resources (9am)*
DECEMBER: 01- Recreation (9am)
01- Fox Canyon GMA (1:30pm)
02- Engineering and Operations (9am)
07- Finance and Audit (9am)
08- Board Meeting (12noon)
15- CoLAB VC WHEEL (1pm)
16 -Mound Basin GSA (1pm)
Fillmore and Piru Basin GSA (5pm)

*scheduled to prevent dual meetings on the same day

ASSOCIATION OF WATER AGENCIES OF VENTURA COUNTY

2021 CALENDAR OF EVENTS

ALL DATES ARE SUBJECT TO CHANGE

All meetings/events are confirmed by AWA via official notices sent prior to each meeting/event.
Note: All 2021 meetings/events will be via video-broadcast until further notice.

JANUARY	7	Board Meeting	3:00 pm, Thursday	
	19	Water Issues Committee	8:00 am, Tuesday	(AWA Members Only)
	21	**WaterWise Program**	**8:00 am, Thursday**	
	27	**Channel Counties/Water Systems**	**8:00 am, Wednesday**	
FEBRUARY	4	Executive Committee Meeting	3:00 pm, Thursday	
	16	Water Issues Committee	8:00 am, Tuesday	(AWA Members Only)
	18	**WaterWise Program**	**8:00 am, Thursday**	
	24	**Channel Counties/Water Systems**	**8:00 am, Wednesday**	
MARCH	4	Board Meeting (Annual Meeting-Elections)	3:00 pm, Thursday	
	16	Water Issues Committee	8:00 am, Tuesday	(AWA Members Only)
	18	**WaterWise Program (Installation/Directors)**	**8:00 am, Thursday**	
	24	**Channel Counties/Water Systems**	**8:00 am, Wednesday**	
APRIL	1	Executive Committee Meeting	3:00 pm, Thursday	
	15	**WaterWise Program**	**8:00 am, Thursday**	
	20	Water Issues Committee	8:00 am, Tuesday	(AWA Members Only)
	28	**Channel Counties/Water Systems**	**8:00 am, Wednesday**	
MAY	6	Board Meeting	3:00 pm, Thursday	
	18	Water Issues Committee	8:00 am, Tuesday	(AWA Members Only)
	20	**WaterWise Program**	**8:00 am, Thursday**	
	26	**Channel Counties/Water Systems**	**8:00 am, Wednesday**	
JUNE	3	Executive Committee Meeting	3:00 pm, Thursday	
	15	Water Issues Committee	8:00 am, Tuesday	(AWA Members Only)
	17	**WaterWise Program**	**8:00 am, Thursday**	
	23	**Channel Counties/Water Systems**	**8:00 am, Wednesday**	
Date to be Confirmed	__	**CC/Water Systems Workshop (Confined Space)**	**8-Noon**	(Fire Dept-Camarillo)
JULY	1	Board Meeting	3:00 pm, Thursday	
	15	**WaterWise Program**	**8:00 am, Thursday**	
	20	Water Issues Committee	8:00 am, Tuesday	(AWA Members Only)
	28	**Channel Counties/Water Systems**	**8:00 am, Wednesday**	
AUGUST		**DARK**		
SEPTEMBER	**2**	Board Meeting	3:00 pm, Thursday	
	21	Water Issues Committee	8:00 am, Tuesday	(AWA Members Only)
	22	**Channel Counties/Water Systems Luncheon**	**8:00 am, Wednesday**	
Date to be Confirmed		**Math Workshop: Water Distribution Exam Review**	**8:00am–Noon**	
Date to be Confirmed	***30**	**Reception for Members/Elected Officials**	**4:00 pm, Thursday**	(AWA Members/Guests Only)
OCTOBER	7	Executive Committee Meeting	3:00 pm, Thursday	
Date to be Confirmed	***21**	**Annual Water Symposium & Exposition**	**7:00am–1:00pm, Thurs.**	**Courtyard – Oxnard**
Date to be Confirmed	***21**	**Operators Tech Workshop & Exposition**	**7:00 am-3:30pm, Thurs.**	**Courtyard – Oxnard**
Date to be Confirmed	__	**Math Workshop: Water Treatment Exam Review**	**8:00am–Noon**	
NOVEMBER	4	Board Meeting	3:00 pm, Thursday	
Date to be Confirmed	__	**Annual VC Water Supply Bus Tour**	**8:00 am**	
	16	Water Issues Committee	7:00 am, Tuesday	(AWA Members Only)
	***17**	**Channel Counties/Water Systems Lunch**	**8:00 am, Wednesday**	
	18	**WaterWise Breakfast Program**	**8:00 am, Thursday**	
DECEMBER	*09	Executive Committee Meeting	3:00 pm, Thursday	
	09	**Holiday Mixer/Corporate Night**	**4:00 pm, Thursday**	(AWA Members/Guests Only)

*** Indicates change from typical event date**

5156 McGrath Street, Suite 104 • Ventura, California 93003 • Tel: (805) 644-0922 • Fax: (805) 644-0435 • www.awavc.org

United Water
CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

From: Mauricio E. Guardado, Jr., General Manager

Date: **January 5, 2021 (January 13, 2021meeting)**

Agenda Item: **2.6 General Manager's Report**
Information Item

Staff Recommendation:
Receive an update from the General Manager related to items of possible interest to the Board and that may have consequences to the District.

Discussion:
The General Manager's primary responsibility is to ensure that the policies and directions of the Board of Directors are adhered to as he oversees and manages the efforts of the department managers and their staffs in the day-to-day operation and administration of the District. All of these efforts are to be consistent with the District's Mission Statement and within the fiscal constraints set by the Board of Directors.

The District's managers provide detailed monthly updates to the Board of Directors which outline projects' statuses, accomplishments, issues of concern, projects planning, etc. The monthly General Manager's report provides an opportunity for the General Manager to discuss issues that may impact the efforts of the separate departments as they pursue their defined goals and objectives. The report also provides the Board with information on the District's efforts and involvement in local, regional and state-wide issues.

Finally, the monthly General Manager's report offers the Board of Directors an overview of how their policies and directions are being administered through discussion of the work plan and efforts of the General Manager.

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager
Anthony Emmert, Assistant General Manager

From: Josh Perez, HR Manager
Tony Huynh, Safety and Security Program Coordinator

Date: **January 5, 2021 (January 13, 2021 Meeting)**

Agenda Item: **2.7 Update on Public Health Mandates Regarding Coronavirus Pandemic (COVID-19)**
Information Item

Staff Recommendation:
The Board of Directors will receive an update on the latest measures being taken and recommended by the State of California Department of Public Health, Center for Disease Control and World Health Organization, among other sources, as well as executive orders from Governor Newsom and President Trump regarding the COVID-19 virus.

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager

From: Kris Sofley, Executive Assistant/Clerk of the Board

Date: **January 5, 2021 (January 13, 2021 meeting)**

Agenda Item: **2.8 Election of Officers**
Motion

Staff Recommendation:
The Board will accept nominations and elect officers for 2021.

Discussion:
The Board's Policies and Procedures establishes January as the month for annual election of officers. Traditionally, the Board has taken nominations for the offices of President, Vice President and Secretary/Treasurer of the Board and has voted and announced the results of the election immediately following the close of nominations for each position.

In accordance with the Policies and Procedures, no Director may serve for more than two consecutive one-year terms in any one of the three Board offices. President Michael W. Mobley, Vice President Bruce E. Dandy and Secretary/Treasurer Sheldon G. Berger have each served in their current posts for one year. Consequently, all three Board offices may be filled by the same Directors.

The Board's Policies and Procedures also fix the regular February Board meeting as the time the Board President makes committee assignments and assignments of District representatives to outside organizations for the year. As the District's Standing Committees may be reorganized for the year ahead, any Director who wishes to state a preference for committee assignments should inform the Board President or staff before the February meeting. A 2020 committee roster is attached. Please note that President Mobley recently added a Recreation Committee to the UWCD Standing Committees which is not represented in the attached Roster. The Board President may only serve on the Executive Committee. No action on committee assignments will be made at the January 13, 2021 Board Meeting.

Fiscal Impact
There is no fiscal impact for this motion.

Attachments: A – 2020 Roster of Revised Standing Committees and Appointments as Representatives to Outside Agencies

2020 ROSTER OF COMMITTEES

STANDING COMMITTEES

EXECUTIVE COMMITTEE: [GM] Overall responsibility for Governance Issues and HR/Personnel policies

President: Michael W. Mobley
Vice President: Bruce E. Dandy
Sec./Treasurer: Sheldon G. Berger

Meets as appropriate

ENGINEERING & OPERATIONS COMMITTEE: [AGM, Chief Engineer, Operations & Maintenance Manager] Projects, Operations, Permits, Planning, Equipment, Dam Safety, Facilities

Chair: 1 Lynn E. Maulhardt
2 Edwin T. McFadden III
3 Daniel C. Naumann

Meets 1st Thursday of the Month

FINANCE & AMINISTRATION COMMITTEE: [AGM, CFO] Budgets, Rates, Audit, Appropriations, and Grant Administration; HR/ Risk Management and IT

Chair: 1 Sheldon G. Berger
2 Bruce E. Dandy
3 Daniel C. Naumann

Meets 2nd Tuesday of the Month

LEGISLATIVE & OUTREACH COMMITTEE [GM/CoB] Legislative Policy, Bond/Grant Development, Media Relations, Stakeholder Engagement

Chair: 1 Bruce E. Dandy
2 Lynn E. Maulhardt
3 Sheldon G. Berger

Meets 1st Monday of the Month

WATER RESOURCES COMMITTEE: [Chief Engineer] Groundwater, Surface Water, Water Quality and Modeling, Overdraft, Seawater Intrusion, Replenishment, FCGMA, GSAs

Chair: 1 Edwin T. McFadden III
2 Daniel C. Naumann
3 Lynn E. Maulhardt

Meets 1st Tuesday of the Month

UWCD REPRESENTATIVES

ACWA JPIA BOARD OF DIRECTORS
Bruce E. Dandy
Alternate: Mauricio E. Guardado Jr

FILLMORE AND PIRU BASINS GSA
Edwin T. McFadden III

FOX CANYON GROUNDWATER MANAGEMENT AGENCY
Michael W. Mobley
Alternate: Daniel C. Naumann

MOUND BASIN GSA
Michael W. Mobley

OXNARD CHAMBER WATER COMMITTEE
Bruce E. Dandy
Alternate: Daniel C. Naumann

VENTURA COUNTY AWA BOARD OF DIRECTORS
Sheldon G. Berger
Alternate: Daniel C. Naumann

VENTURA COUNTY AWA WATER ISSUES COMMITTEE
Bruce E. Dandy

VENTURA COUNTY SPECIAL DISTRICTS ASSOCIATION
Bruce E. Dandy
Alternate: Daniel C. Naumann

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager

From: Josh Perez, Human Resources Manager

Date: **January 5, 2021 (January 13, 2021 meeting)**

Agenda Item: **2.9 Staff Service Awards for 2020**
Ceremonial item

Staff Recommendation:
Present service awards to staff for service through the end of 2020.

Discussion:
The following staff members have earned longevity of service awards in the past year:

5 Years
Kathleen Kuepper - hydrogeologist (hire date August 2015)
John Lindquist - senior hydrogeologist (hire date June 2015)
Robert Richardson - senior engineer (hire date October 2015)
Bram Sercu - senior hydrologist, (hire date June 2015)
Steve Trocino - accountant III, (hire date August 2015)
Mauricio E. Guardado, Jr. – general manager (hire date August 2015)

10 Years
Greg DeJarnette, Santa Felicia Dam operator (hire date January 2010)

15 Years
Adrian Aguayo – facilities maintenance worker II (hire date October 2005)
Raymond Avila – Operations and Maintenance recharge worker I (hire date July 2005)

MINUTES
REGULAR BOARD MEETING
Wednesday, December 9, 2020, 12:00 P.M.

DIRECTORS PARTICIPATING

President Michael W. Mobley
Vice President Bruce E. Dandy
Secretary/Treasurer Sheldon G. Berger (virtual)
Mohammed A. Hasan
Lynn. E. Maulhardt
Edwin T. McFadden III (virtual)
Daniel C. Naumann

STAFF PARTICIPATING

Mauricio E. Guardado, Jr., general manager
David D. Boyer, legal counsel
Dr. Maryam Bral, chief engineer (virtual)
Anthony Emmert, assistant general manager
John Carman, operations and maintenance program supervisor (virtual)
Brian Collins, operations and maintenance manager
Dan Detmer, supervising hydrogeologist
Joseph Jereb, chief financial officer
Kathleen Kuepper, hydrogeologist
Evan Lashly, environmental scientist
Tessa Lenz, associate environmental scientist
Tim Lewsadder, recharge operations and maintenance worker I
Murray McEachron, principal hydrologist
Craig Morgan, senior engineer (virtual)
Josh Perez, human resource manager
Zachary Plummer, IT administrator
Linda Purpus, senior environmental scientist (virtual)
Robert Richardson, senior engineer (virtual)
James “JD: Smallwood, recharge operations and maintenance worker I
Kris Sofley, executive administrative coordinator/clerk of the board
Clayton Strahan, chief park ranger
Dr. Jason Sun, senior hydrogeologist/modeler (virtual)

PUBLIC PARTICIPANTS

Bob Allen (virtual)
Dennis Cardoza (virtual)
Y Gutierrez (virtual)
Patrick Kelley
Burt Handy (virtual)
Aubrey Mescher (virtual)
Cliff Rodrigues (virtual)
Eric Schaad (virtual)

Jennifer Tribo, Ventura Water (virtual)
Maria Ventura (virtual)

1. FIRST OPEN SESSION 12:00 P.M.

President Mobley called the meeting to order at 12:04p.m.

1.1 Public Comments

Information Item

President Mobley asked if there were any comments from the public. None were offered.

President Mobley asked Legal Counsel to outline the Board's discussion for the Executive (Closed) Session. Mr. David Boyer, District's legal counsel, stated that the Board would be discussing one case of anticipated litigation pursuant to Government Code Section 54956.9(d)(2); and cases of existing litigation including three cases with the City of San Buenaventura; one with the Wishtoyo Foundation and one regarding Josey Hollis Dorsey and the estate of Naya Rivera, pursuant to Government Code Section 54956.9(d)(1).

President Mobley adjourned the meeting to Executive Session at 12:06p.m.

1.2 EXECUTIVE (CLOSED) SESSION 12:06 P.M.

2. SECOND OPEN SESSION AND CALL TO ORDER 1:15 P.M.

President Mobley called the Second Open Session of the meeting to order at 1:15p.m. Clerk of the Board took roll: six Directors present (Berger, Dandy, Maulhardt, McFadden, Mobley, Naumann)

2.1 Pledge of Allegiance

President Mobley asked Director Naumann to lead everyone in the Pledge of Allegiance.

2.2 Public Comment

Information Item

President Mobley asked if there were any comments from the public. None were offered.

2.3 Approval of Agenda

Motion

President Mobley asked if there were any changes to the agenda. General Manager Mauricio Guardado replied that the agenda was unchanged. President Mobley asked for a motion.

Motion to approve the agenda, Director Naumann; second, Director McFadden. Roll call vote: six ayes (Berger, Dandy, Maulhardt, McFadden, Naumann, Mobley); none opposed. Motion carries unanimously 6/0.

2.4 Oral Report Regarding Executive (Closed) Session
Information Item
President Mobley asked District Legal Counsel to report out of Executive (Closed) Session.

Mr. Boyer reported that the Board took no action in Executive (Closed) Session that is reportable under the Brown Act.

2.5 Board Communication
Information Item
Director Maulhardt reported his participation at the Engineering Committee meeting on November 5 and the Board meeting on November 10.

Director Dandy reported attending the Finance Committee meeting on November 9 and the Board meeting on November 10 as well as his participation in two meetings of the AWA-VC – a regular meeting on November 19 and the Water Issues Committee meeting on November 17; and two meetings of the Oxnard Chamber of Commerce, one on November 11 and one on November 12.

Director Naumann reported his participation at the Board meeting on November 10, the Water Resources Committee meeting on November 3 and the Engineering and Operations Committee on November 5 and the Special Engineering and Operations Committee meeting on November 9. He attended a meeting with the GM and Director Maulhardt on November 3 and a meeting with Mr. Boyer and the District's consultant Dr. Mathis on November 29. He also participated in the Regional Defense Partnership for the 21st Century meeting on November 3 and the virtual AWA-VC Elected Officials and Leadership reception.

Director Berger reported his participation in the Finance Committee meeting on November 9 and Board Meeting on November 10, as well as a Special Executive Committee meeting on November 18. He also participated in the AWA-VC Symposium on November 19 and the AWA-VC Board meeting on November 5.

Director McFadden reported his participation at the Fillmore and Piru Basins GSA Board meeting on November 19, the UWCD Engineering and Operations Committee meeting on December 3, today's Board meeting and he will me participating in a FPBGSA Stakeholder Workshop later tonight.

President Mobley reported his participation in the Fox Canyon GMA meeting on December 2, a Mound Basin GSA Board meeting on November 19 and an upcoming MBGSA Board meeting on December 17, a Special UWCD Executive Committee meeting on November 18 and a prep meeting with the GM on December 8 to prepare for today's Board meeting.

2.6 General Manager's Report

Information Item

General Manager Mauricio Guardado introduced Operations and Maintenance Manager Brian Collins, who introduced two new staff members: James "JD" Smallwood who has joined the District as a recharge operations and maintenance worker I, and Tim L Tim Lewsadder, who is also a recharge operations and maintenance worker I. Mr. Collins provided the Board with background information on both gentlemen and stated that these new staffers represented the next generation of United's team.

Mr. Guardado then expressed his excitement regarding the passage of the Water Resources Development Act of 2020 in Congress and that once the Senate voted, the legislation would be on the President's desk for signature before the end of the year. Mr. Guardado thanked Senator Feinstein and especially Congresswoman Julia Brownley for their support on this important amendment. Mr. Guardado also mentioned that he is working in coordination with Congresswoman Brownley's office on a press release that will be distributed once the President signs this new legislation into law.

Mr. Guardado then asked Mr. Boyer to address AB992 regarding virtual meetings and social media. Mr. Boyer explained to the Board that this new legislation goes into effect January 1, 2021 and only impacts Board members. The law clarifies Board members use of social media, saying it is okay to respond to a member of the public's question through social media posts, but that Board members cannot comment on other Board members' posts or comments, as that could be construed as a serial meeting, which is prohibited by the Brown Act. Mr. Boyer cautioned the Board to be mindful of this new law.

2.7 Update on Public Health Mandates Regarding Coronavirus Pandemic (COVID-19)

Information Item

Human Resources Manager Josh Perez provided the Board with an update on the latest measures being taken and recommended by the State of California Department of Public Health, Center for Disease Control and World Health Organization, among other sources, as well as executive orders from County Public Health officials, CA Governor Newsom and President Trump regarding the COVID-19 virus. He added that with the escalating number of COVID-19 cases in the County and the increase in hospitalizations, the County would be closing again. He also reported that Ventura County, Santa Barbara County and San Luis Obispo County were attempting to be reclassified as "Central Coast" rather than be included in the "Southern California" region, as Los Angeles' numbers are negatively impacting these counties tier level. In the meantime, staff continue to work remotely, when practical, and are practicing social distancing, wearing mask and other public safety measures.

2.8 Presentation of Proclamation in Recognition of Director Patrick J. Kelley
Ceremonial Item

President Mobley called former Director Patrick J. Kelley up from the audience in the Boardroom and asked him to join him at the podium. President Mobley had a framed proclamation from the UWCD Board of Directors, recognizing Mr. Kelley's many contributions and services to the District, which President Mobley synopsized in presenting the proclamation to Mr. Kelley.

Director Berger addressed Mr. Kelley saying that he did an outstanding job as the interim Board member and that his financial background was very beneficial to the Finance Committee and Board overall. Director Berger added that he hopes Mr. Kelley will stay connected with the District and thanked Mr. Kelley for a job well done.

Director McFadden told Mr. Kelley that it was a pleasure working with him and thanked Mr. Kelley for his service.

Director Naumann stated that he has known Mr. Kelley for decades and that his strength comes from his love for family, which has been beneficial in building relationships with the farming community and making things happen. He also thanked Mr. Kelley for his time and his service.

Director Maulhardt said he has known Mr. Kelley since his early days with Farm Credit West and it has been a pleasure to see him apply his efforts and energy to the District's issues, responding in a calm and reasonable manner to reach solutions. Director Maulhardt said he appreciated all that Mr. Kelley has done for the District and wished him the best of luck in his future endeavors.

Director Dandy thanked Mr. Kelley for his service to the District, including sharing his financial knowledge and expertise with the Bond issuance. Director Dandy said he will miss Mr. Kelley's insight, and wished him well.

President Mobley said he appreciated Mr. Kelley filling the void in Division 2 and that because of Mr. Kelley's background, experience and knowledge, the Board was able to trust his guidance and that Mr. Kelley's financial acumen was a bonus. President Mobley added that with Mr. Kelley's help, the Board was able to create stronger bridges with the City of San Buenaventura and that the leadership of the District would always remember his service to the District.

Mr. Kelley then addressed the Board, saying that they were probably not expecting a rebuttal, and in the spirit of Director Maulhardt, he will be brief in his comments. Mr. Kelley congratulated Mr. Hasan, saying that Mr. Hasan will do well with the fine folks here at the District. Mr. Kelley said he was proud to fill a need with his education, work experience, background and history with the District. Mr. Kelley said that Mr. Guardado and the District staff are talented individuals whose reports, planning and projects demonstrate the excellent work performance of the team. He

then said that every member of the District should be proud of the service the District provides to the community. Mr. Kelley ended by invoking what he called an old Irish toast, saying "As you stand at the top of the stairs and slide down the banister of life, may the splinters never point the wrong way."

2.9 Oaths of Office – United Water Conservation District Division 4, Division 5, Division 6, Division 7, Division 2, and Division 3

Motion

The Clerk of the Board, as a Deputy County Clerk, administered the Oath of Office to Director Berger, Director Dandy, Director Maulhardt and Director Naumann as they each begin a new four-year term on United's Board of Directors; and administer the Oath of Office to Director Mobley and the newly elected Director Hasan, each of whom begins a new two year or short term on United's Board of Directors.

Director Hasan stated that over 11,000 people voted for him, many of whom were friends. He thanked those friends for helping to get him elected, and his wife for putting up with him. Director Hasan said his first interaction with the District was in 1979, that he had met Irv Wilde and Jim Grisham, interviewed for the General Manager's position in the early 1980s and various other positions since. He said it has been a long journey and that he appreciated the help from the General Manager, District's Legal Counsel, and Dr. Mathis. He added that he is a team player and looks forward to working as a member of the Board of Directors.

3. CONSENT CALENDAR: All matters listed under the Consent Calendar are considered routine by the Board and will be enacted by one motion. There will be no separate discussion of these items unless a Board member pulls an item from the Calendar. Pulled items will be discussed and acted on separately by the Board. Members of the public who want to comment on a Consent Calendar item should do so under Public Comments. (ROLL CALL VOTE REQUIRED)

A. Approval of Minutes

Motion

Approval of the Minutes for the Regular Board Meeting of November 10, 2020.

B. Groundwater Basin Status Reports

Information Item

Receive and file Monthly Hydrologic Conditions Report for the District.

C. Monthly Investment and Pipeline Delivery Report

Information Item

Report on the District's investments and the availability or restriction of these funds. All investments are in compliance with the District's investment policy, which is reviewed and approved annually by the Board.

D. Comprehensive Annual Financial Report (CAFR) presented by the District's Auditors Vasquez & Co.

Information Item

The Board will receive the Comprehensive Annual Financial Report (CAFR) from the District's auditors Vasquez & Co.

Motion to approve the Consent Calendar, Director Maulhardt; Second, Director Naumann. Roll call vote: seven ayes (Berger, Dandy, Hasan, Maulhardt, McFadden, Naumann, Mobley); none opposed. Motion carries unanimously 7/0.

4. MOTION ITEMS (By Department)

Administrative Services Department – Joseph Jereb

4.1 Budget Transfer (Fund 420) in the amount of $200,000 from Legal Fees (Fund/Account 420-600-52510) to Professional Fees (Fund/Account 420-600-52220) – No net fiscal impact

Motion

Chief Financial Officer Joseph Jereb addressed the Board and explained that the requested transfer was to cover unanticipated expenditures to secure regulatory authorizations for sediment management activities at the Freeman Diversion.

Environmental Services Manager Linda Purpus added that the requested transfer amount was for consultants' support in securing regulatory authorizations and that due to the court order issued in August, there has been a reduction in funding needed for legal expenses.

Director Berger reported that the Finance Committee reviewed the requested transfer of funds and recommends Board approval of the motion.

Director Hasan asked how often these transfer requests occur. Mr. Jereb said after the Budget is adopted in June, sometimes adjustments or transfers of funds are necessary and that the Board needs to approve requests over a specific dollar amount threshold. Mr. Guardado clarified that this is a request to move money from one area to another and is not a request for more funding, and does not have a net fiscal impact.

Motion to authorize a budget transfer in the amount of $200,000 within Fund 420 from legal fees (Fund/Account 420-600-52510) to professional fees (Fund/Account 420-600-52220), Director Berger; Second, Director Maulhardt. Roll call vote: seven ayes (Berger, Dandy, Hasan, Maulhardt, McFadden, Naumann, Mobley); none opposed. Motion carries unanimously 7/0.

Operations and Maintenance Department – Brian Collins

4.2 Pleasant Valley County Water District Supplemental Appropriation of Funds to Perform Valve Replacement Activities at the Pleasant Valley (PV) Reservoir

Motion

Operations and Maintenance Manager Brian Collins addressed the Board and explained the supplemental appropriation of funds in the amount of $225,000 is requested to replace the above ground valves at the Pleasant Valley Reservoir.

Director Dandy asked if there were sufficient funds in the PV Enterprise Fund. Mr. Jereb said yes, as was reported to the Finance Committee yesterday. He added that

due to the 4,200 acre feet delivery of surface water which was unbudgeted there is revenue in the fund and a reduction in projected expenses.

Motion to approve a supplemental appropriation of $225,000, to support unbudgeted maintenance activities at the Pleasant Valley (PV) Reservoir, Director Naumann; Second, Director McFadden. Roll call vote: seven ayes (Berger, Dandy, Hasan, Maulhardt, McFadden, Naumann, Mobley); none opposed. Motion carries unanimously 7/0.

4.3 Authorize the Supplemental Appropriation of Funds to Purchase the Eddy Pump Dredge Equipment

Motion

Mr. Collins addressed the Board to explain that the requested supplemental appropriation of $122,801 was to support the unbudgeted purchase of dredging equipment and that the District was moving forward on the purchase at this time as it had accrued a credit of $42,000 towards the equipment purchase prices based on the District's recent rental of the equipment. Mr. Collins then presented slides depicting staff's analysis of the cost savings supporting the equipment purchase (see attached slides).

Director Maulhardt said that this purchased had been discussed at length during the Engineering and Operations Committee meeting and that he appreciates the additional information provided. He said it was important for the public to understand the impact of the District's efforts in securing permitting, sediment mitigation and other efforts that allow for greater recharge and surface deliveries. He continued stating that the release from Santa Felicia Dam also had side benefits in that the lower lake level provided for cost savings in the performance of various studies required as part of the District's Santa Felicia Dam Safety Improvement project. He said the Engineering Department gets a huge win, that Pleasant Valley was thrilled with the surface water delivery and the District needs to communicate the value of these actions. He also said he appreciates staff's ability to work with vendors to purchase equipment at significant savings, while also saving electrical costs, recharging the aquifer and providing efficiencies for the necessary engineering work at the Santa Felicia Dam.

Mr. Collins thanked Director Maulhardt for his statements and added that there is another benefit in that the nitrate levels were diluted at a time that typically sees low well levels and higher nitrate levels. Director Maulhardt said he was thrilled that Mr. Collins brought that up, adding that the reason for the creation of the Santa Felicia Dam was to recharge the forebay to improve the water quality of Oxnard wells and that diluting nitrate levels also creates a reduction in iron and manganese treatment.

Director Naumann stated that the Finance Committee had discussed the surface deliveries to Pleasant Valley, Pumping Trough and Oxnard Hueneme pipelines. Mr. Collins said that the delivery of surface water to ag users and then to M&I users in the evenings was a unique and very successful effort that the public recognizes.

Motion to approve a supplemental appropriation of $122,801 to support the unbudgeted purchase of dredge equipment, Director Maulhardt; Second, Director Hasan. Roll call vote: seven ayes (Berger, Dandy, Hasan, Maulhardt, McFadden, Naumann, Mobley); none opposed. Motion carries unanimously 7/0.

Park and Recreation Division – Clayton Strahan

4.4 Resolution 2020-19 Approving an Amended and Restated Ordinance No. 15 to Amend the Established Rules and Regulations for the Lake Piru Recreation Area and Extend the Authority Granted to the District's Park Ranger Personnel

Motion

Chief Ranger Clayton Strahan addressed the Board regarding the requested approval of Resolution 2020-19, which would adopt the amended and restated Ordinance No. 15, thereby extending the authority granted to the District's Park Ranger personnel. As Chief Strahan explained, he has brought this motion to the Engineering and Operations Committee and the Finance Committee after addressing the concerns and objections expressed by the Board when he initially presented the motion back in September.

Director Maulhardt said the Engineering and Operations Committee were first concerned about the breadth and scope defined and requested language changes to address those concerns. As now stated, the Recreation personnel can help when and where needed, in a limited scope, so that the District can "take care of our own."

Motion to adopt Resolution 2020-19, approving an amended and restated Ordinance No. 15, amending established rules and regulations for the Lake Piru Recreation Area and extending the authority granted to the District's Park Ranger personnel, Director Maulhardt; Second, Director Naumann. Roll call vote: seven ayes (Berger, Dandy, Hasan, Maulhardt, McFadden, Naumann, Mobley); none opposed. Motion carries unanimously 7/0.

5. PRESENTATIONS AND MONTHLY STAFF REPORTS (By Department)

Operations and Maintenance – Brian Collins

5.1 Monthly Operation and Maintenance Department Report

Information Item

Mr. Collins presented an overview of the monthly operations and maintenance activities regarding District facilities (see attached presentation).

Park and Recreation Department – Clayton Strahan

5.2 Monthly Park and Recreation Department Report

Information Item

Chief Strahan presented an overview of the monthly operations and items of note regarding the Lake Piru Recreation Area (see attached presentation).

Water Resources Department – Maryam Bral

5.3 Monthly Water Resources Department Report

Information Item

Dr. Bral introduced Supervising Hydrogeologist Dan Detmer to present an overview of the monthly Water Resources Department activities (see attached). Mr. Detmer also responded to questions from the Board regarding premature notification by certain government agencies that the drought was over.

Mr. Detmer introduced Principal Hydrologist Murray McEachron to present an overview of the District's 2020 96-Day Continuous Release (see attached).

5.4 Update on Groundwater Sustainability Agencies (GSAs) and Sustainable Groundwater Management Act (SGMA)

Information Item

Mr. Detmer presented an overview of the monthly activities of the three local Groundwater Sustainability Agencies (Mound Basin GSA, Fillmore and Piru Basins GSA, and the Fox Canyon Groundwater Management Agency), for which the District serves as a member director, and Santa Paula basin (adjudicated) Technical Advisory Committee.

Administrative Services Department - Anthony Emmert

5.5 Monthly Administrative Services Department Report – Anthony Emmert

Information Item

The Board received the summary report on Administration Department activities. President Mobley asked if the Board had any questions or comments. None were offered.

Engineering Department – Maryam Bral

5.6 Monthly Engineering Department Report

Information Item

The Board received a summary report on various water resources, planning efforts and department programs affecting the District. President Mobley asked if the Board had any questions or comments. None were offered.

Environmental Services Department – Linda Purpus

5.7 Monthly Environmental Services Department Report

Information Item

The Board received a summary report on environmental and regulatory issues of note to the District. President Mobley asked if the Board had any questions or comments. None were offered.

6. BOARD OF DIRECTORS READING FILE

7. FUTURE AGENDA ITEMS

President Mobley asked if there were any topics the Board members would like to address at future meetings. None were offered.

8. ADJOURNMENT 3:29p.m.

President Mobley adjourned the Board to the **Regular Board Meeting scheduled for Wednesday, January 13, 2021** or call of the President.

I certify that the above is a true and correct copy of the minutes of the UWCD Board of Directors meeting of December 9, 2020.

ATTEST:_____

Sheldon G. Berger, Secretary/Treasurer

ATTEST:_____

Kris Sofley, Clerk of the Board

United Water
CONSERVATION DISTRICT

ATTENDANCE LIST

MEETING DATE: Wednesday, December 9, 2020 12noon

MEETING: UWCD Regular Board of Directors Meeting

The signing or registering of your name on this sign-up form is not required but is voluntary. All persons may attend the meetings of the Board of Directors of United Water Conservation District without signing or registering their names on this form.

Name (Please Print)	Representing
Pat Kelley	

4.3 EDDY PUMP ANALYSIS

DECEMBER 9, 2020

1

1

2020 Freeman Diversion Sediment Management Summary

EQUIPMENT RENTAL TOTAL	$127,812.50		**$9.85**	**Additional $/AF**
Freeman- Acre feet diverted	12,981			

Basin Benefits	Lake Piru Benefits
Groundwater Recharge	$150,000 Savings
Nitrate Dilution	SFD Drilling
Agricultural Surface Water	Program
Water Quality Improvement	
Reduced Pumping	
Electrical Savings	

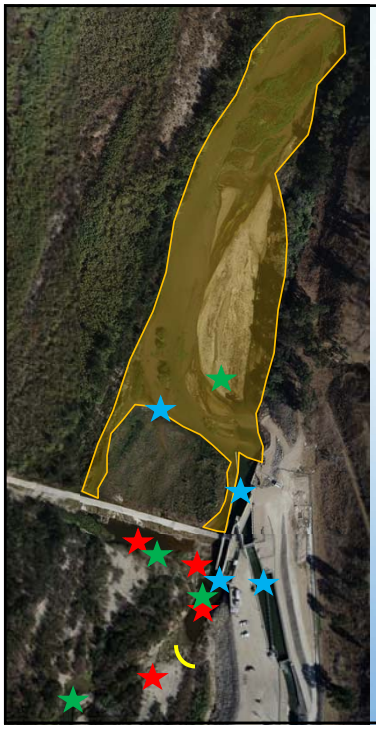
2

OPERATIONS & MAINTENANCE

DECEMBER 9, 2020

1

1



PRE-PROJECT ACTIVITIES- ES

- Snorkel surveys/underwater inspections
- Inundation/Stranding surveys
- Hydraulic control surveys
- Water quality monitoring
- Place block netting downstream
- Scout potential relocation sites
  - Santa Paula Creek
  - SCR mainstem at Willard Canyon

2


DAY OF ACTIVITIES- ES
Monitor dewatering while roller gate opens
Monitor block netting below downstream pool
Sweep fish screen bay
Erect secondary block netting
• Remove non-native fish species
• Relocate native fish species (no O. mykiss encountered)

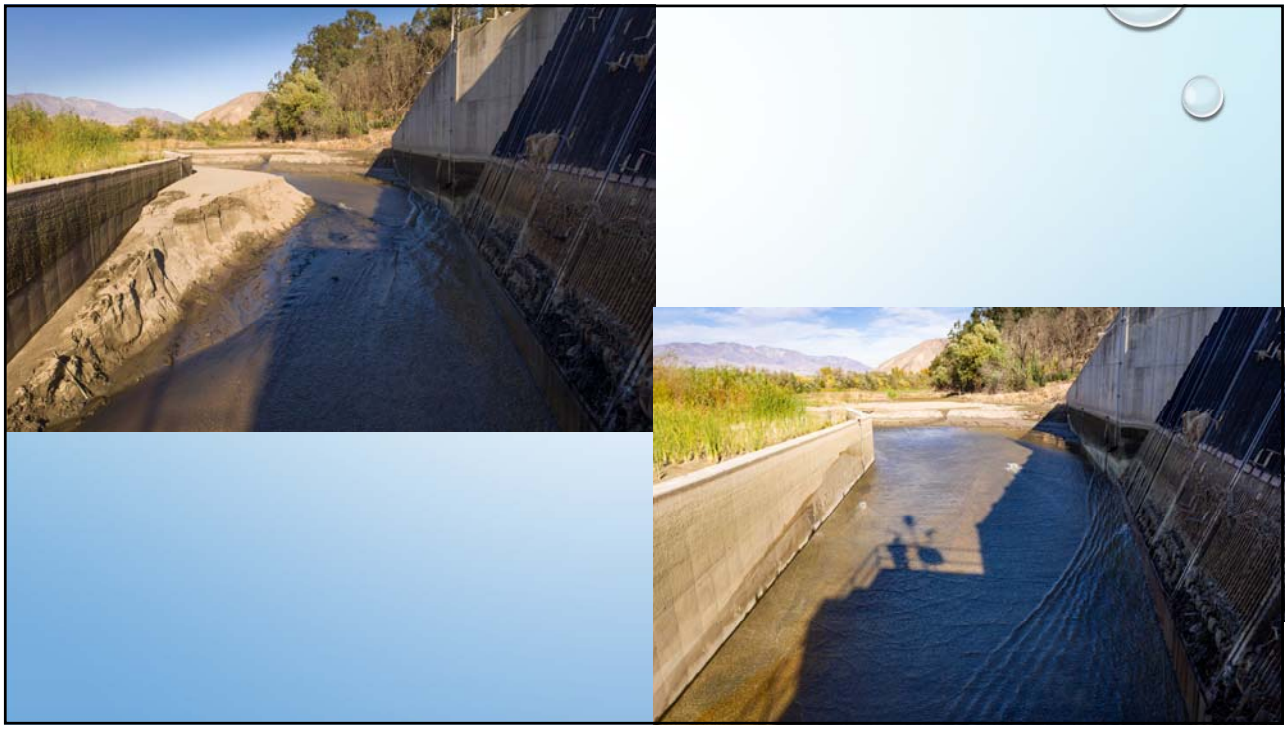
3


Downstream Block Netting

4

5

6



7

8

9

10

- TURNED OUT DIVERSIONS FOR MAINTENANCE ACTIVITIES ON NOVEMBER 16, 2020
- PERFORMED VALVE AND AUTOMATIC ACTUATOR PREVENTATIVE AND CORRECTIVE MAINTENANCE
- REMOVED ACCUMULATED SEDIMENT IN THE FORE-BAY, CANAL AREA AND FISH SCREEN AREA
- PERFORMED FISH SCREEN MAINTENANCE ACTIVITIES
- REINITIATED DIVERSIONS NOVEMBER 20, 2020.

11

11

12

REGIONAL HAZMAT EXERCISE

NOVEMBER 2ND & 6TH , 2020

13

13

14

15

16

LAKE PIRU RECREATION AREA

MONTHLY DEPARTMENTAL HIGHLIGHTS

1

Division Highlights For October and November 2020

- PMC Contract Negotiation Efforts:
  - Staff has continued to met with onsite concessionaire Parks Management Company to advance negotiation efforts associated with extending the concessions agreement expiring December 31, 2020.
  - Meetings in October & November have been focused on developing a mutually agreed upon term sheet for a contract extension.
- Ongoing Maintenance and Operational Activities:
  - Approximately $15,000 in repairs were done to the Lake Piru marina during the month of October.
  - Repairs included reconnecting tie lines used to stabilize the marina, the repair of a damage gable used to support the ends of the marina and sub frame repairs which included repairs to parts of the wooden sub frame.

2

Division Highlights For October and November 2020, Continued

- Ongoing Maintenance and Operational Activities:
  - A facility inspection of the system resulted in the discovery of damaged line associated with the Group Camp #2 drip irrigation system, which resulted in the loss of several trees. Repairs have been made successfully.
- Quagga Mussel Monitoring Program Efforts
  - Staff assisted the Environmental Division in managing contractors performing ongoing dissolved oxygen studies in the reservoir associated with quagga mussel management. Staff assisted in a routine scraping and removal effort as part of the District's QMMCP plan.
- Trainings:
  - Participated in the District's Annual FERC security compliance certification training associated with Cyber-security.
  - Completion of Daily Policy Training Bulletins pursuant to POST standards.
  - Staff attended a Behavior Threat Analysis course hosted by the Joint Regional Intelligence Center.

3

Marina Dock Repairs

INTERDEPARTMENTAL TEAMWORK

4

Water Resources Department Report

Dan Detmer, PG, CHG
Supervising Hydrogeologist
December 9, 2020

1

El Niño/Southern Oscillation (ENSO) Update

Recent Evolution, Current Status and Predictions:

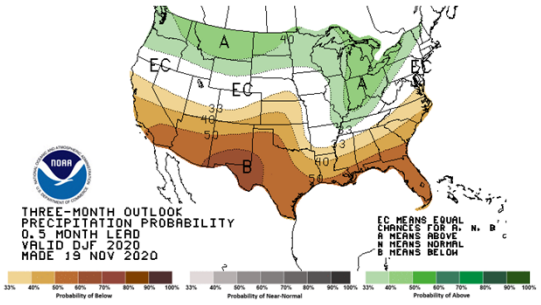
- La Niña conditions are present.
- Equatorial sea surface temperatures (SSTs) are below average from the west-central to eastern Pacific Ocean.
- The tropical atmospheric circulation is consistent with La Niña.
- La Niña is likely to continue through the Northern Hemisphere winter 2020-21 (~95% chance during January-March) and into spring 2021 (~65% chance during March-May).

Update prepared by:
Climate Prediction Center / NCEP
16 November 2020

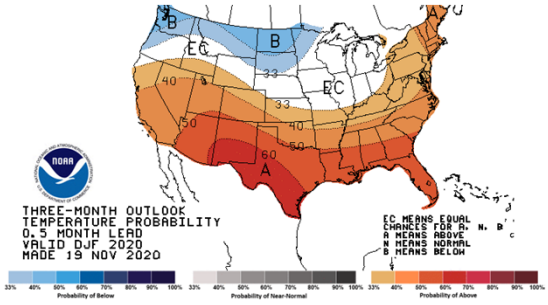
2

December 2020 – February 2021

Precipitation



Temperature

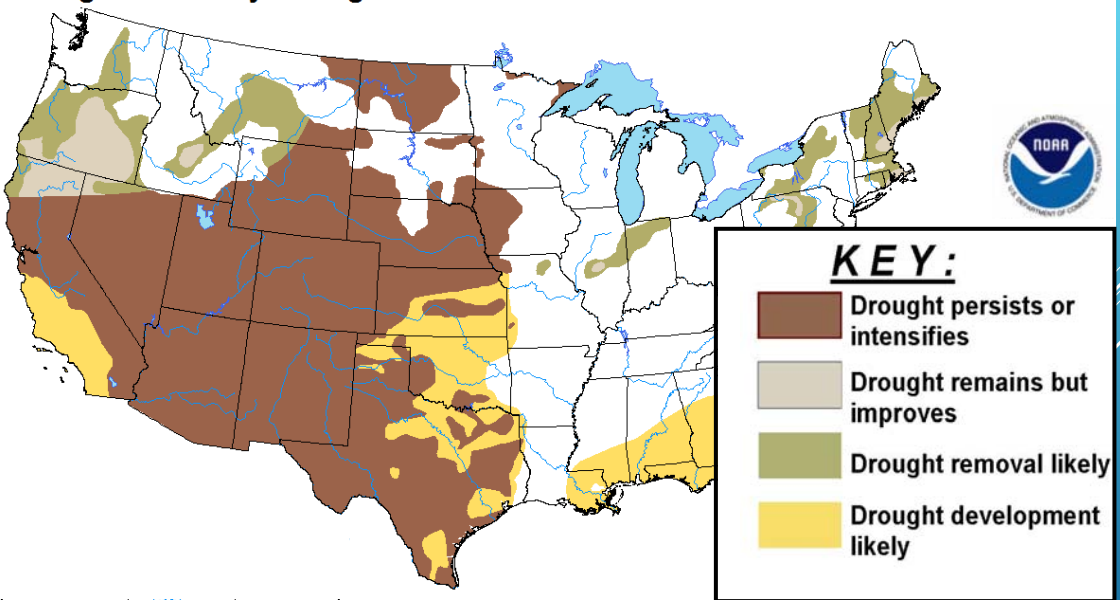


3

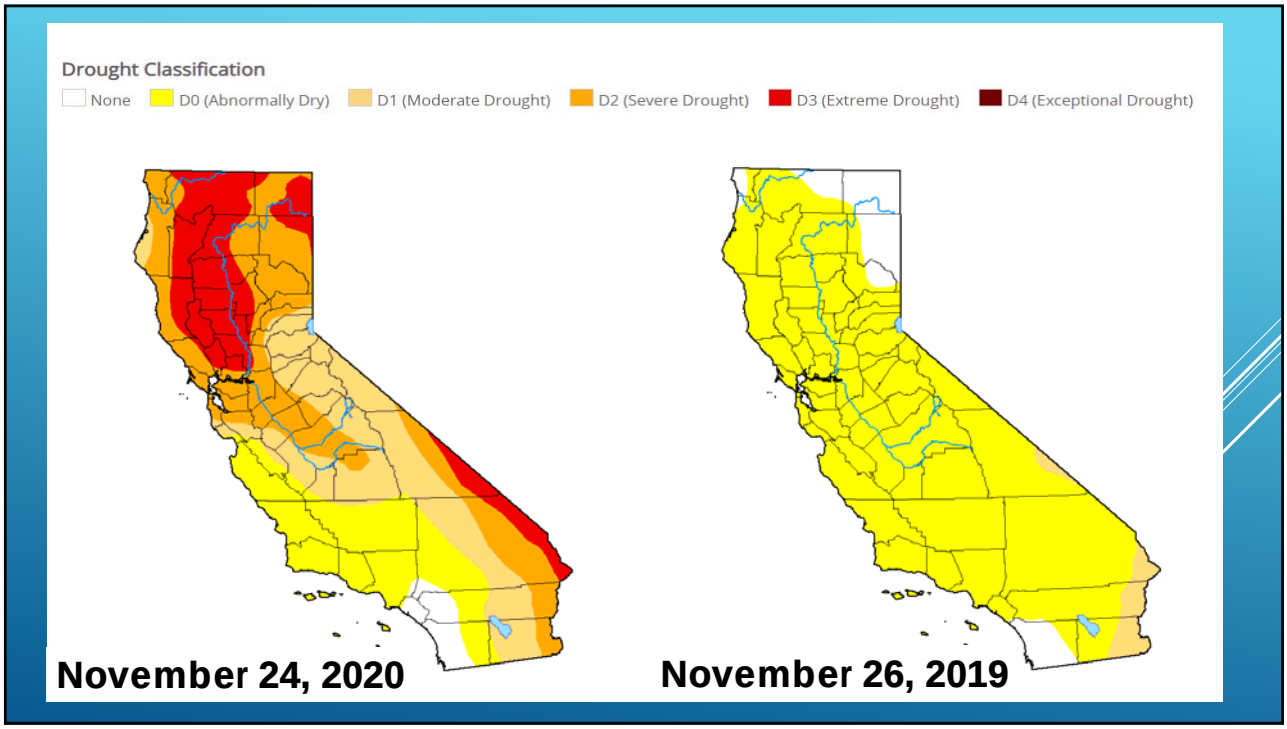
U.S. Seasonal Drought Outlook

Valid for November 19, 2020 - February 28, 2021
Released November 19, 2020

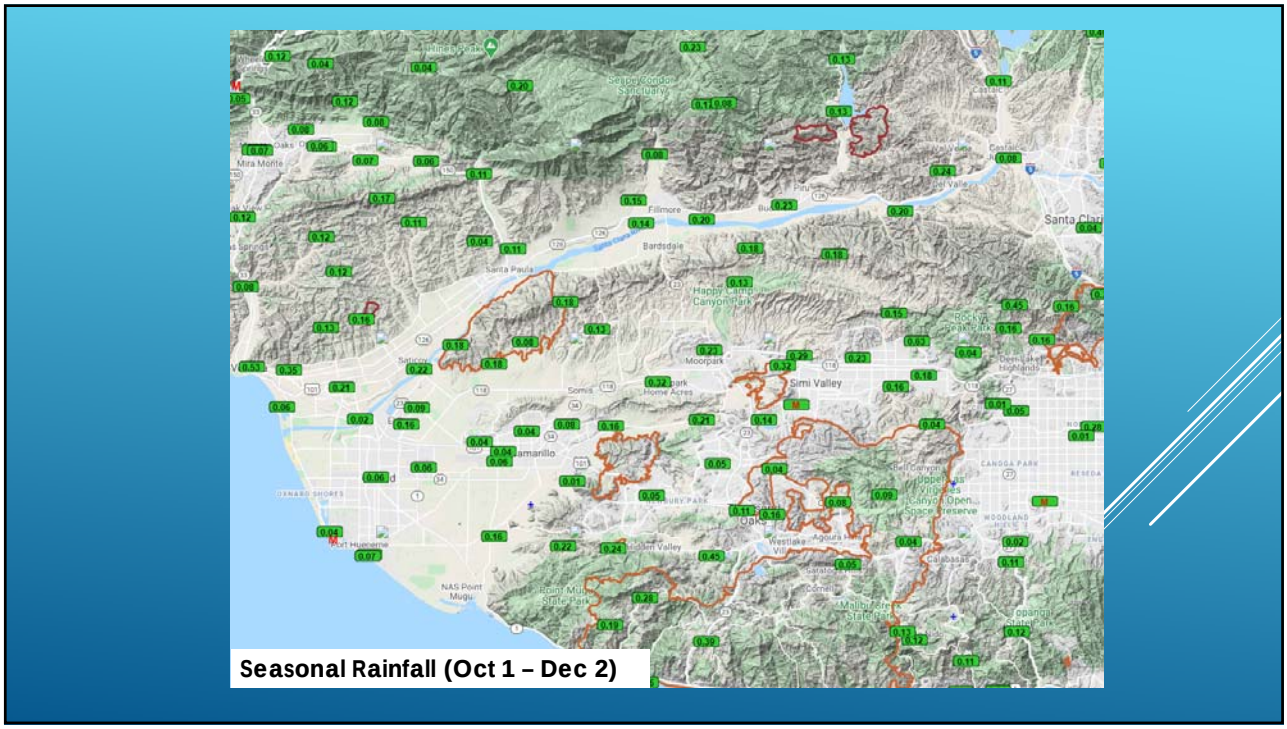
Drought Tendency During the Valid Period



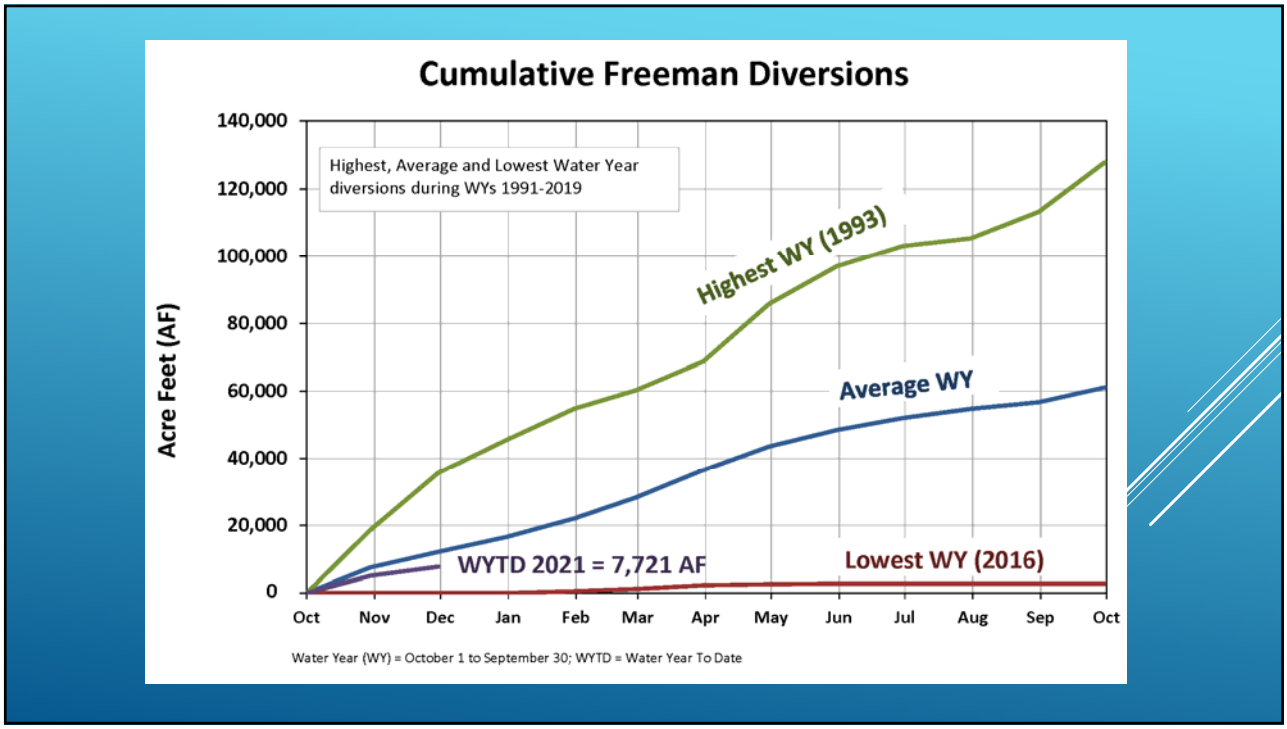
4


Drought Classification
None
D0 (Abnormally Dry)
D1 (Moderate Drought)
D2 (Severe Drought)
D3 (Extreme Drought)
D4 (Exceptional Drought)
November 24, 2020
November 26, 2019

5

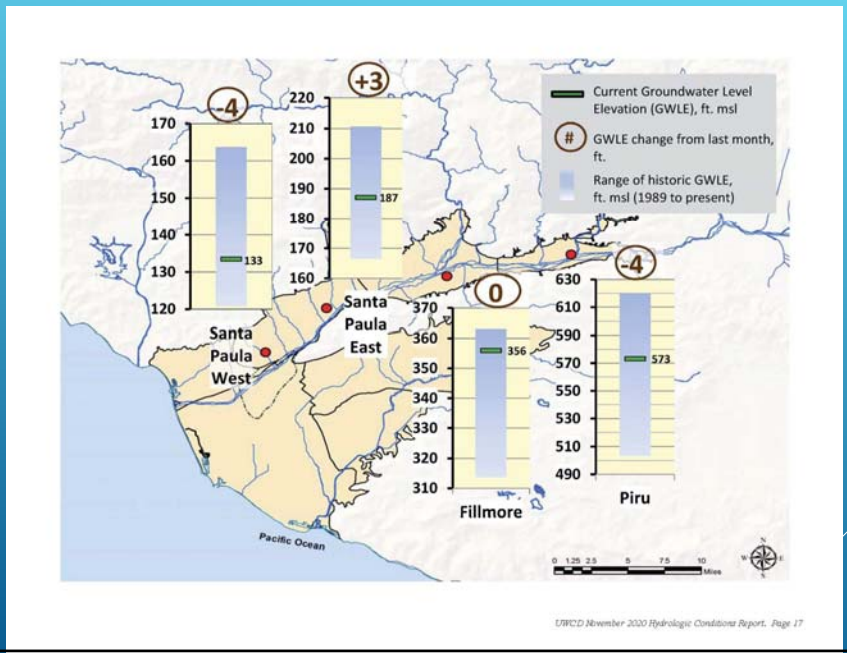

Seasonal Rainfall (Oct 1 – Dec 2)

6



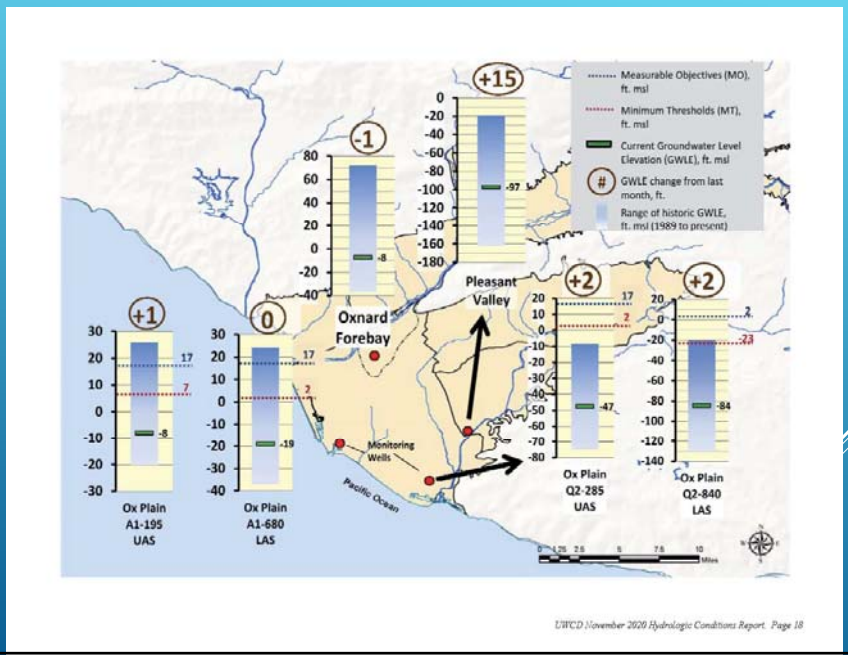
7

Key Wells, Upper Basins, Recent Historic Groundwater Elevation Range

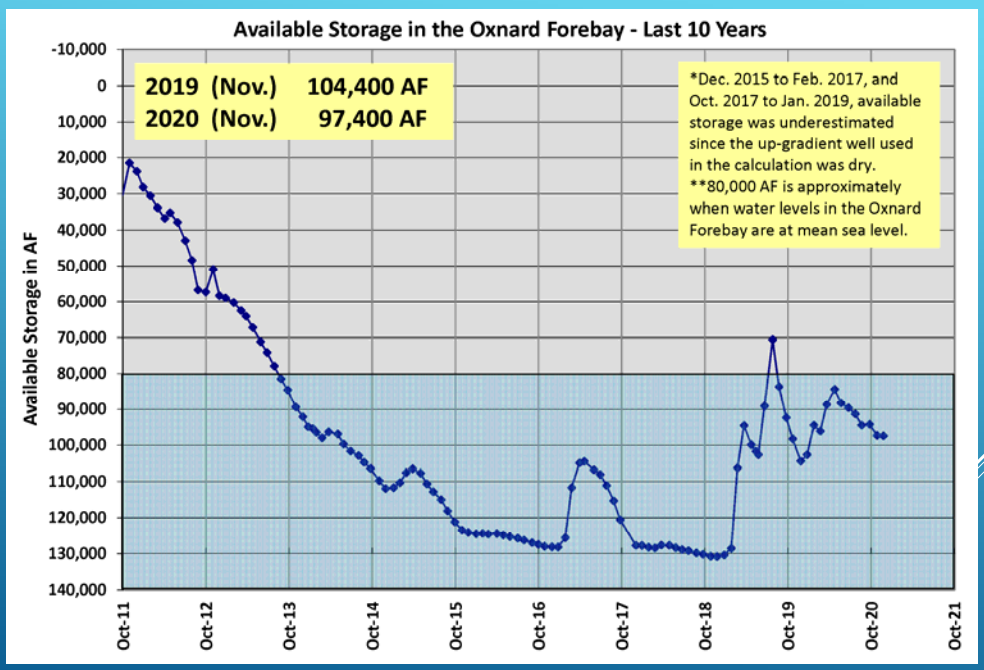


8

Key Wells, Coastal Basins, Recent Historic Groundwater Elevation Range

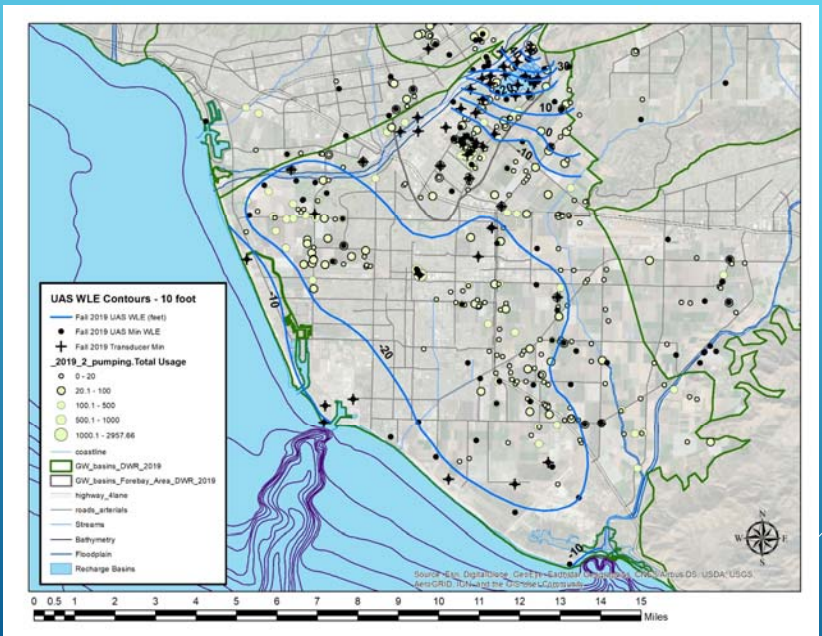


9



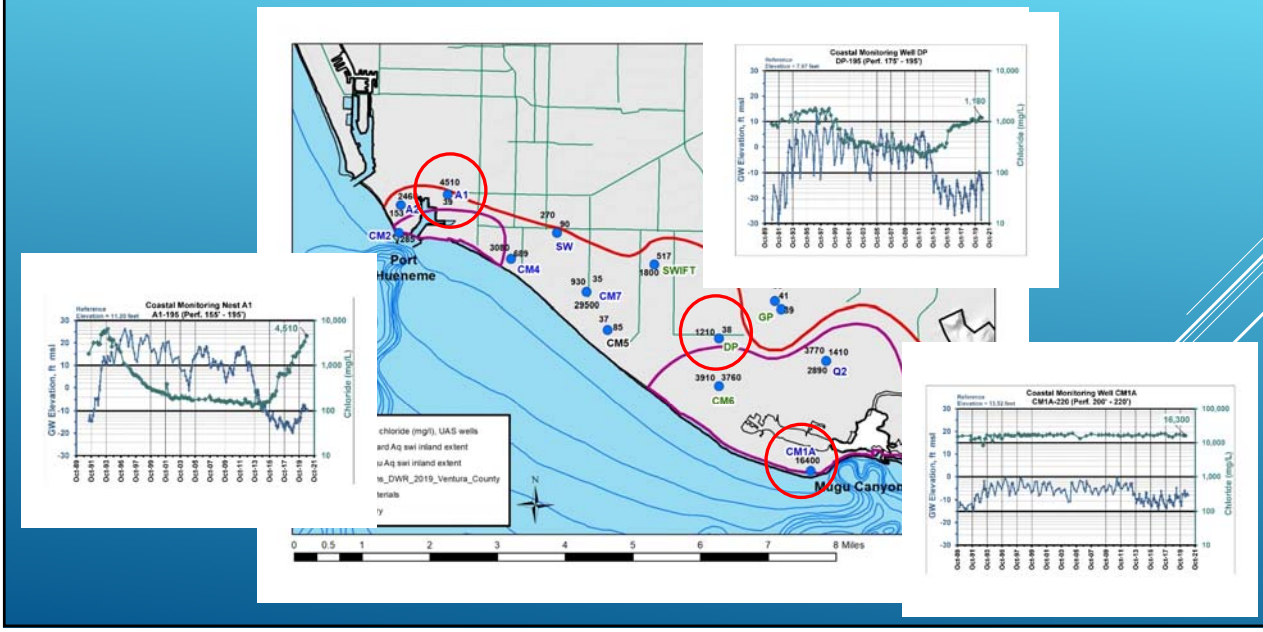
10

Fall 2019 Groundwater Elevations, Upper Aquifer System



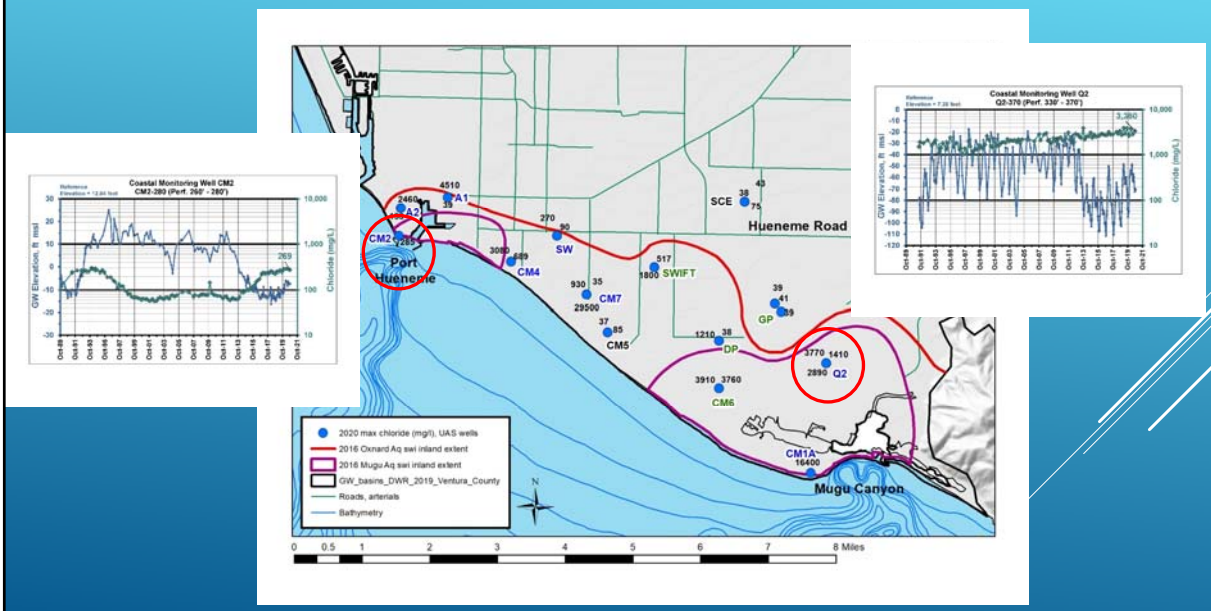
11

Key Wells, Oxnard Aquifer, Upper Aquifer System



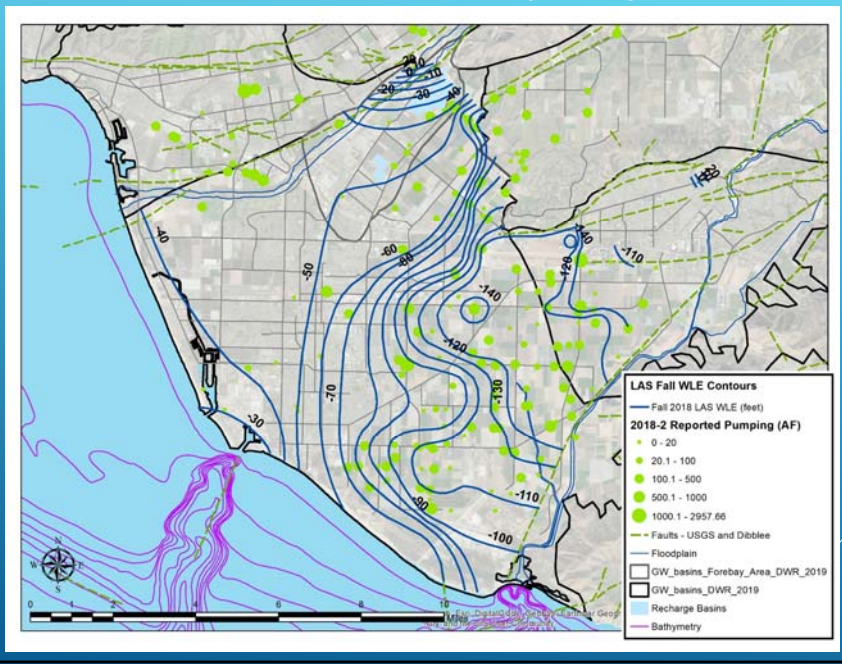
12

Key Wells, Mugu Aquifer, Upper Aquifer System



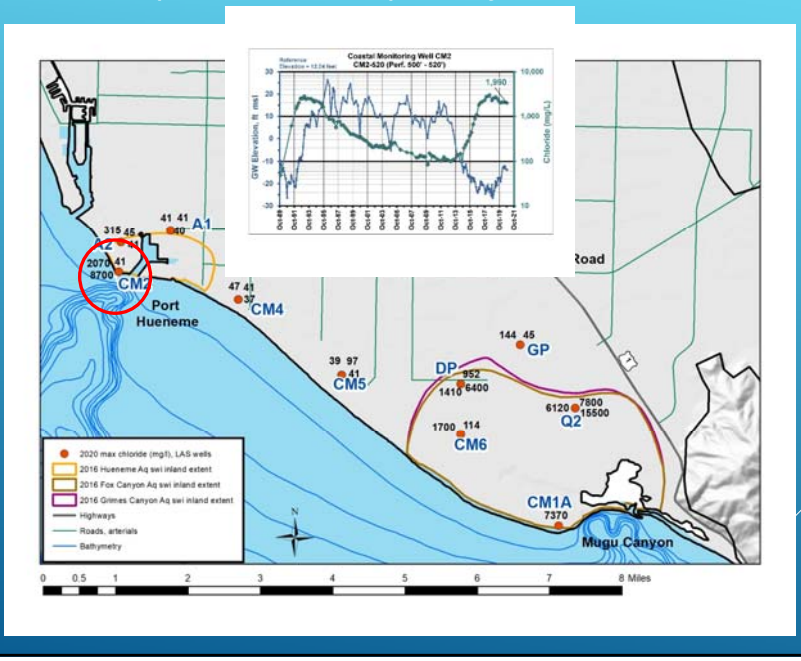
13

Fall 2018 Groundwater Elevations, Lower Aquifer System



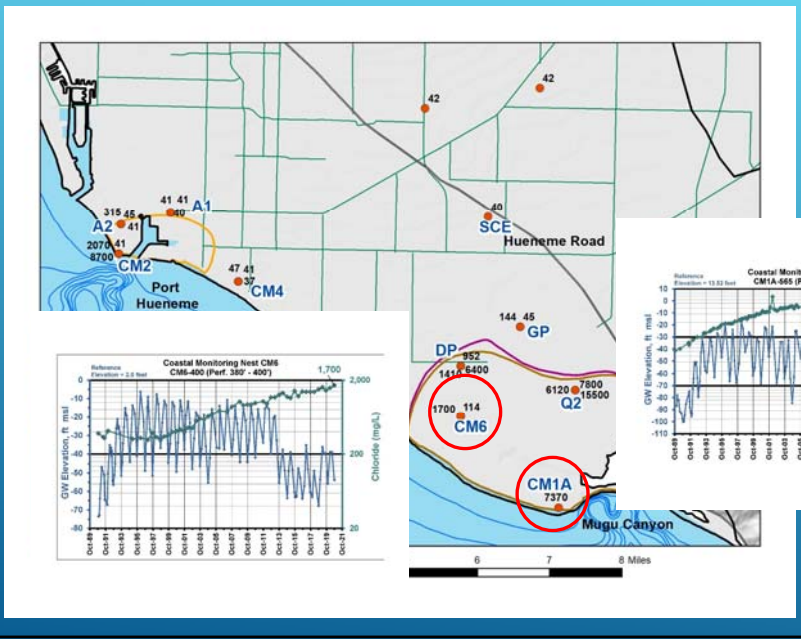
14

Key Wells, Hueneme Aquifer, Lower Aquifer System



15

Key Wells, Fox Canyon Aquifer, Lower Aquifer System



16

Questions?

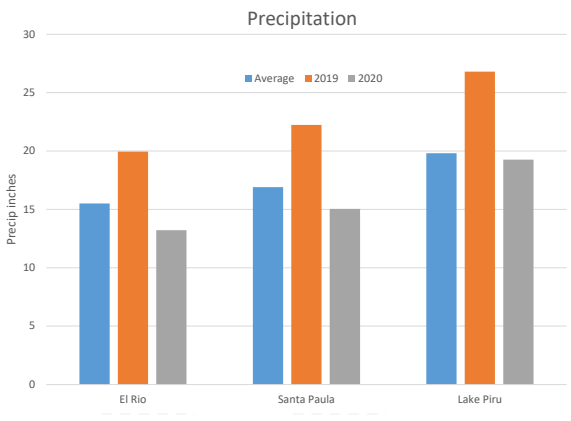
17

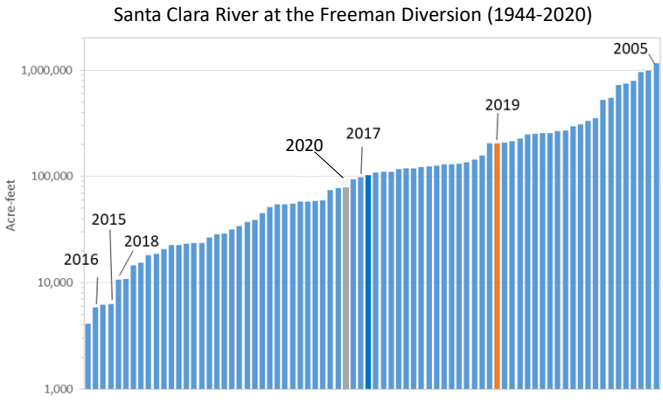
United's 2020 Conservation Release Results

1

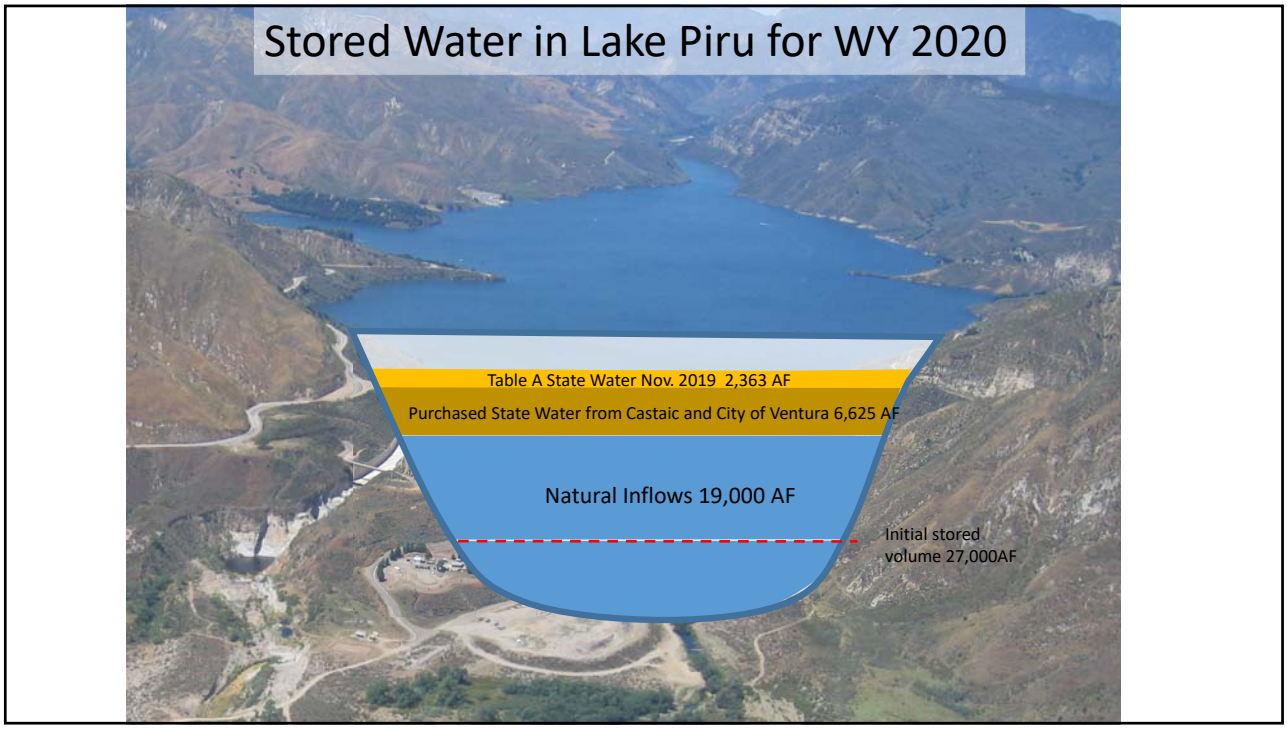
Precipitation and Runoff for recent years

Sufficient water for significant releases

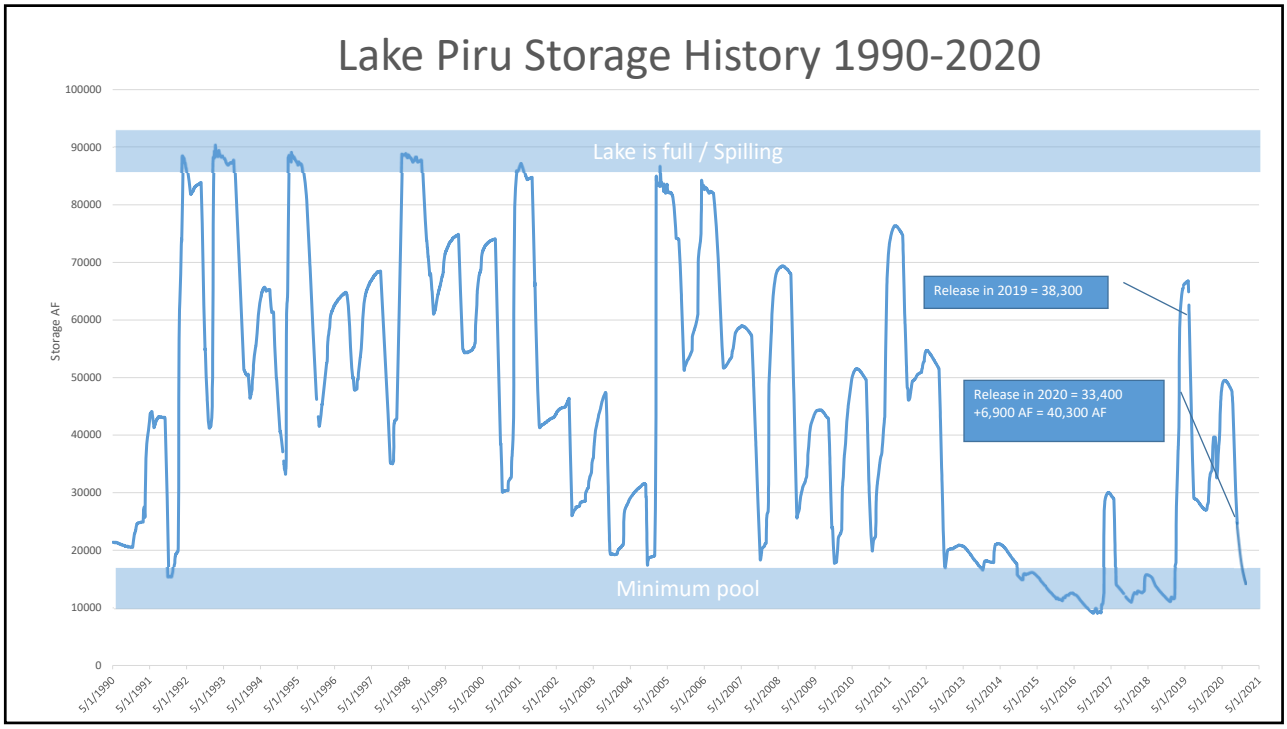




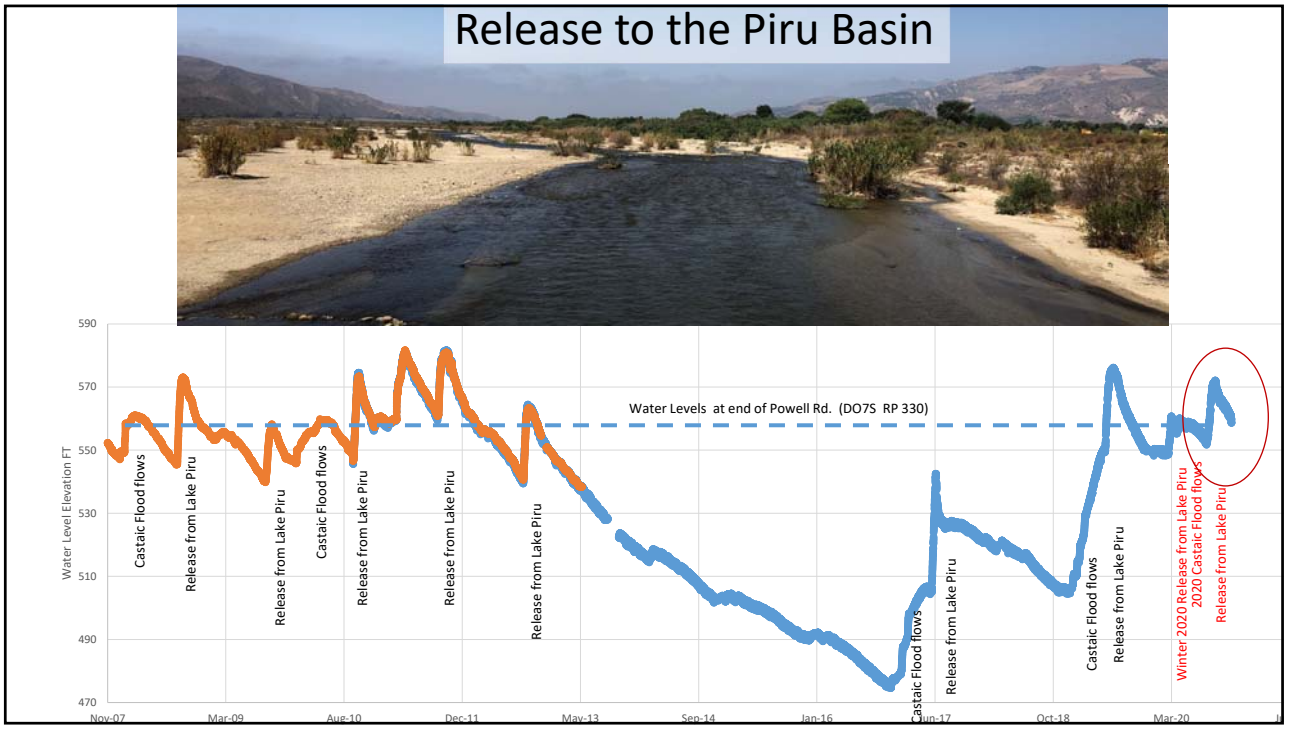
2


Stored Water in Lake Piru for WY 2020
Table A State Water Nov. 2019 2,363 AF
Purchased State Water from Castaic and City of Ventura 6,625 AF
Natural Inflows 19,000 AF
Initial stored volume 27,000AF

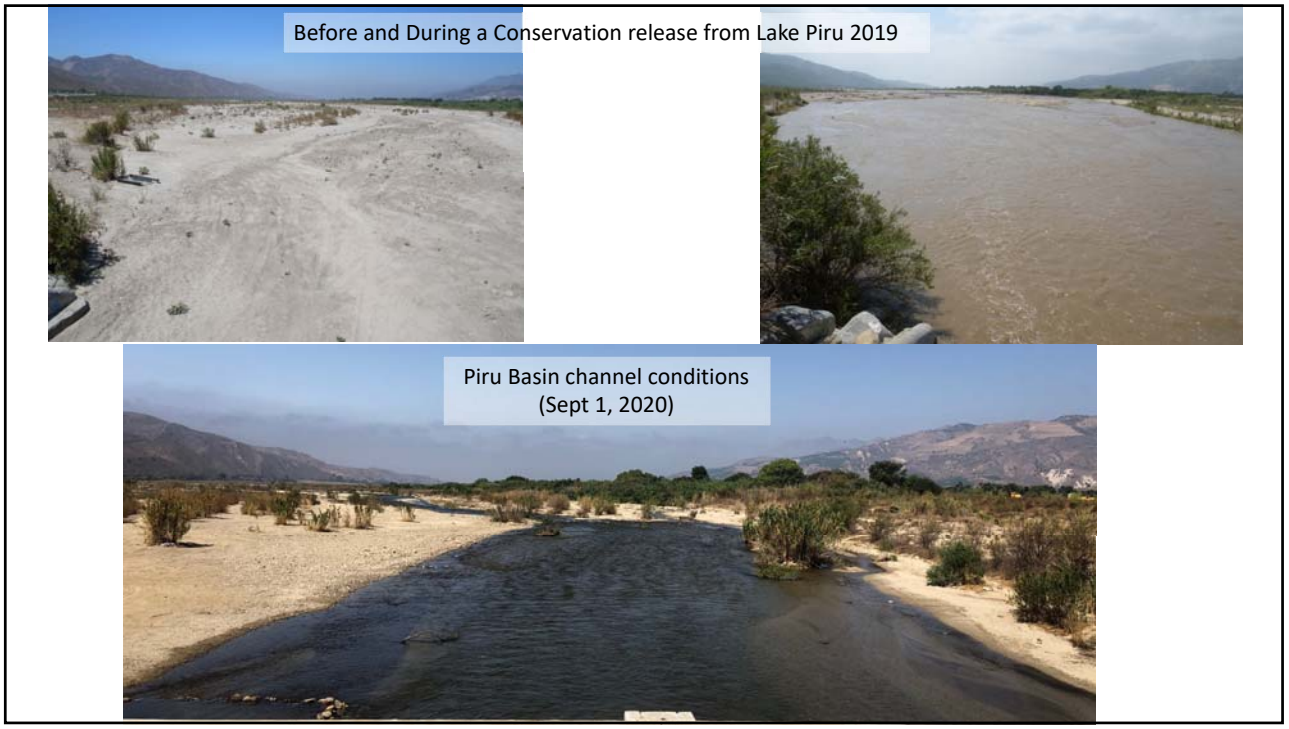
3


Lake Piru Storage History 1990-2020
Storage AF
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
Lake is full / Spilling
Minimum pool
Release in 2019 = 38,300
Release in 2020 = 33,400
+6,900 AF = 40,300 AF
5/1/1990
5/1/1991
5/1/1992
5/1/1993
5/1/1994
5/1/1995
5/1/1996
5/1/1997
5/1/1998
5/1/1999
5/1/2000
5/1/2001
5/1/2002
5/1/2003
5/1/2004
5/1/2005
5/1/2006
5/1/2007
5/1/2008
5/1/2009
5/1/2010
5/1/2011
5/1/2012
5/1/2013
5/1/2014
5/1/2015
5/1/2016
5/1/2017
5/1/2018
5/1/2019
5/1/2020
5/1/2021

4


Release to the Piru Basin
Water Level Elevation FT
590
570
550
530
510
490
470
Water Levels at end of Powell Rd. (DO7S RP 330)
Castaic Flood flows
Release from Lake Piru
Release from Lake Piru
Castaic Flood flows
Release from Lake Piru
Release from Lake Piru
Release from Lake Piru
Castaic Flood flows
Release from Lake Piru
Castaic Flood flows
Release from Lake Piru
Winter 2020 Release from Lake Piru
2020 Castaic Flood flows
Release from Lake Piru
Nov-07
Mar-09
Aug-10
Dec-11
May-13
Sep-14
Jan-16
Jun-17
Oct-18
Mar-20

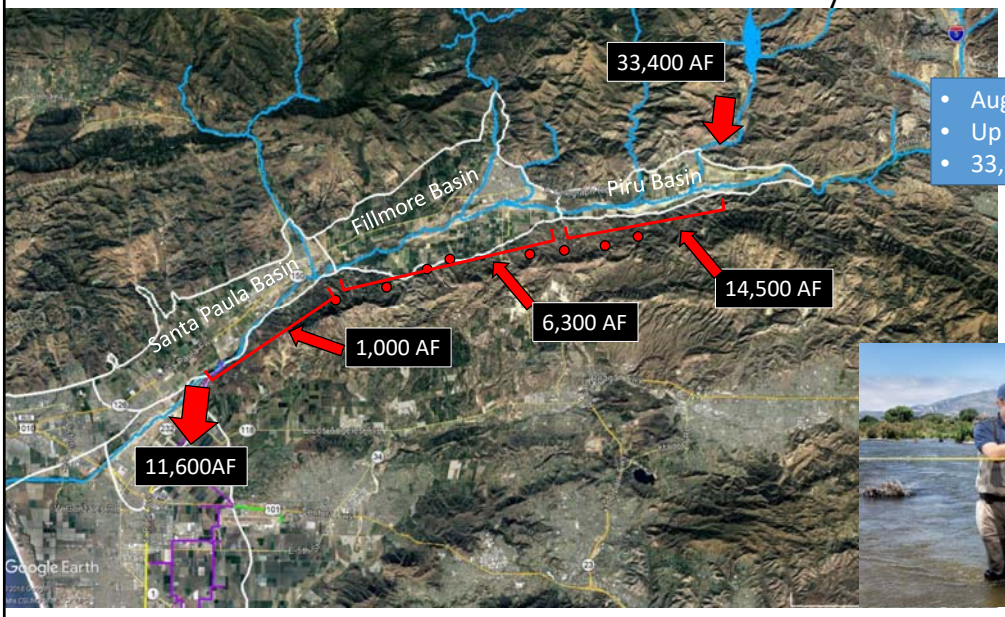
5


Before and During a Conservation release from Lake Piru 2019
Piru Basin channel conditions
(Sept 1, 2020)

6

7

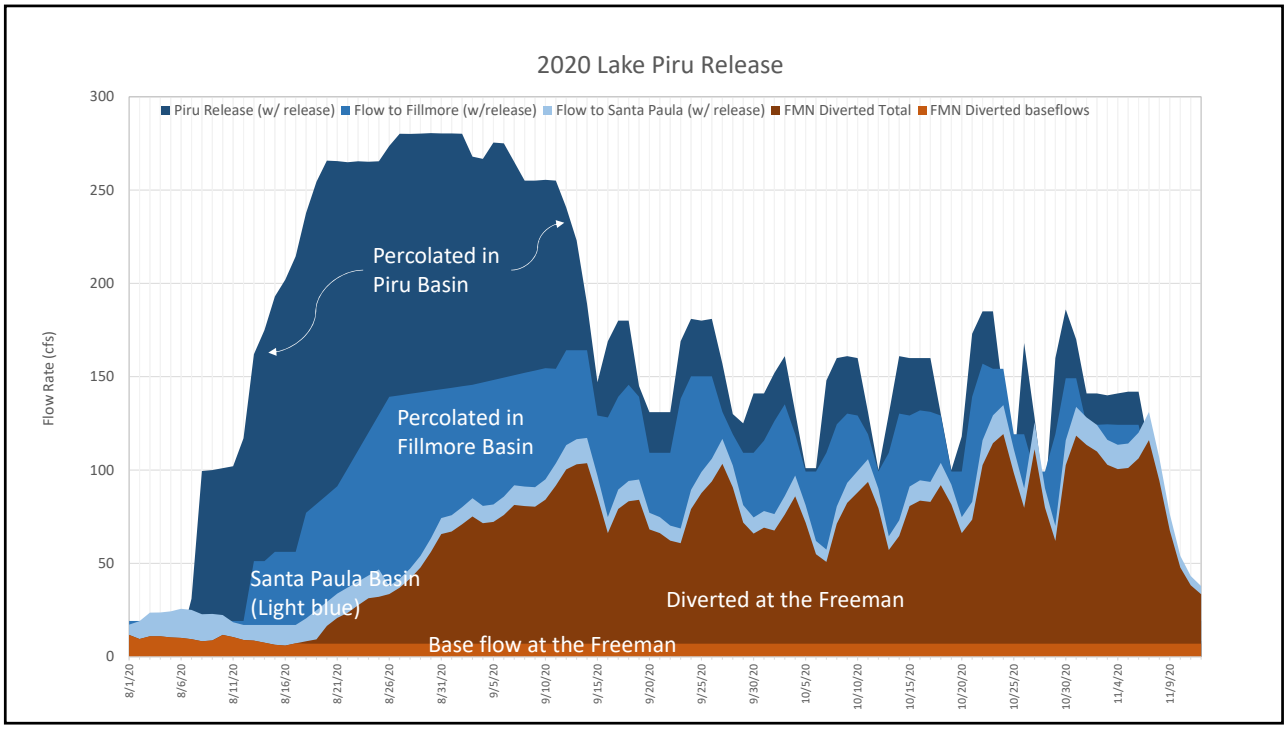
Lake Piru Release Summary*



- August 7 to Nov. 10, 2020
- Up to 280 cfs
- 33,400 AF release

*Immediate basin benefits during release, excluding benefits due to baseflows

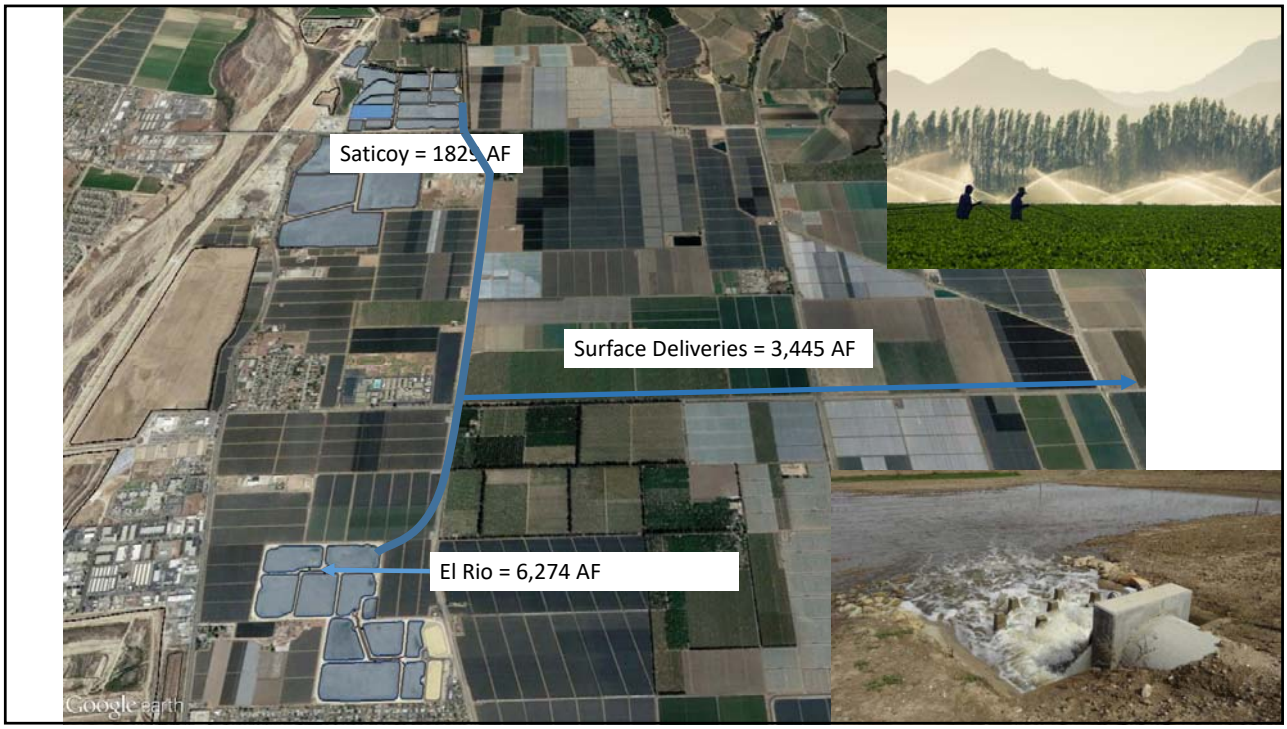
8



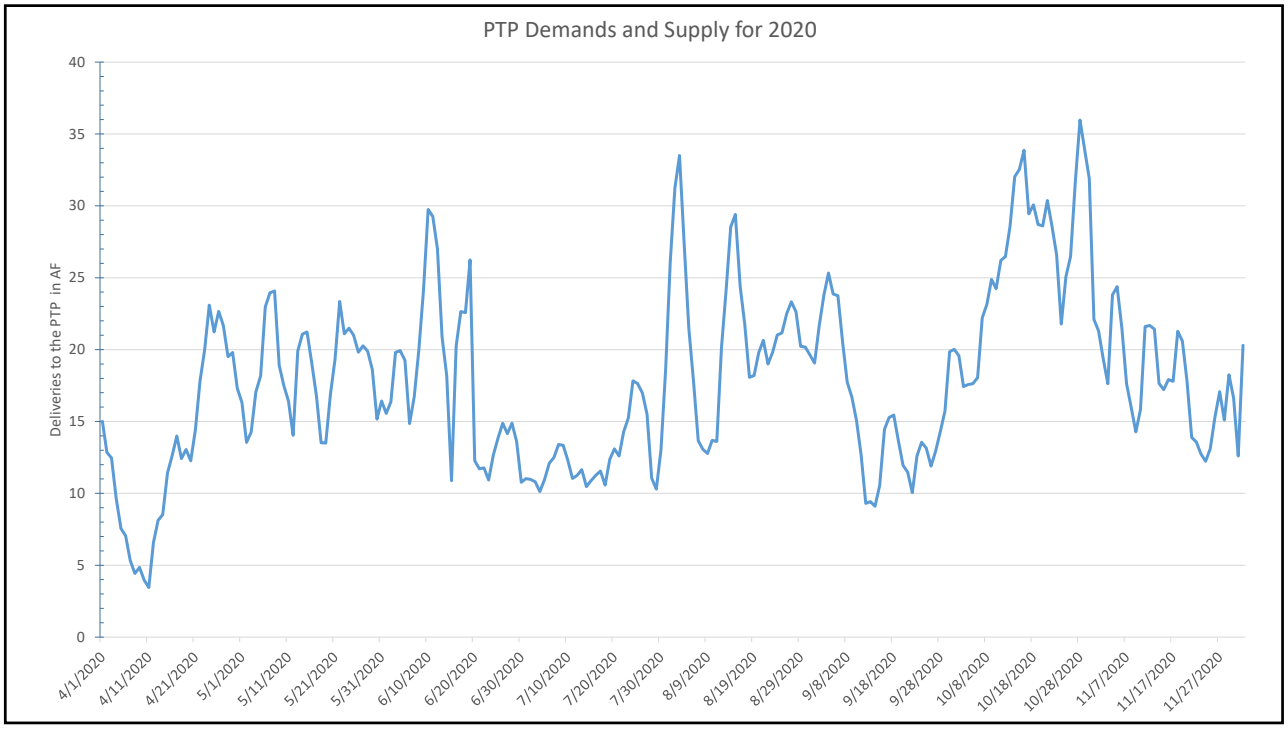
9

Management of the releases in the lower basin at the Freeman Diversion

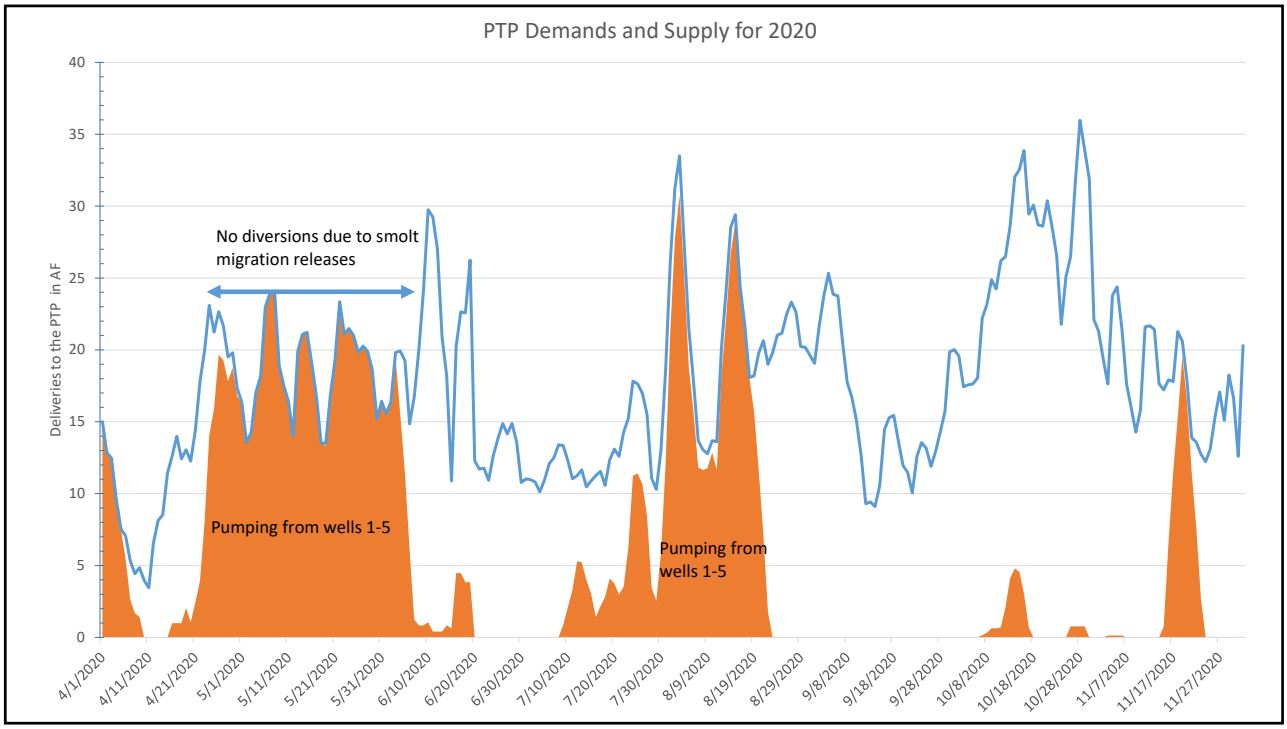
10


Saticoy = 1825 AF
Surface Deliveries = 3,445 AF
El Rio = 6,274 AF
Google earth

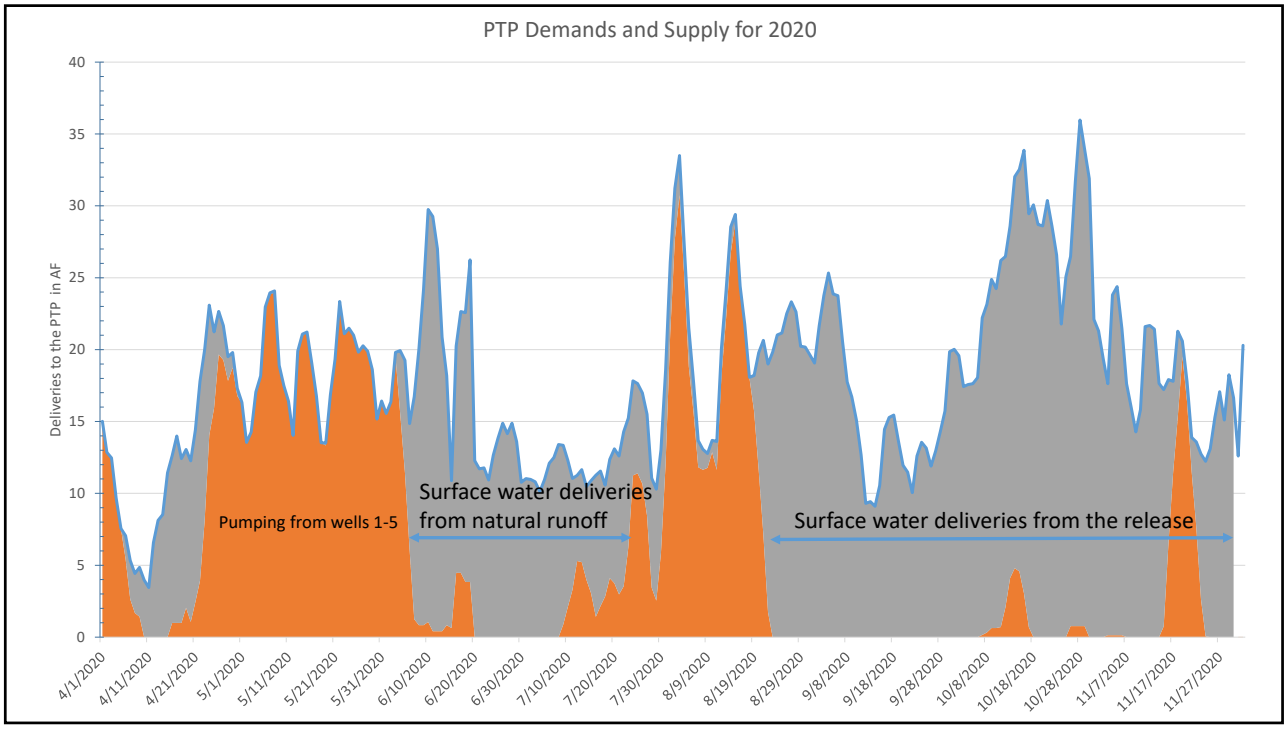
11


PTP Demands and Supply for 2020
Deliveries to the PTP in AF
0
5
10
15
20
25
30
35
40
4/1/2020
4/11/2020
4/21/2020
5/1/2020
5/11/2020
5/21/2020
5/31/2020
6/10/2020
6/20/2020
6/30/2020
7/10/2020
7/20/2020
7/30/2020
8/9/2020
8/19/2020
8/29/2020
9/8/2020
9/18/2020
9/28/2020
10/8/2020
10/18/2020
10/28/2020
11/7/2020
11/17/2020
11/27/2020

12


PTP Demands and Supply for 2020
Deliveries to the PTP in AF
No diversions due to smolt migration releases
Pumping from wells 1-5
Pumping from wells 1-5

13


PTP Demands and Supply for 2020
Deliveries to the PTP in AF
Pumping from wells 1-5
Surface water deliveries from natural runoff
Surface water deliveries from the release

14

Outreach included 7 tours:
Marz Farms
Driscoll Berries
PVCWD
Travis Ag.
City of Santa Paula
City of Ventura
Calleguas MWD
City of Oxnard
City of Camarillo
Presentation to :
CCWUC
Santa Clara River Watershed

15

16

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager
Maryam A. Bral, Chief Engineer

From: Kathleen Kuepper, Hydrogeologist
Bram Sercu, Senior Hydrologist

Date: **January 5, 2021 (January 13, 2021, meeting)**

Agenda Item: **3.B Groundwater Basin Status Report**
Informational Item

Staff Recommendation:

The Board will receive and file this summary report from the Water Resources Department regarding activities for the month of December 2020.

Summary:

Spreading and Pipeline Deliveries for Month of December 2020

Location	Amount (acre-feet)
Saticoy	392
Noble and Rose Pits	
El Rio	634
Piru	
Diverted at Freeman for Pipeline Deliveries	483.9
Saticoy/O-H Deep Wells Pumped for Ag Pipeline Deliveries	
Lloyd-Butler Diversion	6.4

Groundwater Basin Available Storage at End of Month of December 2020

Basin	Available Storage (acre-feet)
Oxnard Forebay	101,200

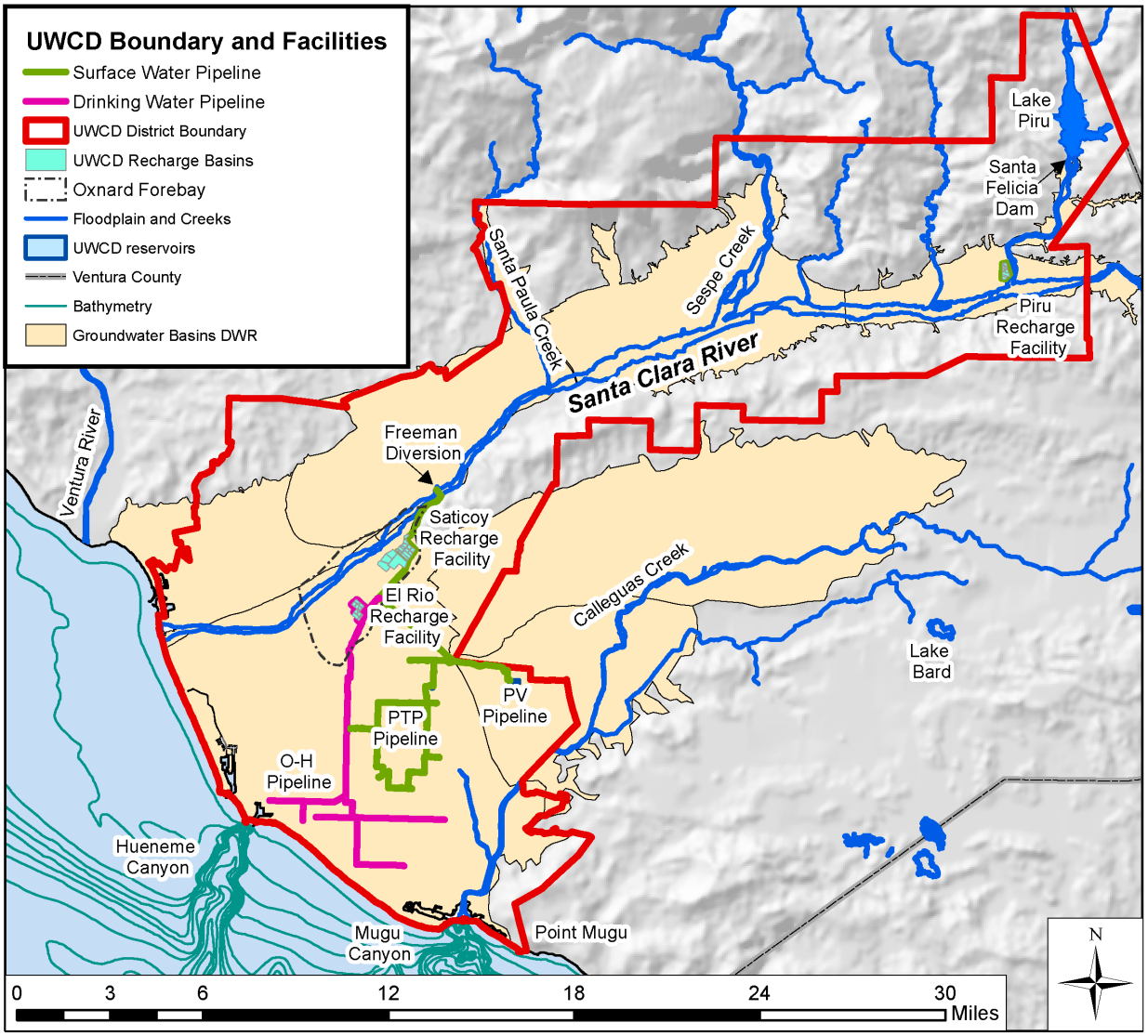
Precipitation for Month of December 2020

Location	Precipitation (inches)
Lake Piru	1.57
Santa Paula	1.24
El Rio	1.25

United Water CONSERVATION DISTRICT

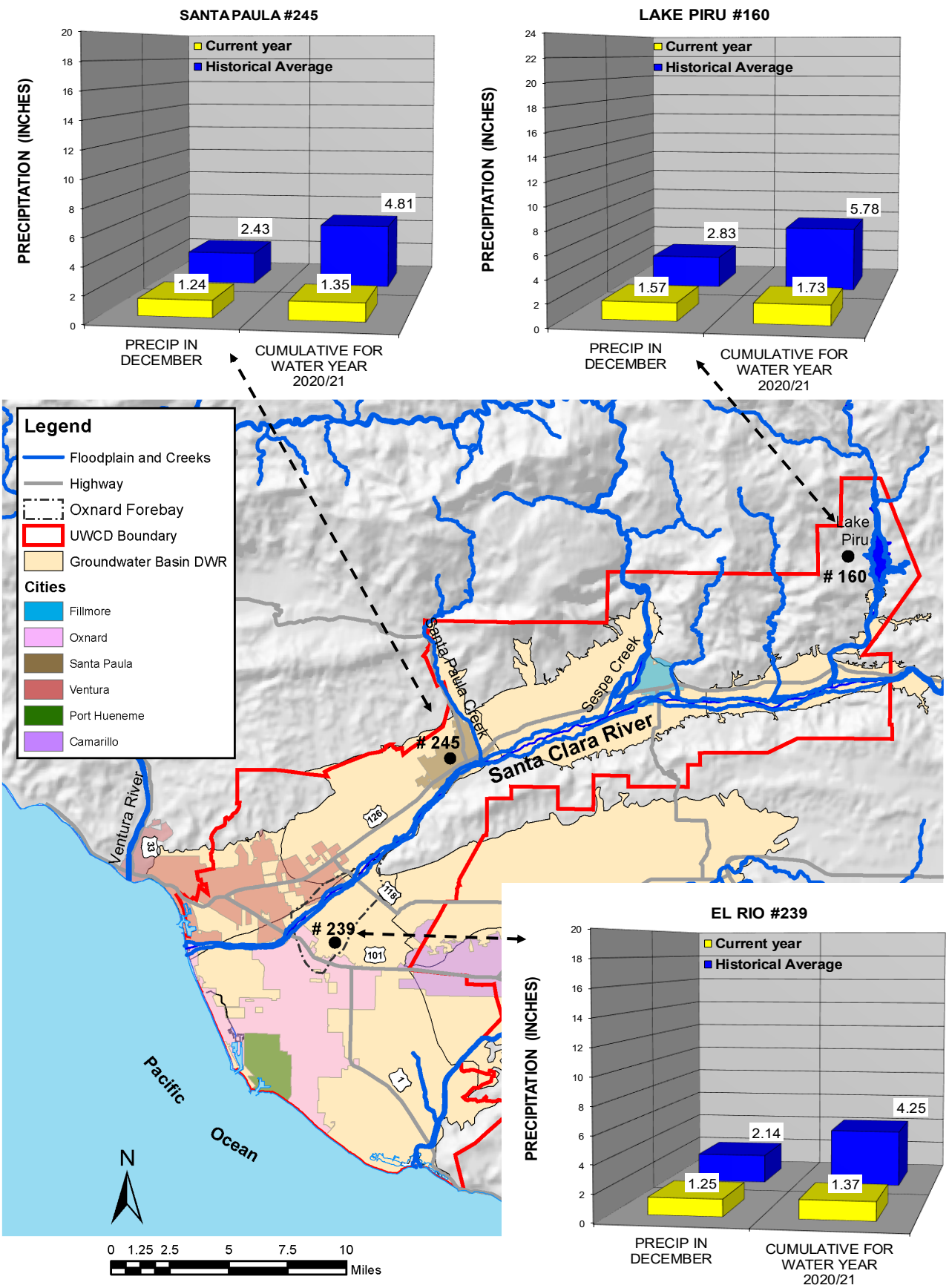
December 2020 Hydrologic Conditions Report
2020/21 Water Year

January 5, 2021



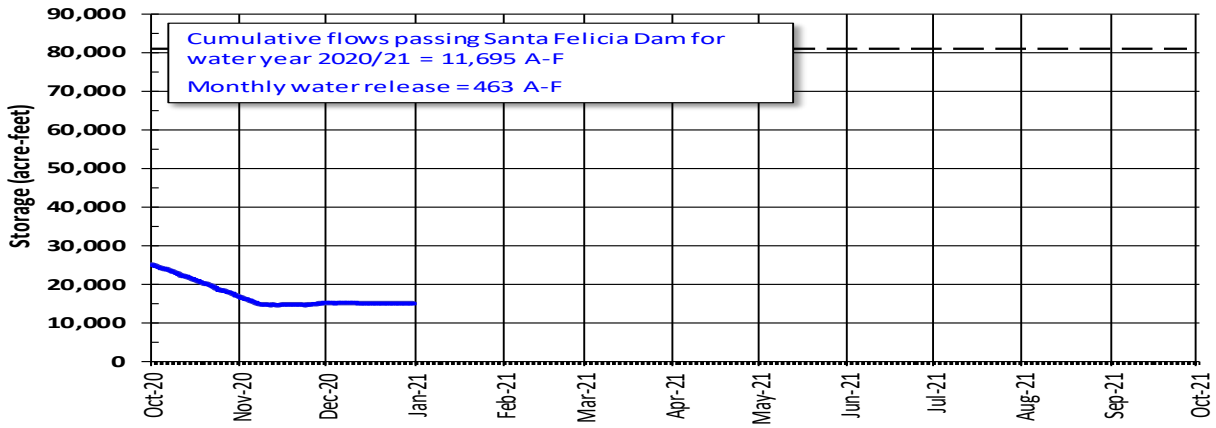
Note: This report may contain provisional data until final review at the end of the water year.

Page Intentionally
Left Blank



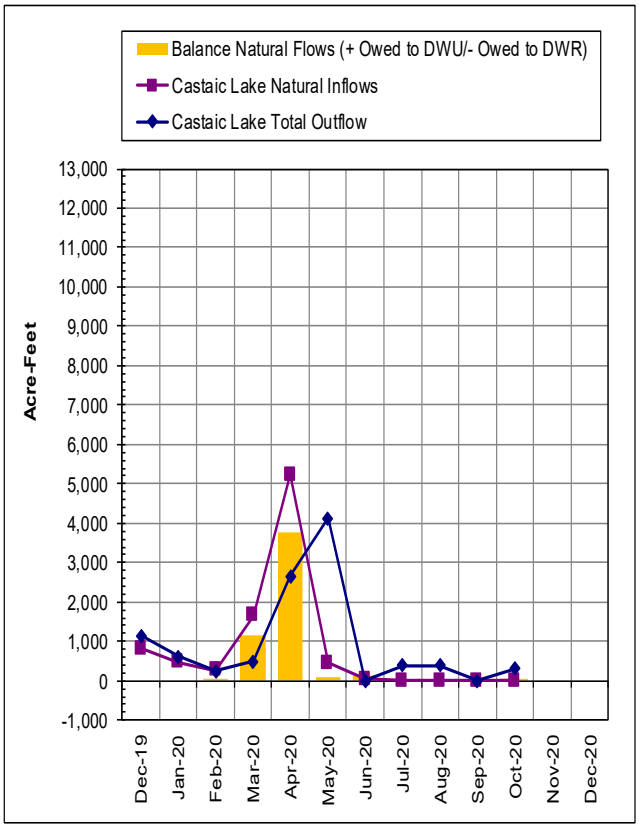
District-wide percent of normal precipitation = 30%

Lake Piru storage and outflow

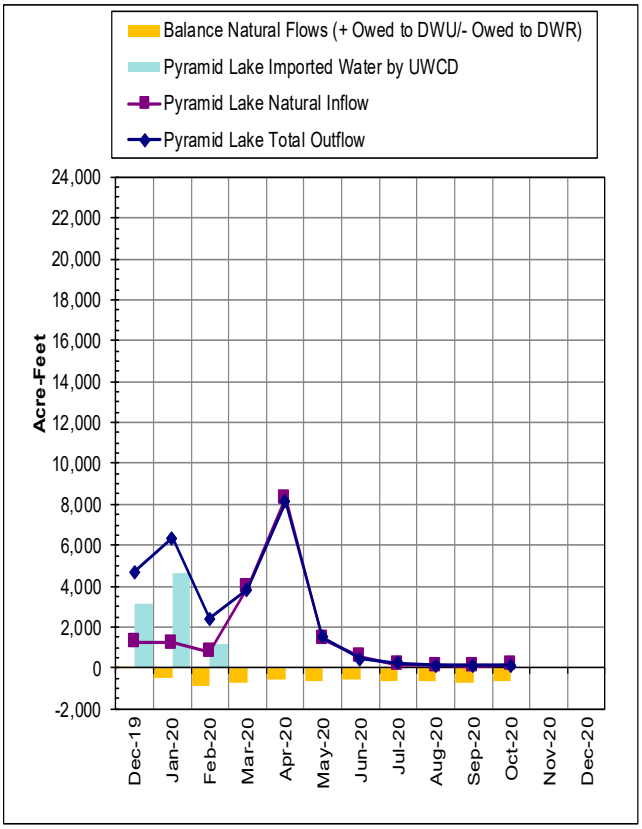


	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Hydro Plant Outflow (Acre-Feet)	4,345	214	0									
Cumulative Hydro Plant Outflow (A-F)	4,345	4,559	4,559									

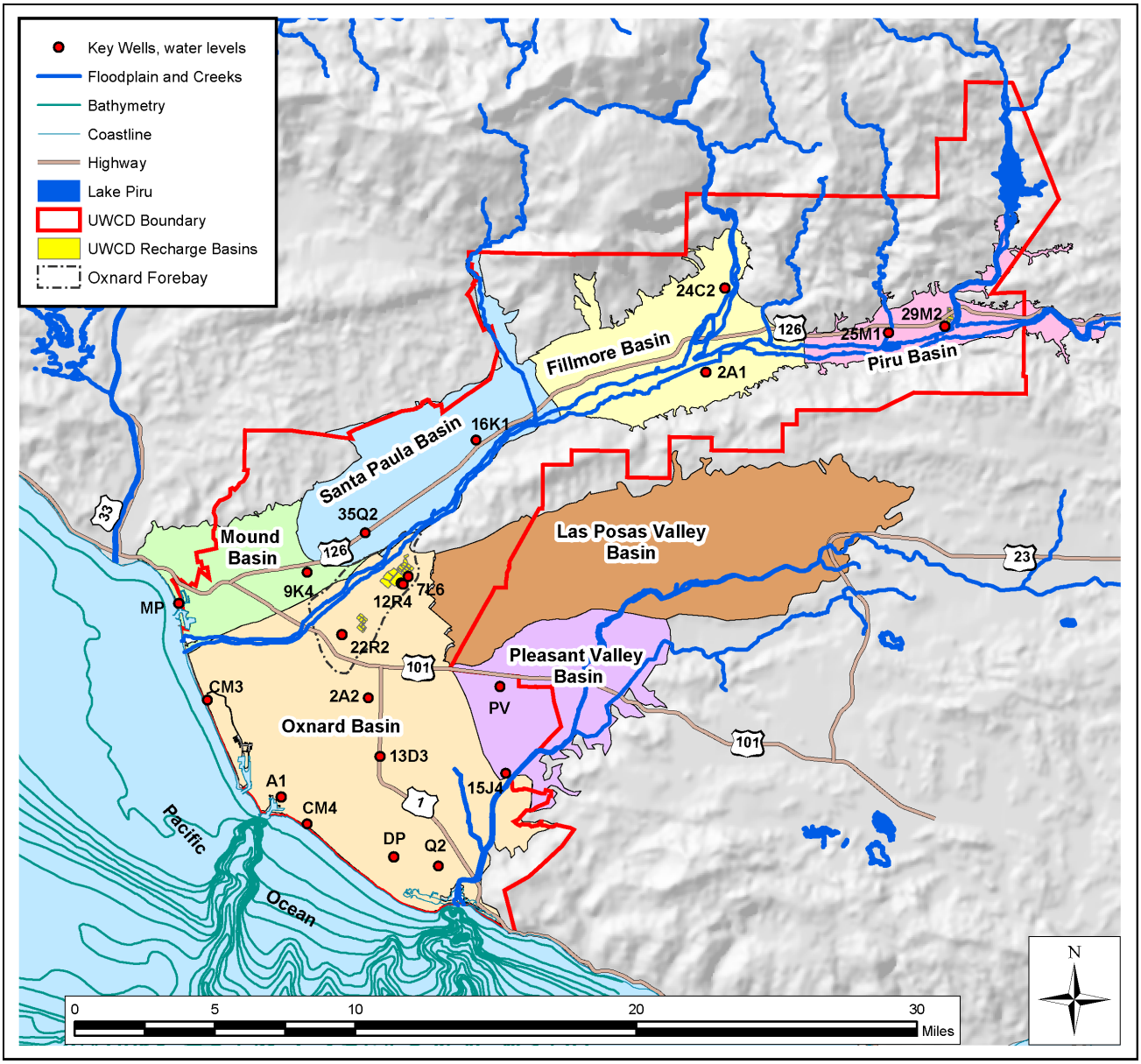
Castaic Lake releases to downstream water users (DWU)



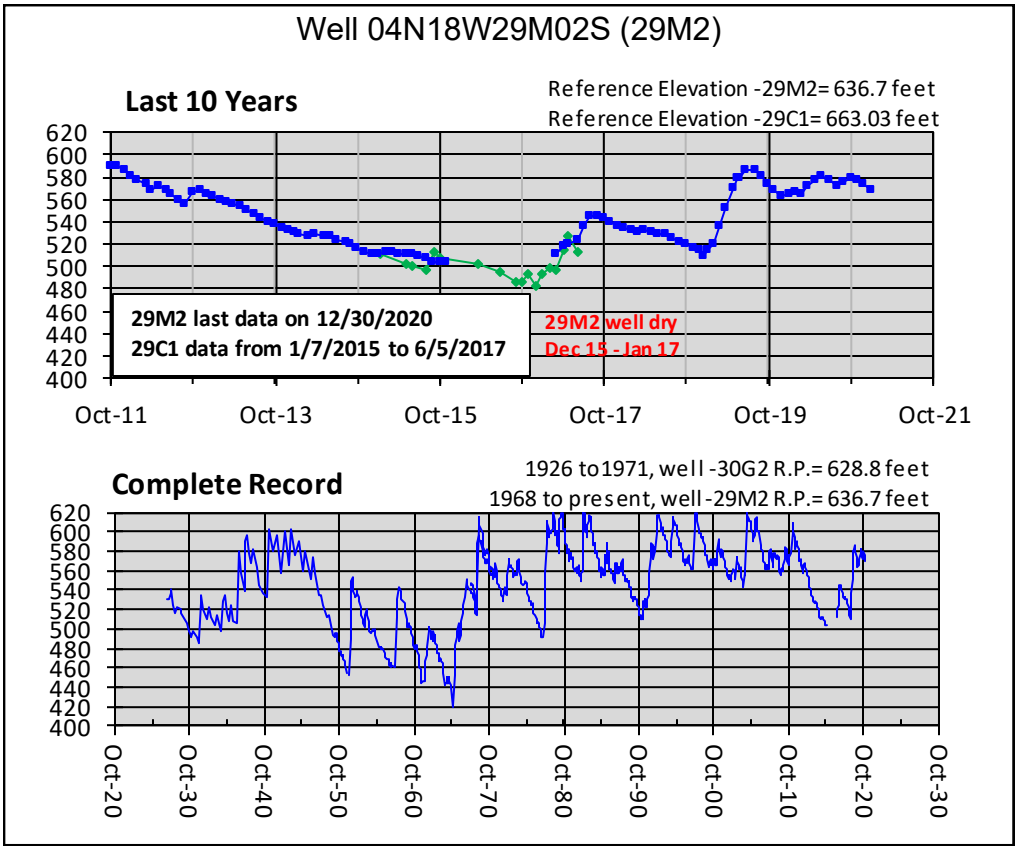
Pyramid Lake releases to UWCD

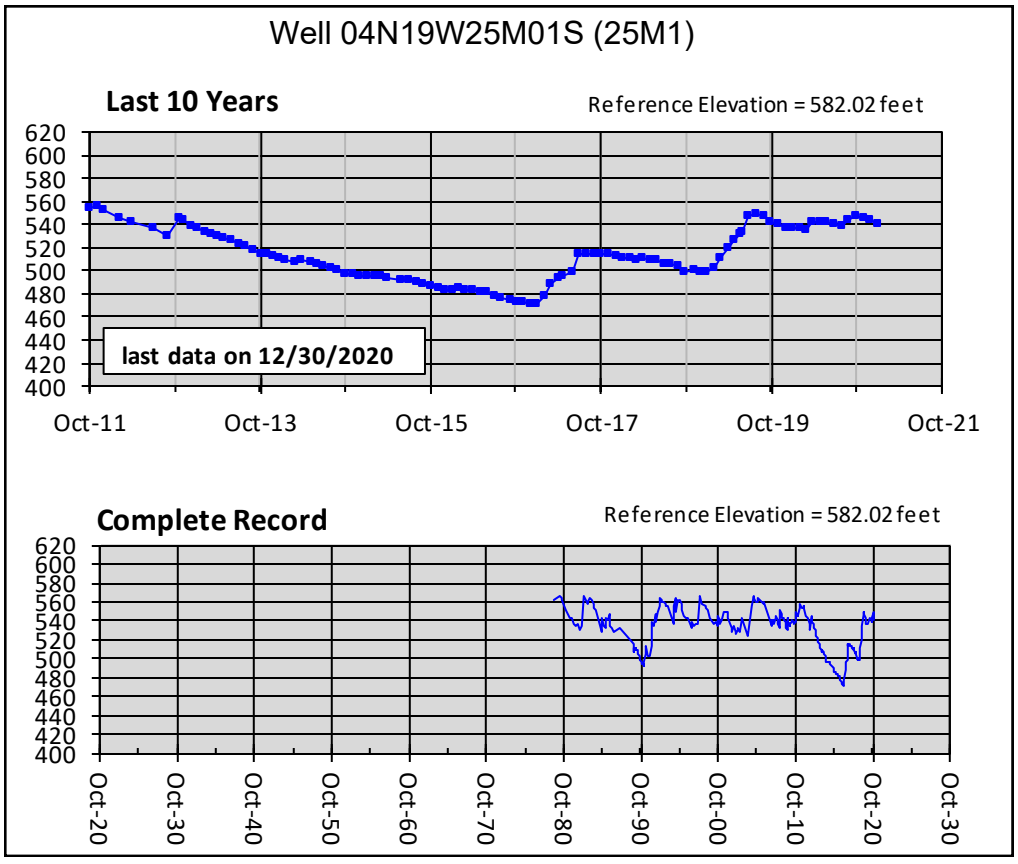


Locations of key wells, monthly groundwater elevation monitoring

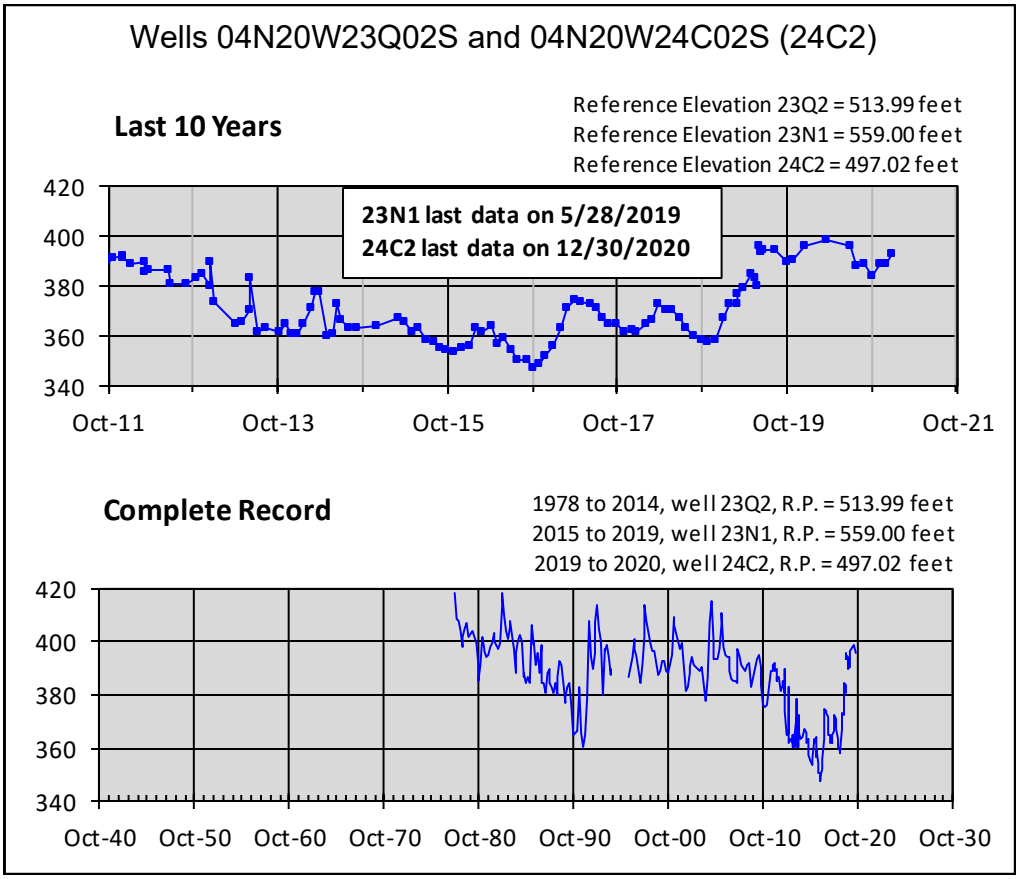


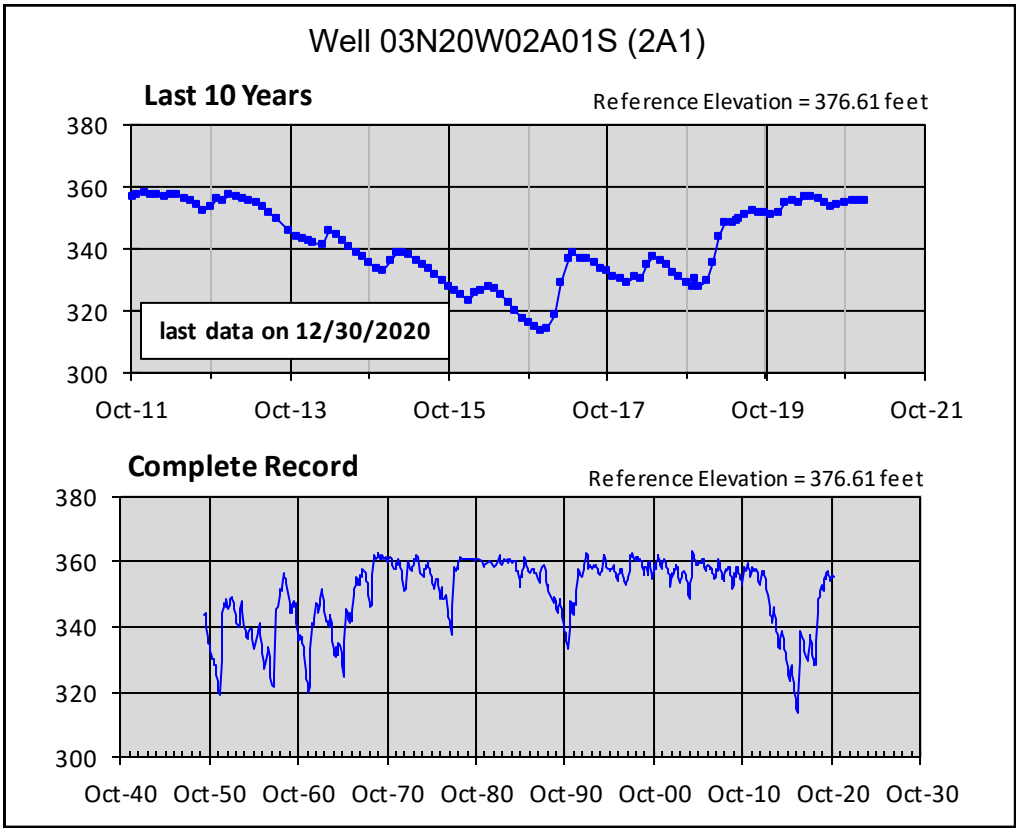
Piru Basin Key Wells
Groundwater Elevation Records





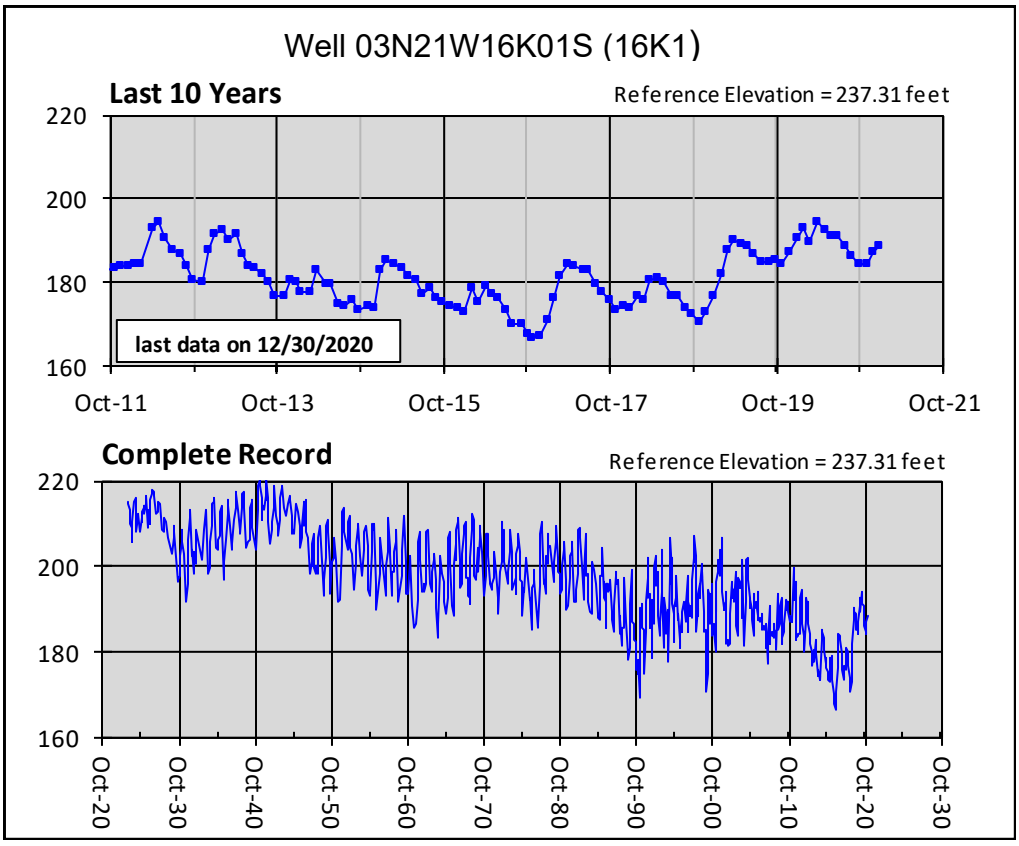
Fillmore Basin Key Wells
Groundwater Elevation Records



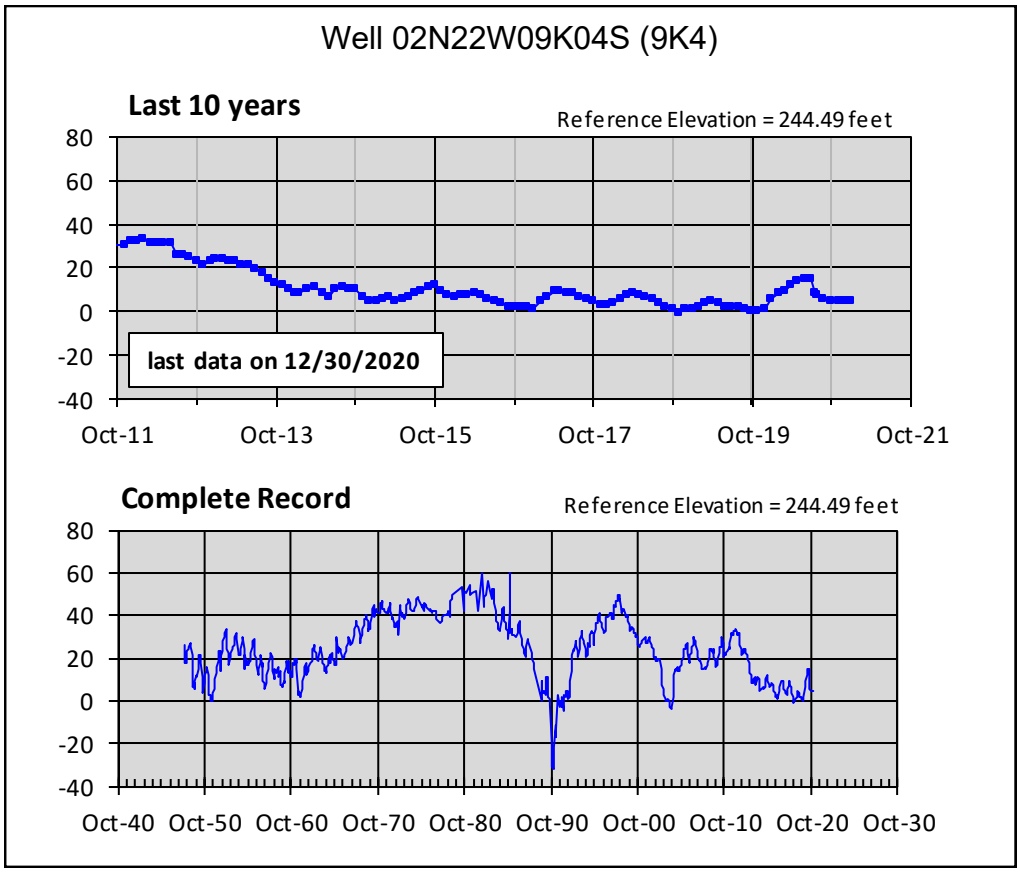


Groundwater Elevation Records

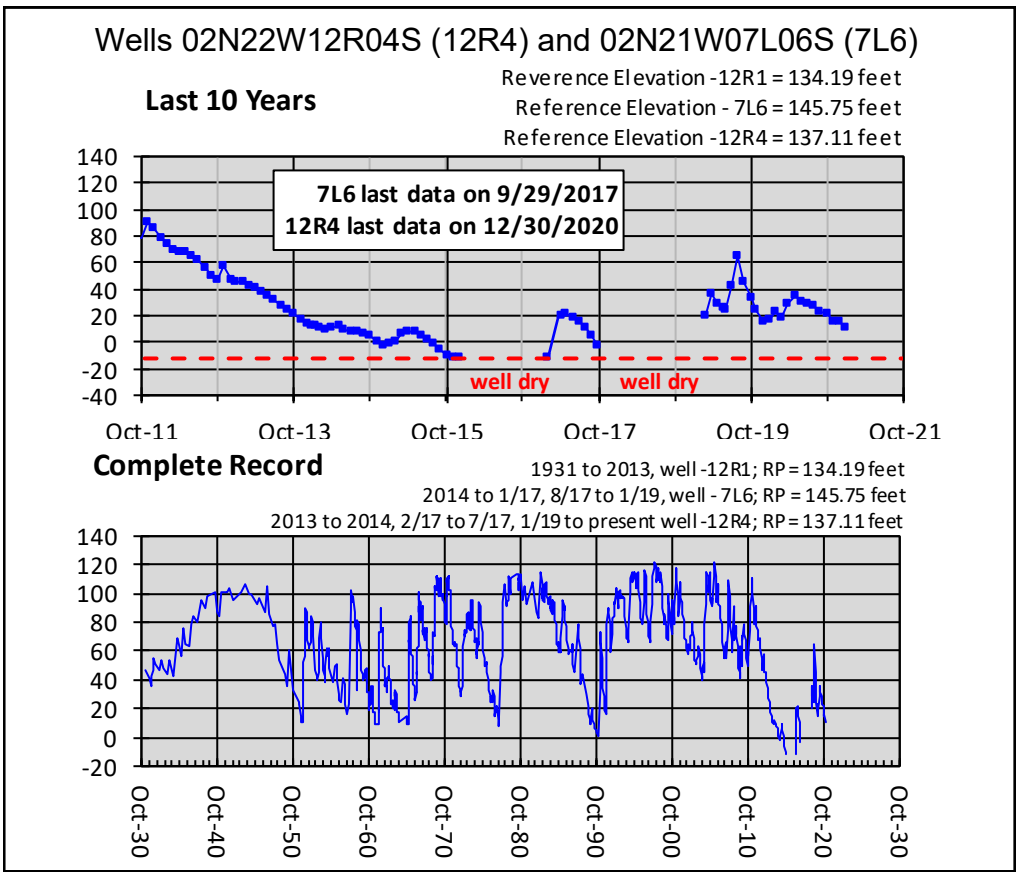
Santa Paula Basin Key Well

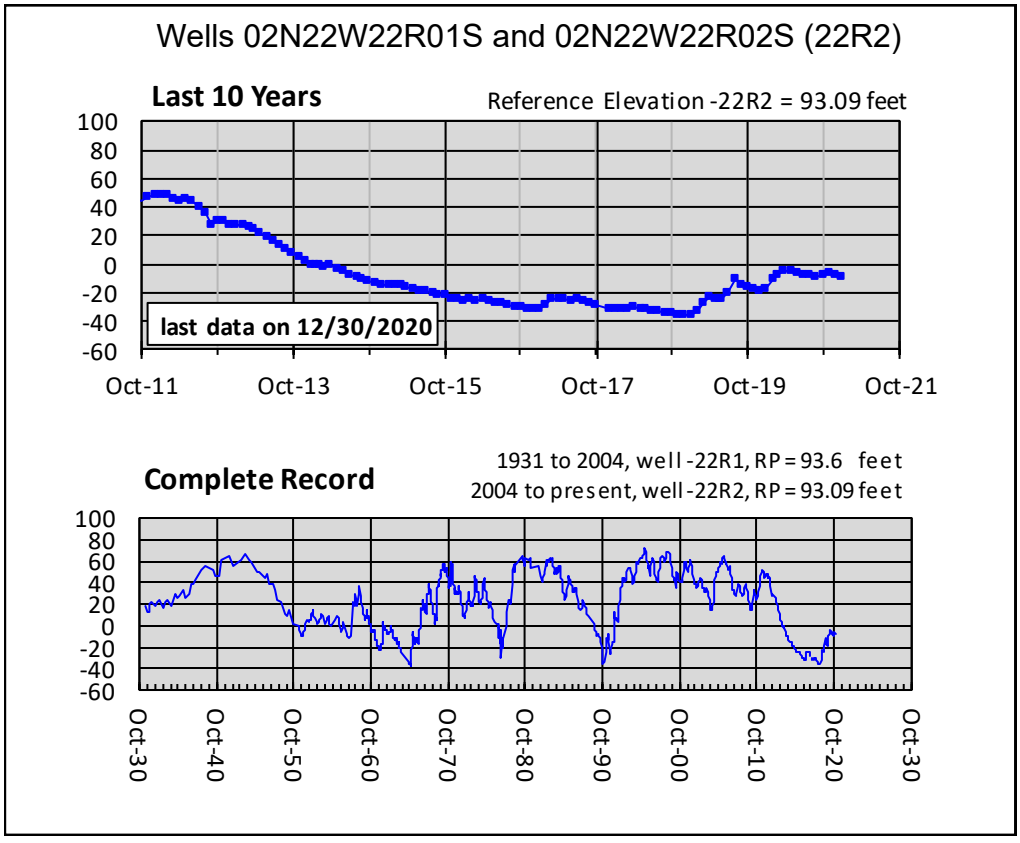


Mound Basin Key Well

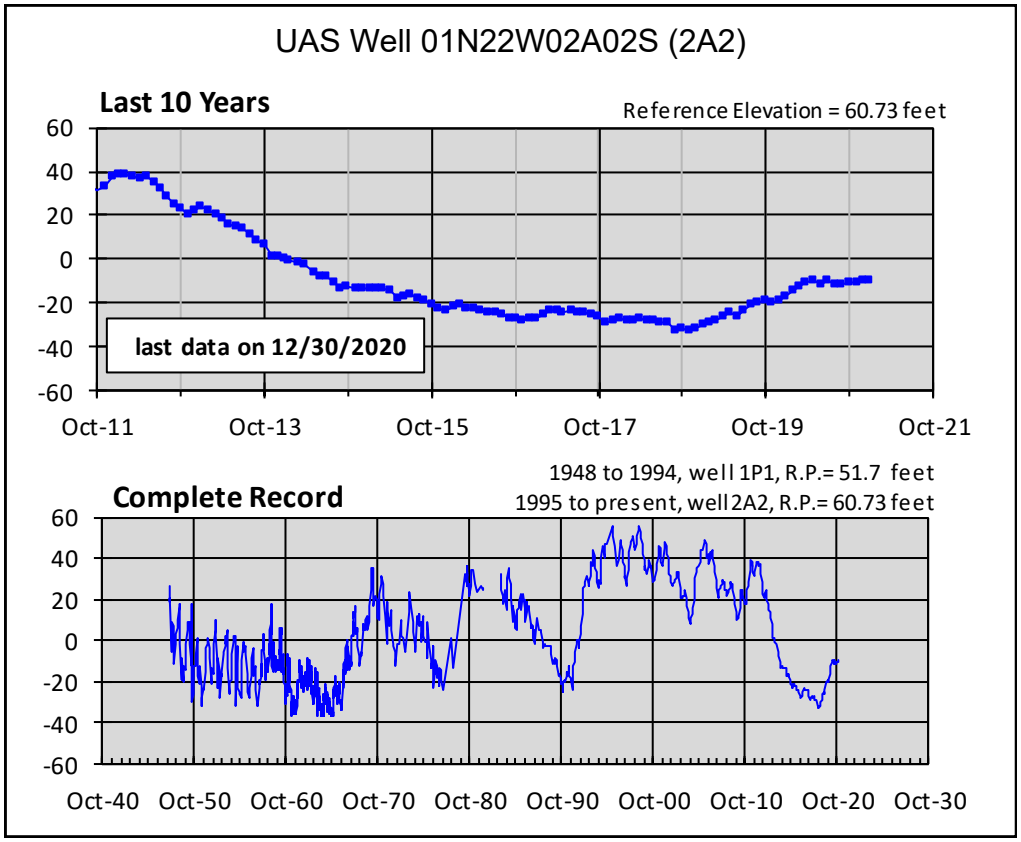


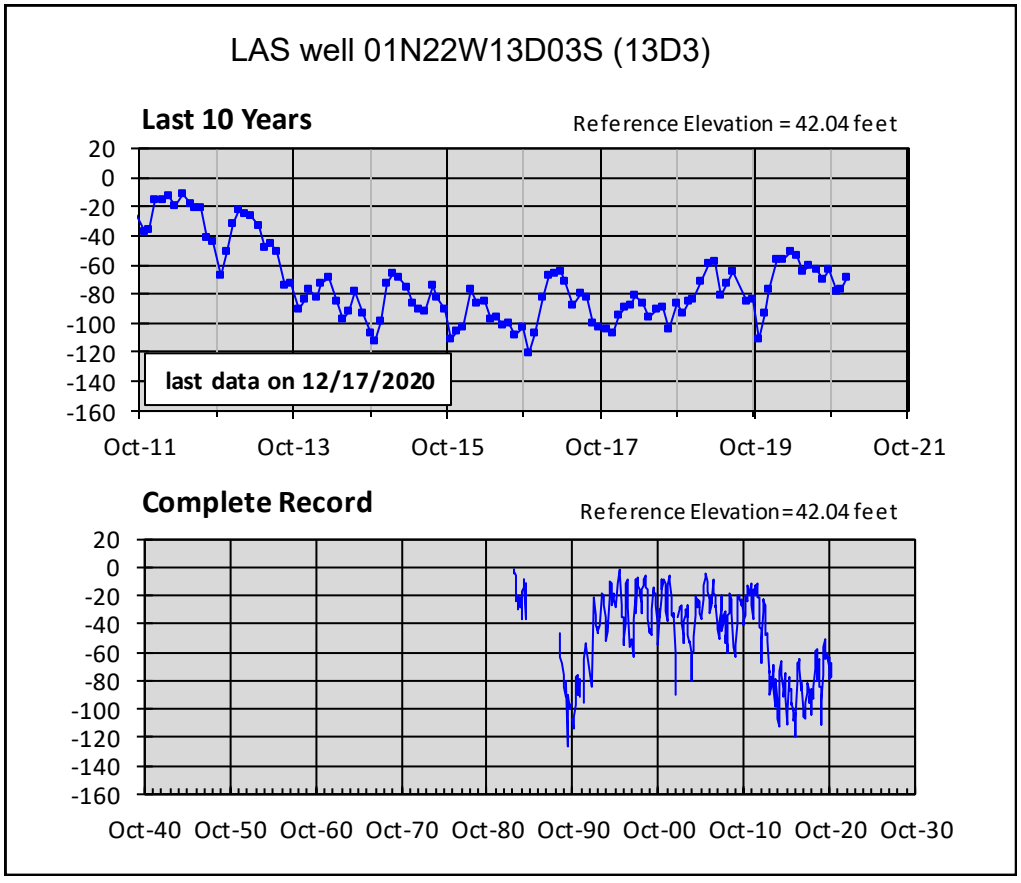
Oxnard Basin—Forebay Key Wells
Groundwater Elevation Records



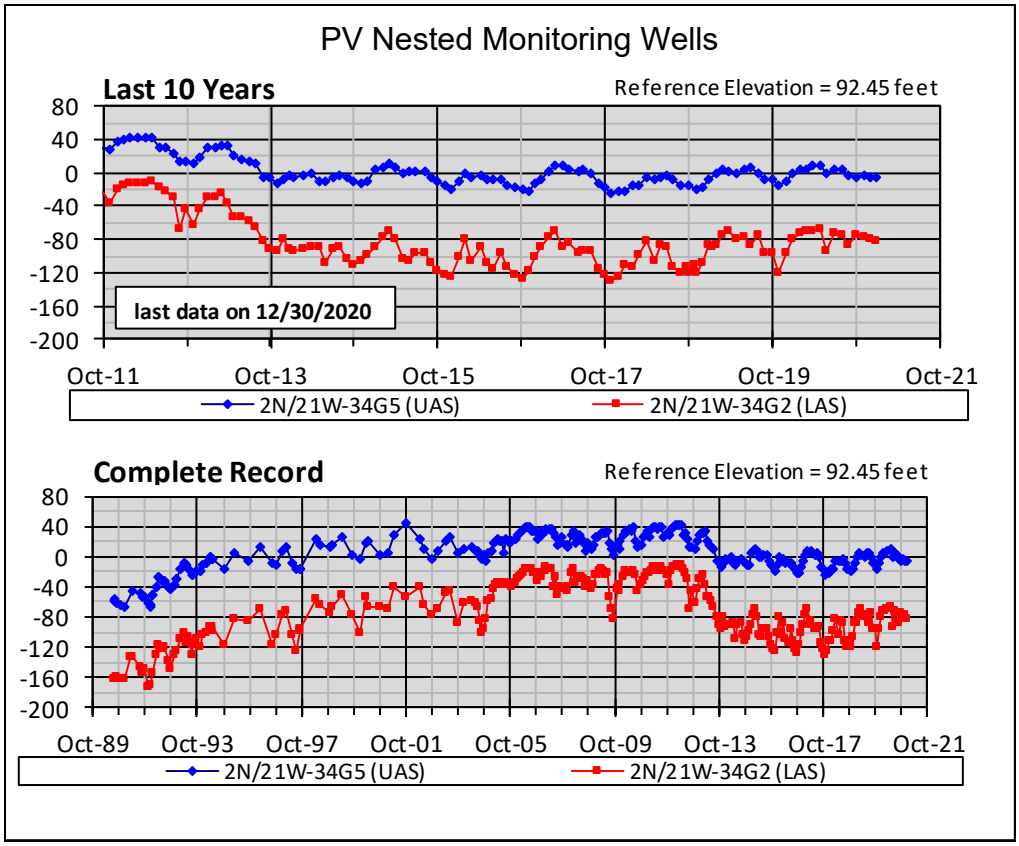


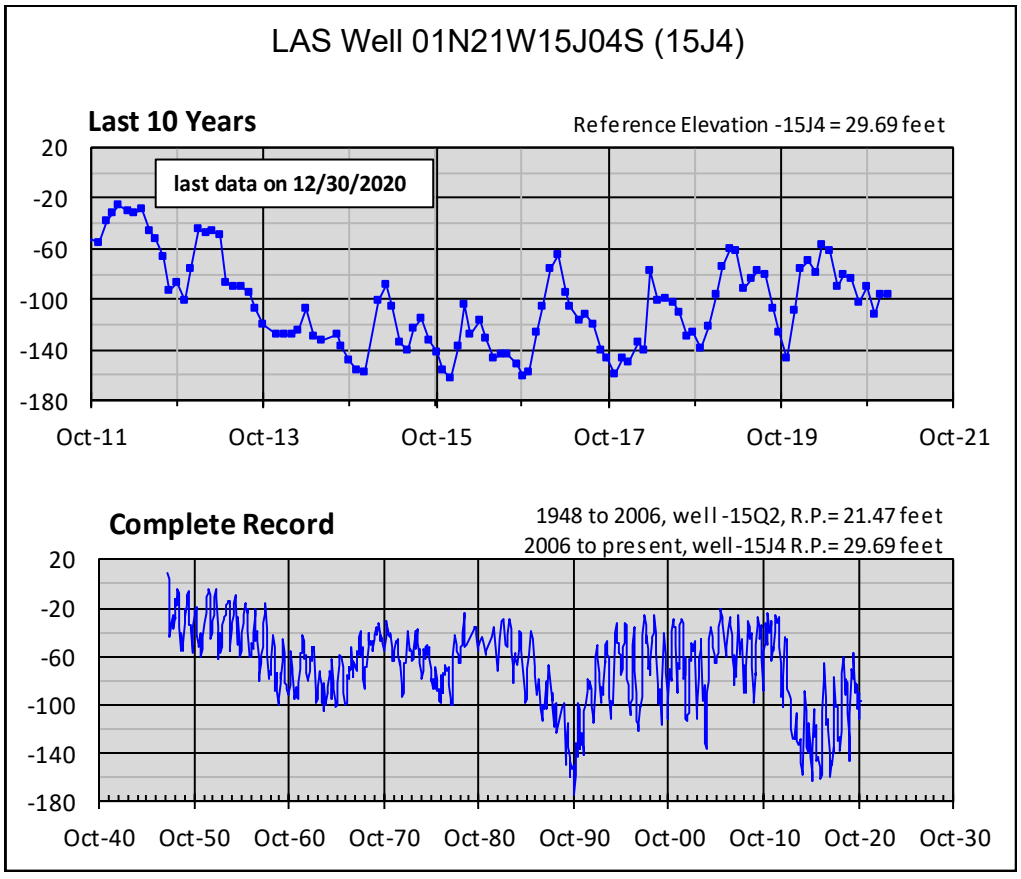
Oxnard Basin Key Wells
Groundwater Elevation Records



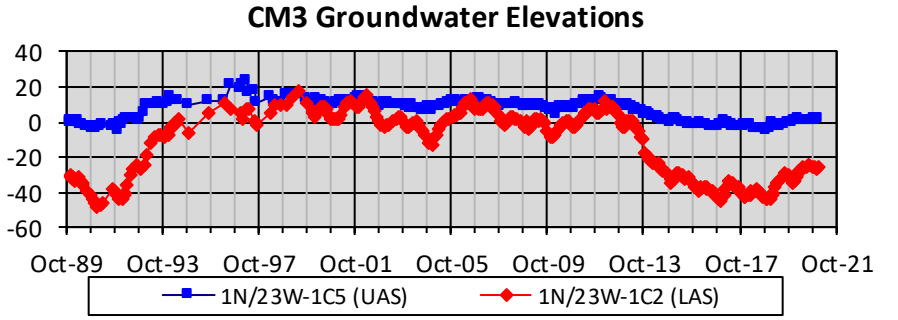


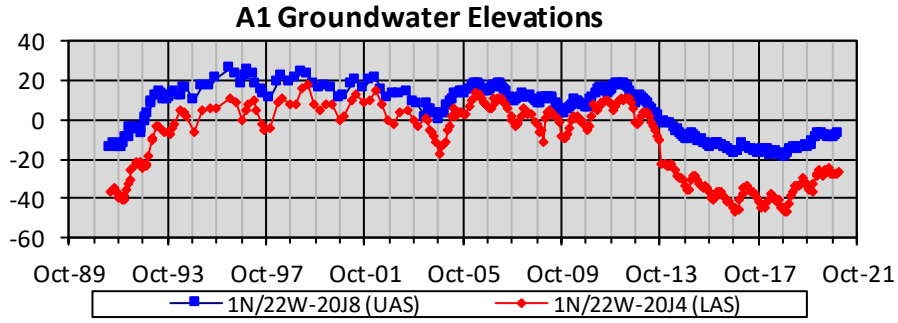
Pleasant Valley Basin Key Wells
Groundwater Elevation Records

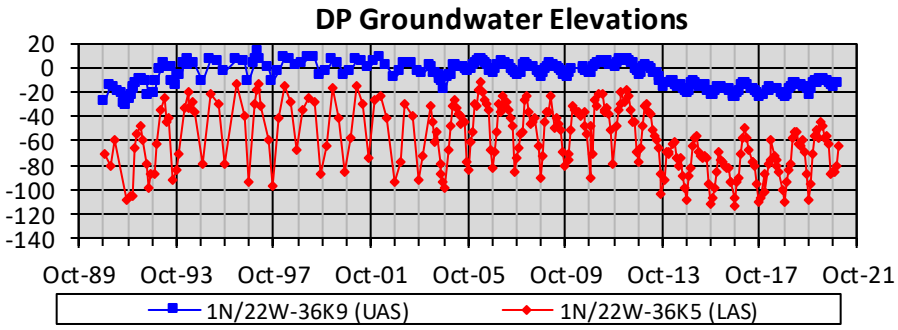


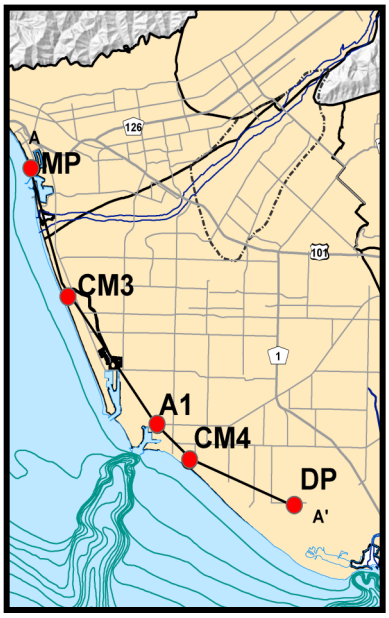


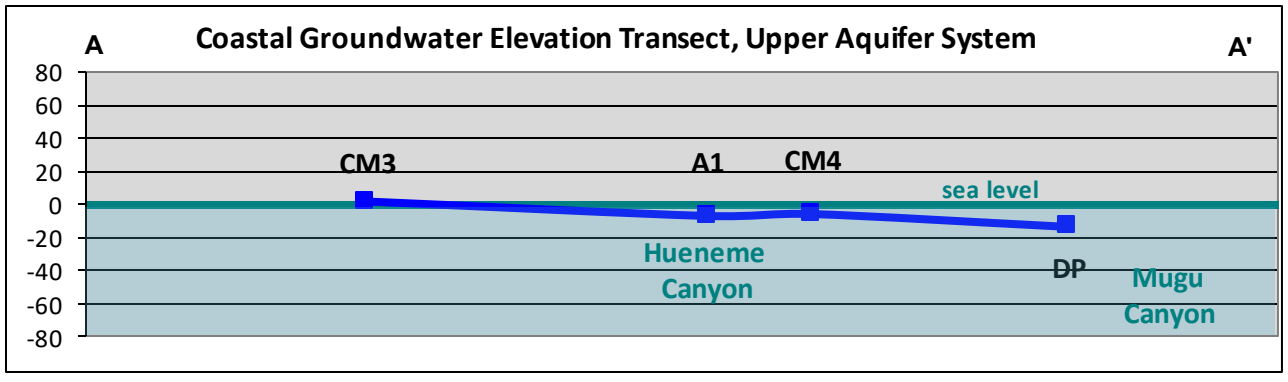
Oxnard Plain Coastal Key Wells—Nested Monitoring Wells

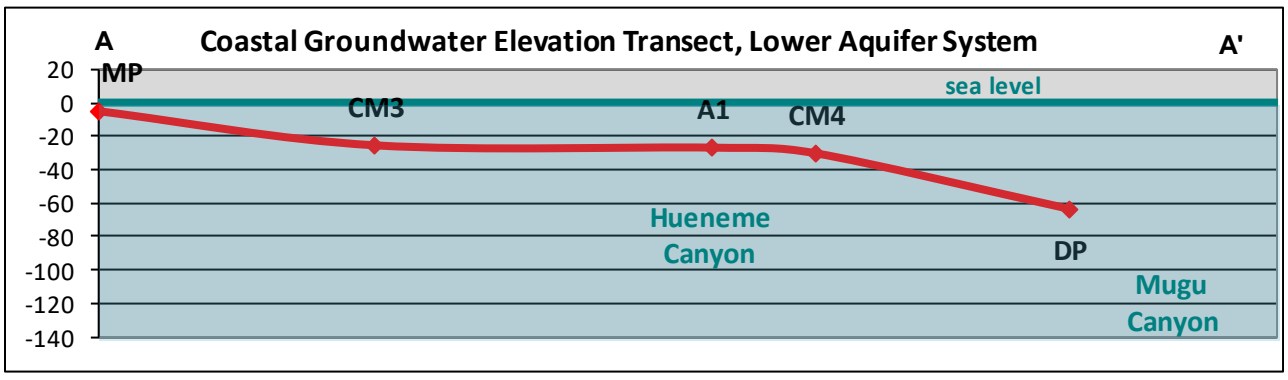












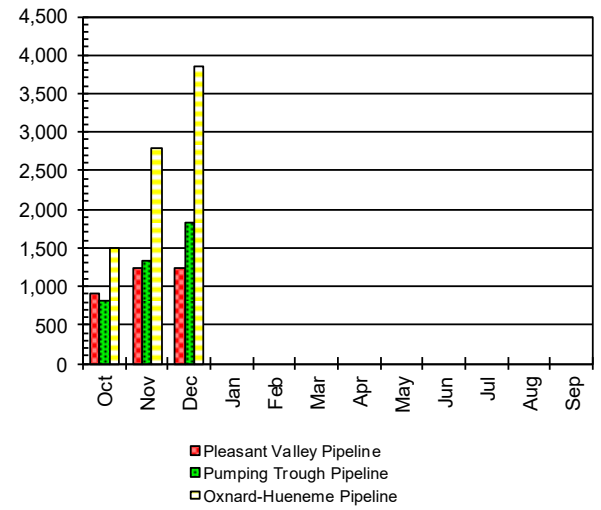
Monthly Water Deliveries, acre-feet (Water Year 2020/21)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
PV Pipeline (surface water)	902.5	329.0	0.0									
PV Pipeline (saticoy well field)	0.0	0.0	0.0									
Total to Pleasant Valley Pipeline	902.5	329.0	0.0									
Saticoy Well Field	0.0	0.0	0.0									
PTP (surface water)	783.7	422.6	483.9									
PTP (groundwater)	24.8	92.3	19.0									
PTP (Saticoy well field)	0.0	0.0	0.0									
Total PTP	808.5	514.9	502.9									
O-H Pipeline (groundwater)	1,503.0	1,296.0	1,063.0									
Total Surface Water Delivery (PTP & PV)	1,686.2	751.6	483.9									
Total Groundwater Delivery (OH & PTP)	1,527.8	1,388.3	1,082.0									
Total Delivery, Surface Water & GW	3,214.0	2,139.9	1,565.9									

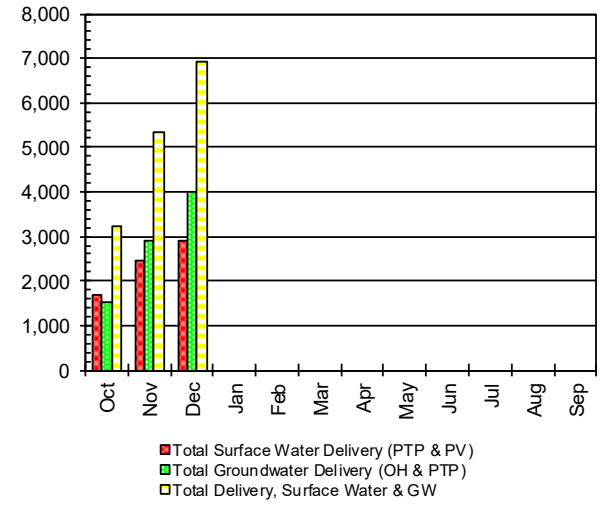
Cumulative Water Deliveries, acre-feet (Water Year 2020/21)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
PV Pipeline (surface water)	902.5	1,231.5	1,231.5									
PV Pipeline (saticoy well field)	0.0	0.0	0.0									
Total to Pleasant Valley Pipeline	902.5	1,231.5	1,231.5									
Saticoy Well Field	0.0	0.0	0.0									
PTP (surface water)	783.7	1,206.3	1,690.2									
PTP (groundwater)	24.8	117.1	136.1									
PTP (Saticoy well field)	0.0	0.0	0.0									
Total PTP	808.5	1,323.4	1,826.3									
O-H Pipeline (groundwater)	1,503.0	2,799.0	3,862.0									
Total Surface Water Delivery (PTP & PV)	1,686.2	2,437.8	2,921.7									
Total Groundwater Delivery (OH & PTP)	1,527.8	2,916.1	3,998.1									
Total Delivery, Surface Water & GW	3,214.0	5,353.9	6,919.8									

Cumulative deliveries by system



Cumulative deliveries by source/type



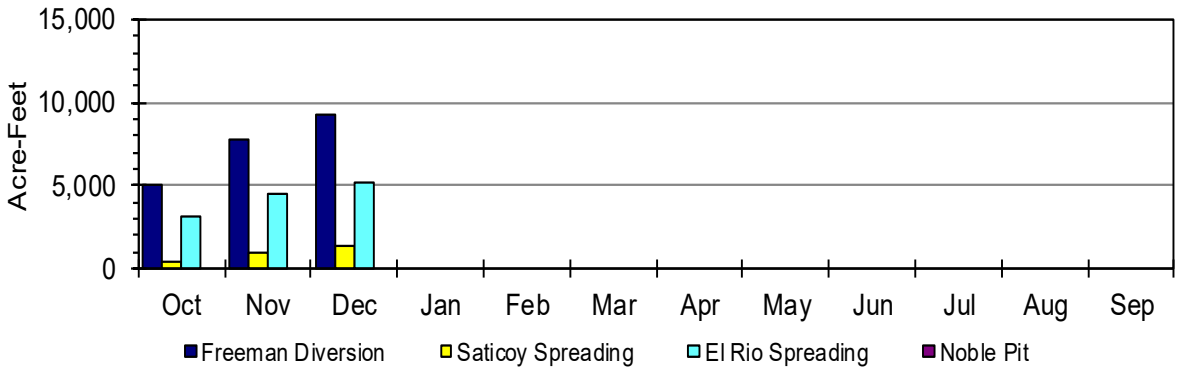
Monthly diversion and recharge totals by facility, 2020/21, in acre-feet

Month	Piru Spreading	Freeman Diversion	Saticoy Spreading	El Rio Spreading	Noble Pit
Oct	0	5,073	365	3,155	0
Nov	0	2,648	599	1,366	0
Dec	0	1,477	392	634	0
Jan					
Feb					
Mar					
Apr					
May					
Jun					
Jul					
Aug					
Sep					

Cumulative diversion and recharge totals by facility, 2020/21, in acre-feet

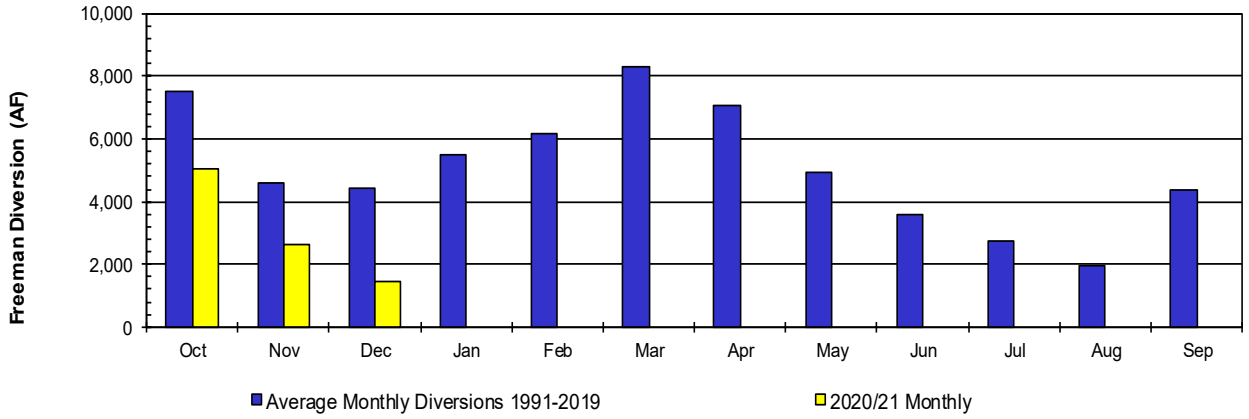
Month	Piru Spreading	Freeman Diversion	Saticoy Spreading	El Rio Spreading	Noble Pit
Oct	0	5,073	365	3,155	0
Nov	0	7,721	964	4,521	0
Dec	0	9,198	1,356	5,155	0
Jan					
Feb					
Mar					
Apr					
May					
Jun					
Jul					
Aug					
Sep					

Cumulative diversion at Freeman, and distribution to recharge facilities

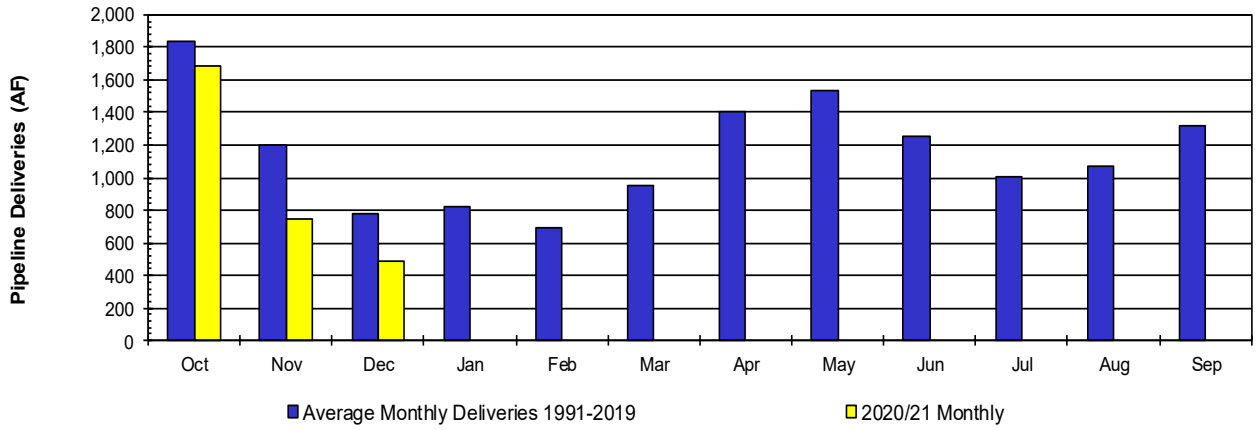


Cumulative diversions to Piru Spreading Grounds, 2020/21 = 0 AF

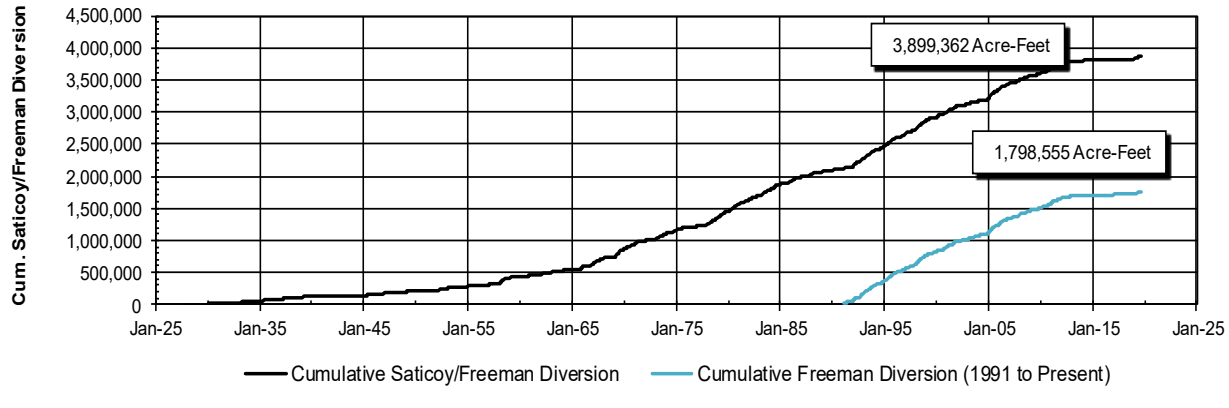
Monthly 2020/21 diversion at Freeman, compared to average monthly diversions (1991-2019)

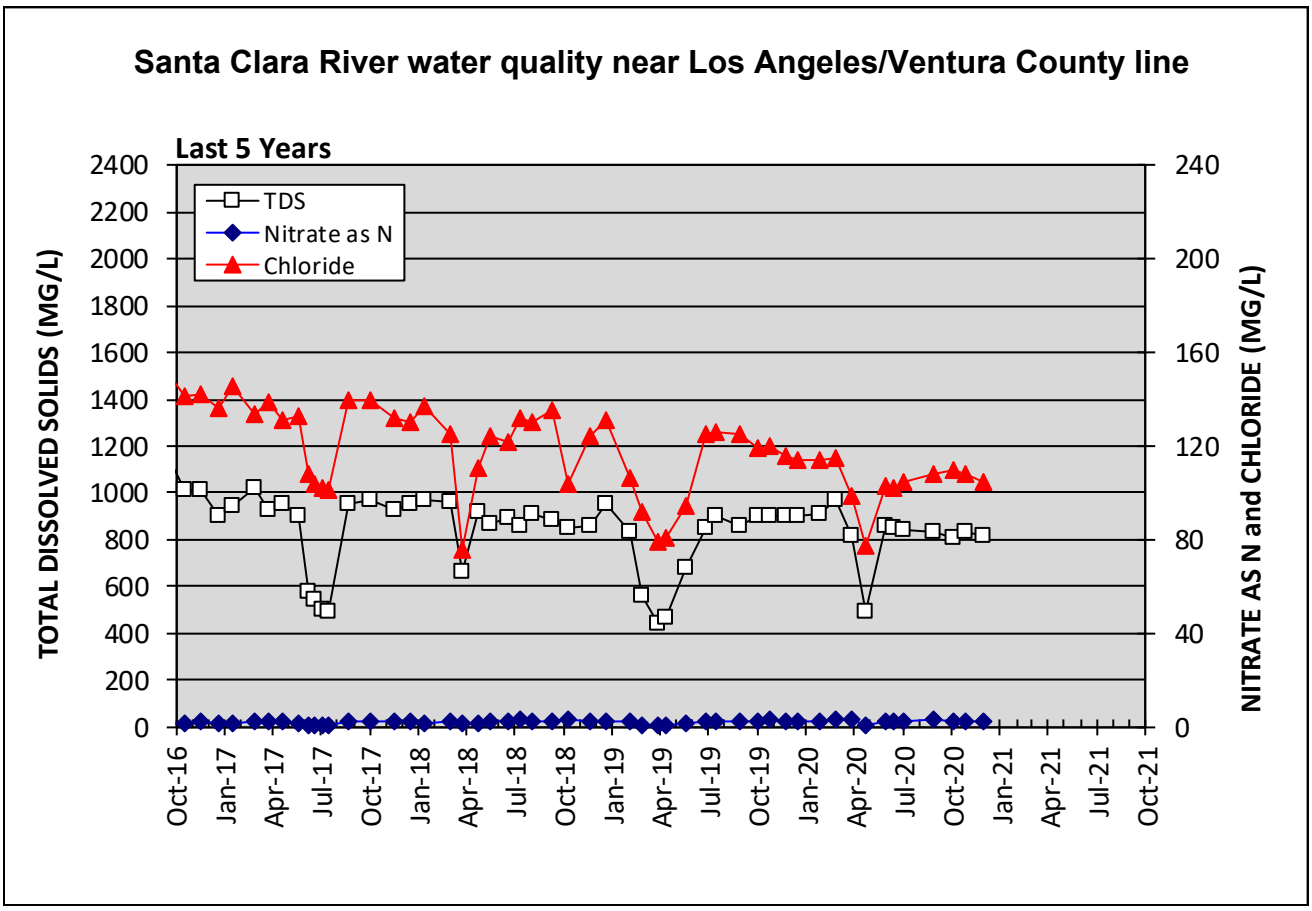


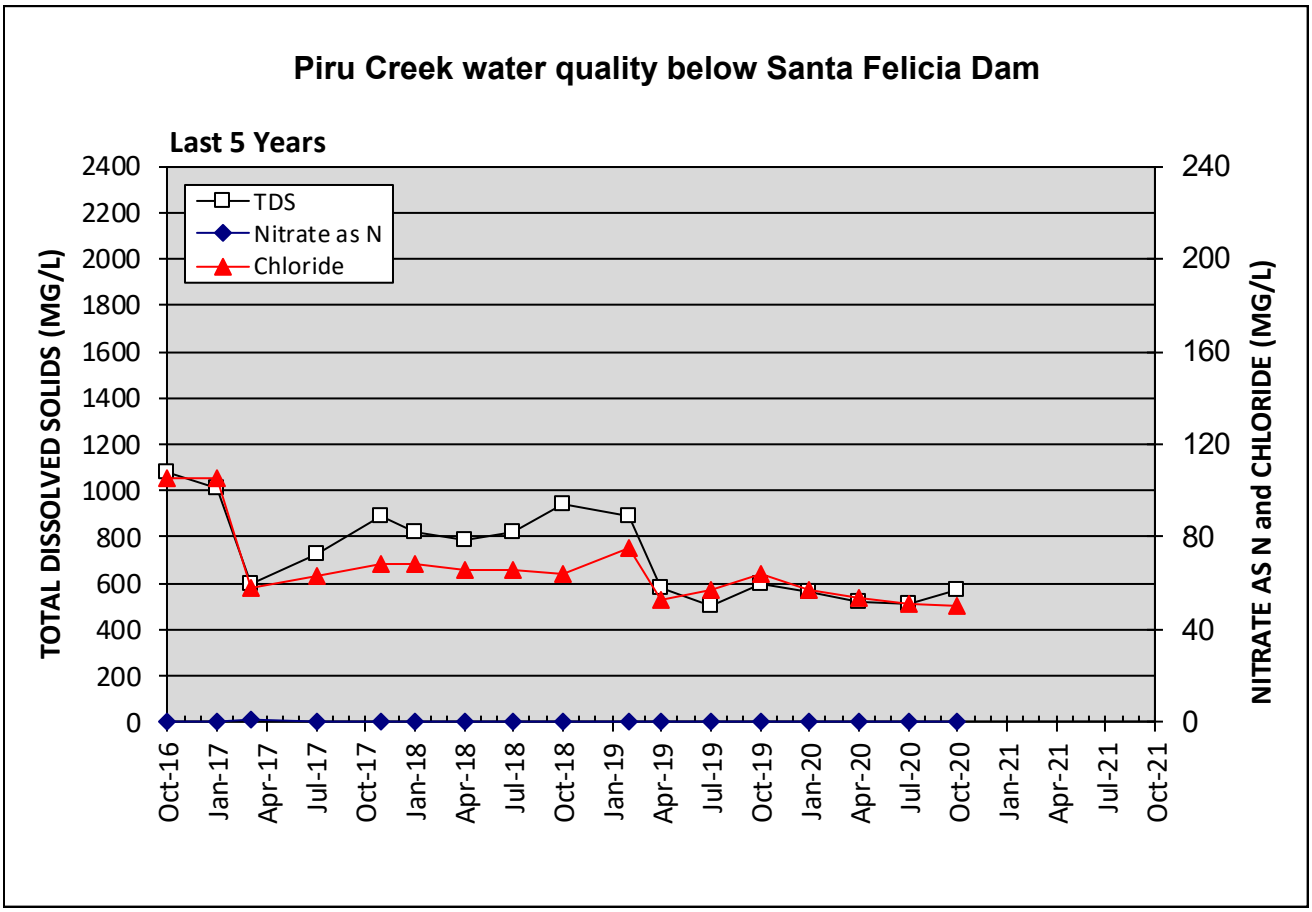
Monthly 2020/21 pipeline deliveries (surface water deliveries), compared to average monthly pipeline deliveries (1991-2019)



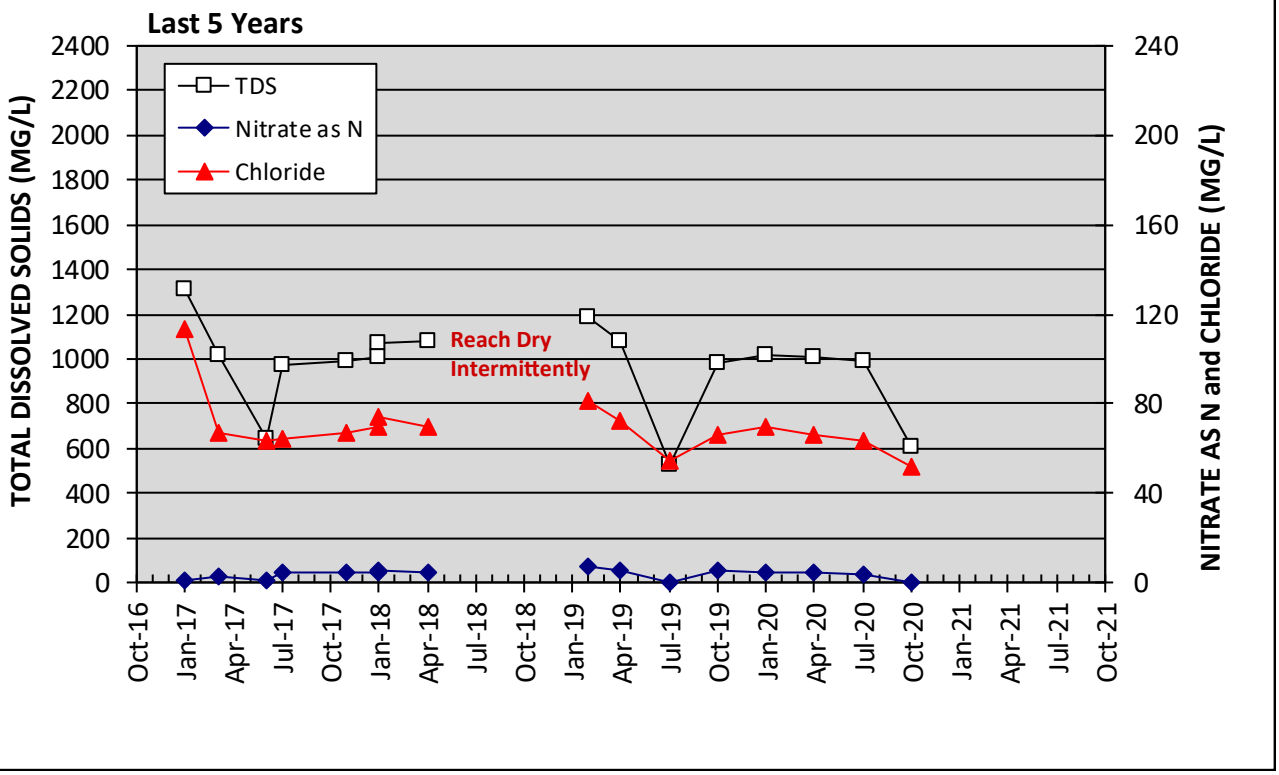
Cumulative diversion at Saticoy and Freeman Diversion, in acre-feet



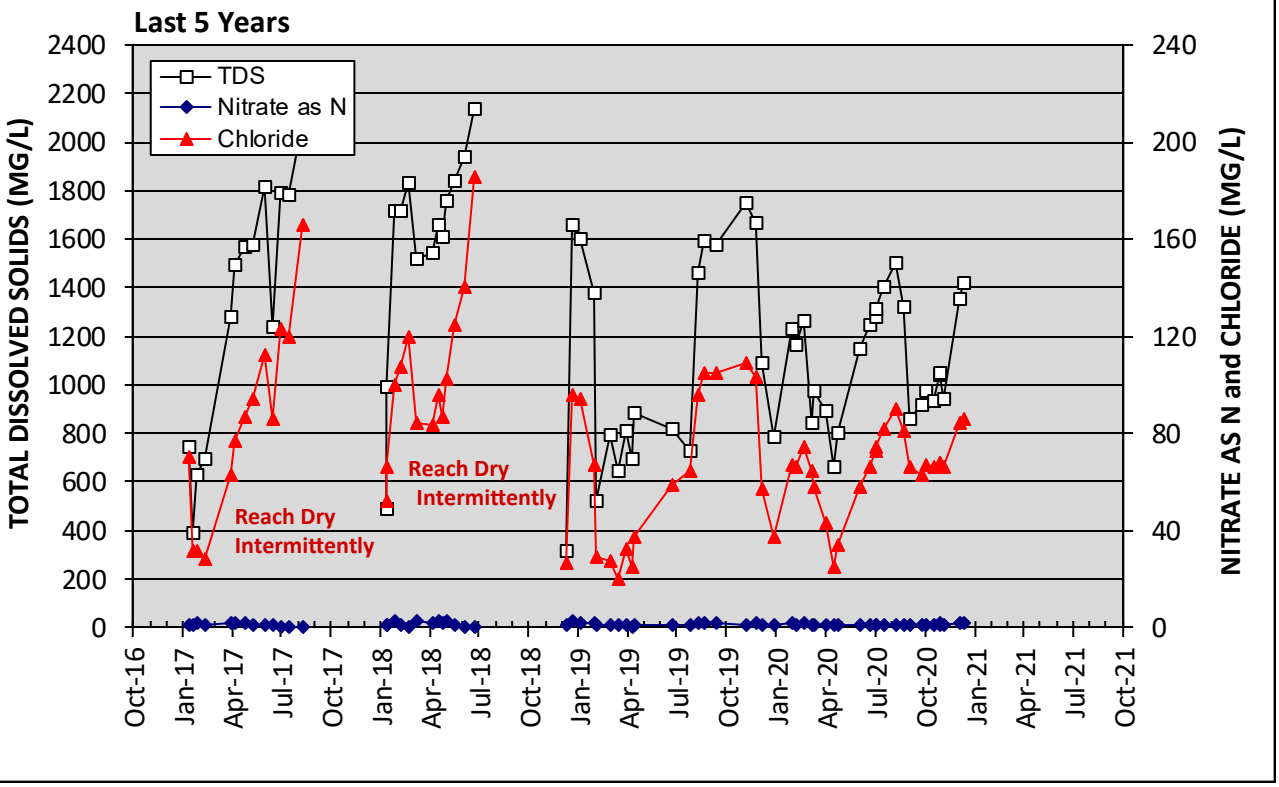

Santa Clara River water quality near Los Angeles/Ventura County line
Last 5 Years
TDS
Nitrate as N
Chloride
TOTAL DISSOLVED SOLIDS (MG/L)
NITRATE AS N and CHLORIDE (MG/L)
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
240
200
160
120
80
40
0
Oct-16
Jan-17
Apr-17
Jul-17
Oct-17
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
Jul-19
Oct-19
Jan-20
Apr-20
Jul-20
Oct-20
Jan-21
Apr-21
Jul-21
Oct-21

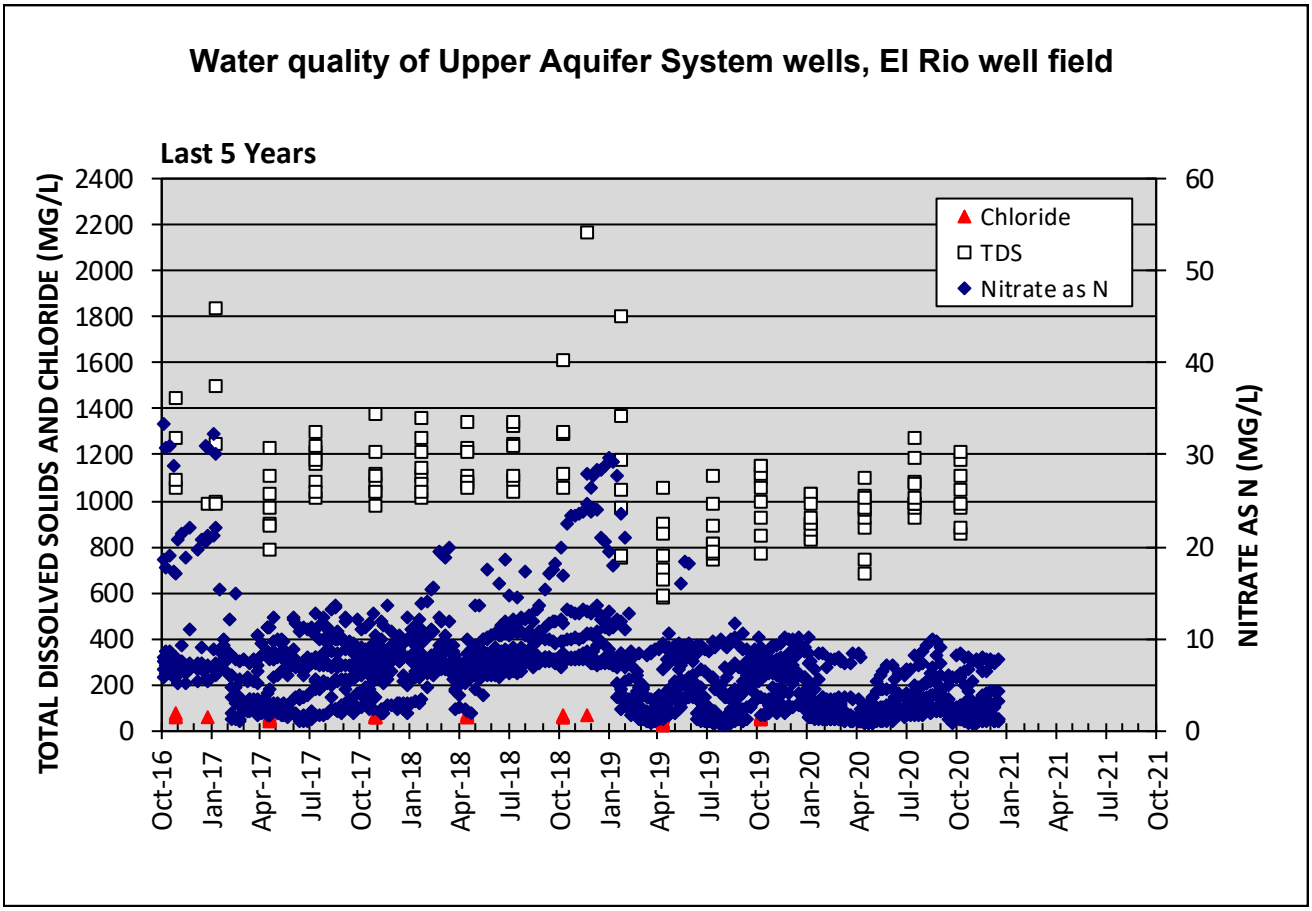

Piru Creek water quality below Santa Felicia Dam
Last 5 Years
TDS
Nitrate as N
Chloride
TOTAL DISSOLVED SOLIDS (MG/L)
NITRATE AS N and CHLORIDE (MG/L)
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
240
200
160
120
80
40
0
Oct-16
Jan-17
Apr-17
Jul-17
Oct-17
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
Jul-19
Oct-19
Jan-20
Apr-20
Jul-20
Oct-20
Jan-21
Apr-21
Jul-21
Oct-21

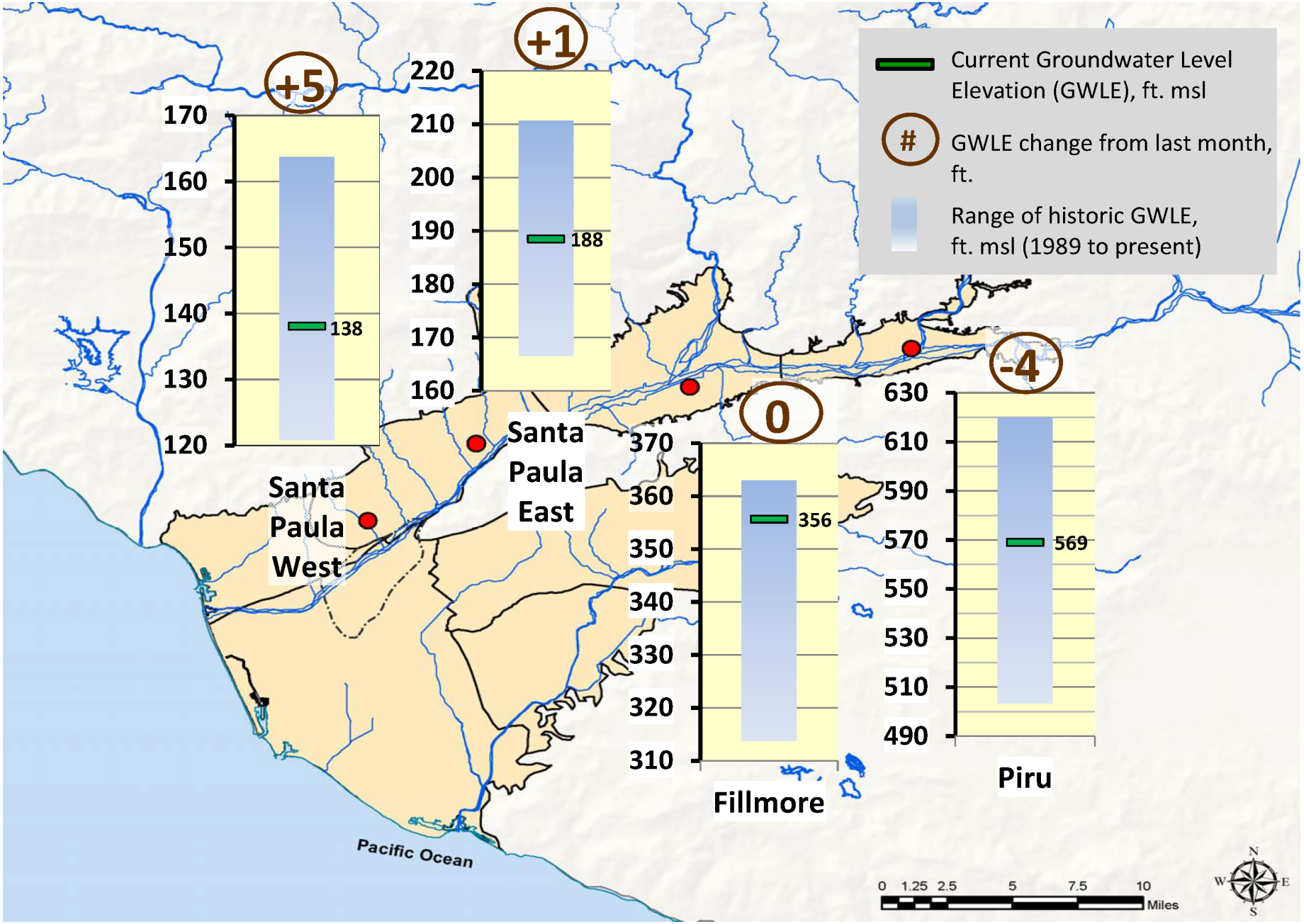
Santa Clara River water quality near Fillmore Fish Hatchery

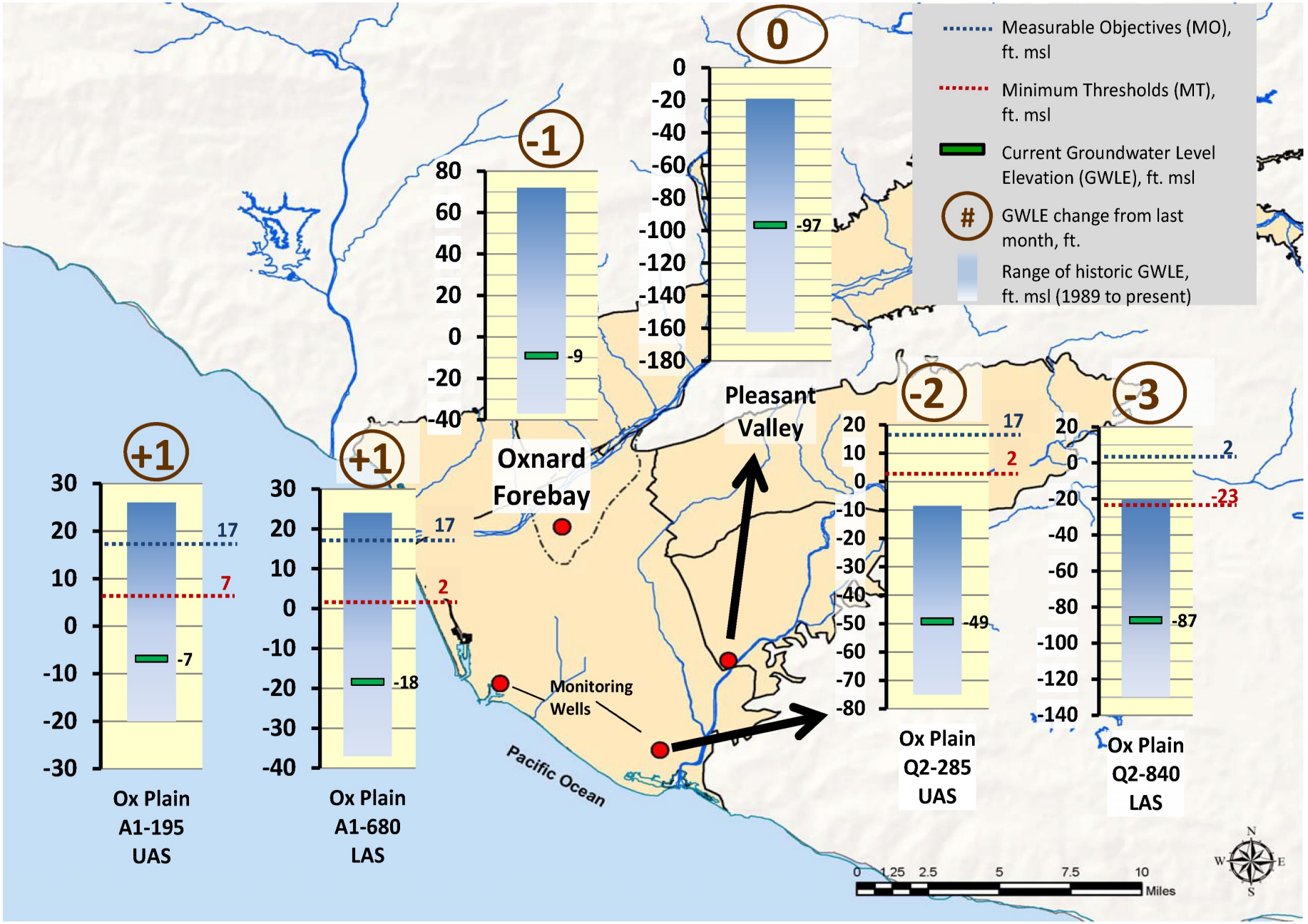


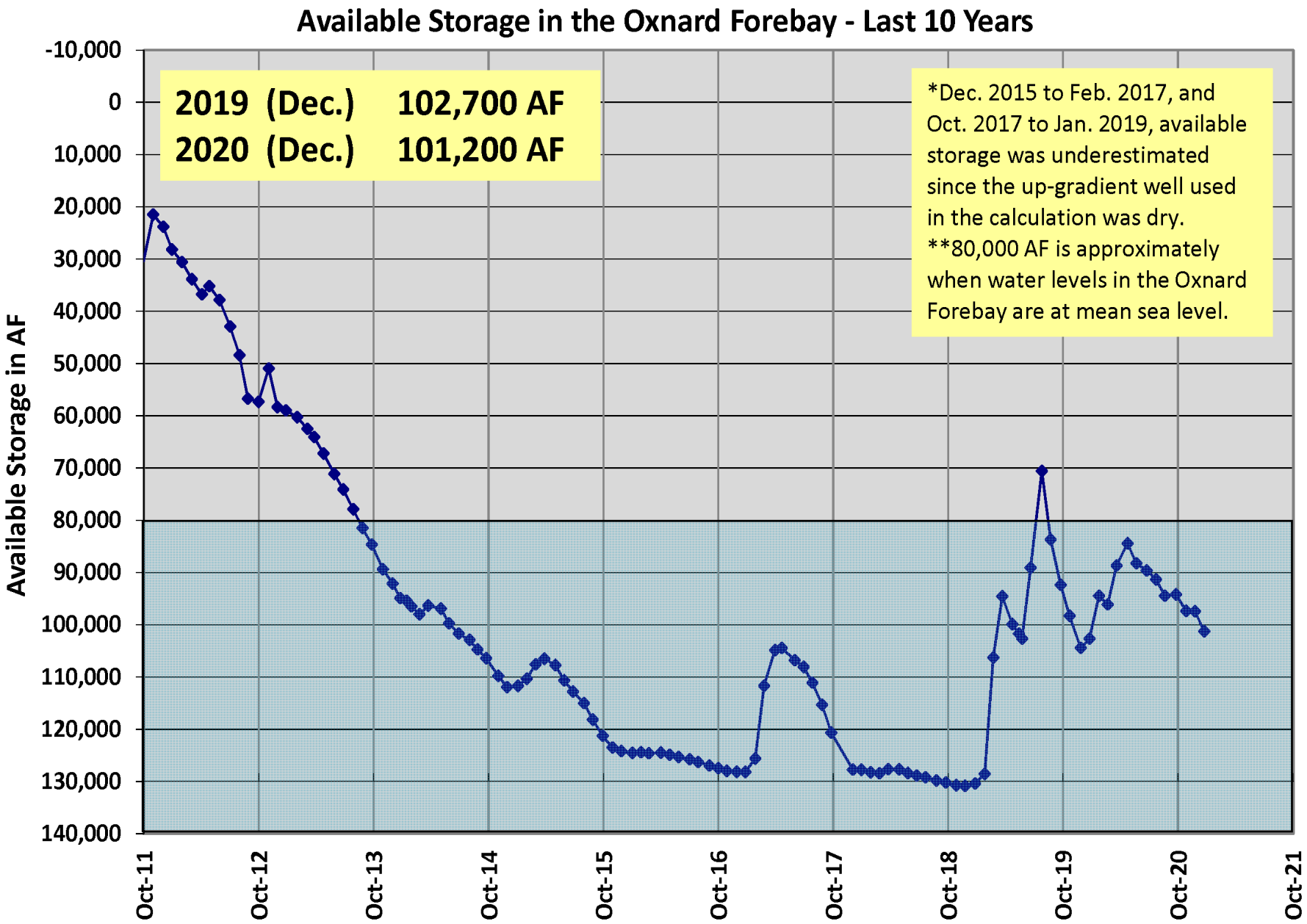
Santa Clara River water quality at Freeman Diversion

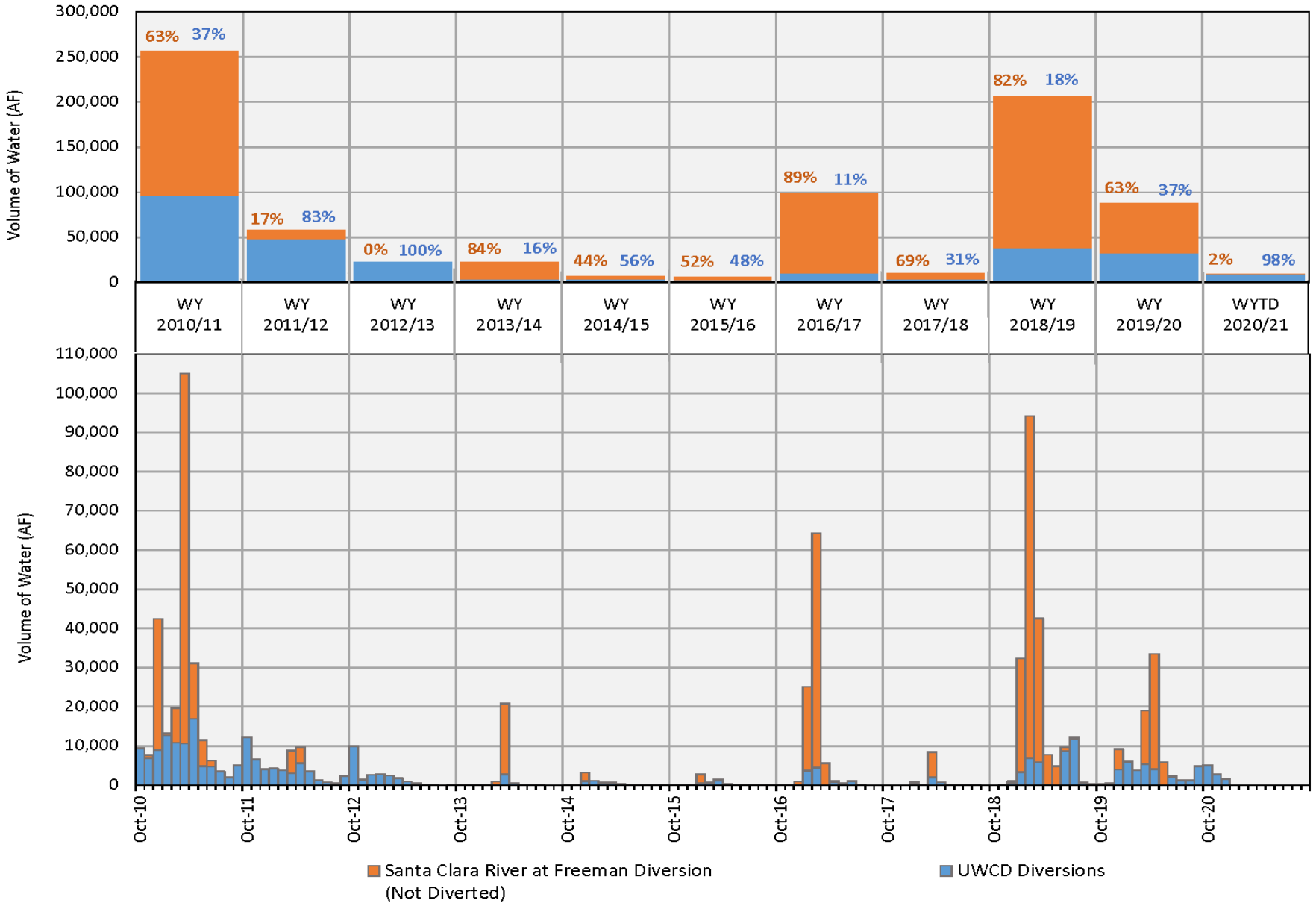



Water quality of Upper Aquifer System wells, El Rio well field
Last 5 Years
TOTAL DISSOLVED SOLIDS AND CHLORIDE (MG/L)
NITRATE AS N (MG/L)
Chloride
TDS
Nitrate as N
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
60
50
40
30
20
10
0
Oct-16
Jan-17
Apr-17
Jul-17
Oct-17
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
Jul-19
Oct-19
Jan-20
Apr-20
Jul-20
Oct-20
Jan-21
Apr-21
Jul-21
Oct-21


Current Groundwater Level Elevation (GWLE), ft. msl
#
GWLE change from last month, ft.
Range of historic GWLE, ft. msl (1989 to present)
+5
170
160
150
140
130
120
138
Santa Paula West
+1
220
210
200
190
180
170
160
188
Santa Paula East
0
370
360
350
340
330
320
310
356
Fillmore
-4
630
610
590
570
550
530
510
490
569
Piru
Pacific Ocean
0 1.25 2.5 5 7.5 10
Miles
N
W
E
S


Measurable Objectives (MO), ft. msl
Minimum Thresholds (MT), ft. msl
Current Groundwater Level Elevation (GWLE), ft. msl
GWLE change from last month, ft.
Range of historic GWLE, ft. msl (1989 to present)
0
-1
+1
+1
-2
-3
-97
-9
-7
-18
-49
-87
17
7
2
-23
Oxnard Forebay
Pleasant Valley
Monitoring Wells
Pacific Ocean
Ox Plain A1-195 UAS
Ox Plain A1-680 LAS
Ox Plain Q2-285 UAS
Ox Plain Q2-840 LAS
0 1.25 2.5 5 7.5 10
Miles
N
W
E
S


Available Storage in the Oxnard Forebay - Last 10 Years
2019 (Dec.) 102,700 AF
2020 (Dec.) 101,200 AF
*Dec. 2015 to Feb. 2017, and Oct. 2017 to Jan. 2019, available storage was underestimated since the up-gradient well used in the calculation was dry.
**80,000 AF is approximately when water levels in the Oxnard Forebay are at mean sea level.
Available Storage in AF
-10,000
0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
90,000
100,000
110,000
120,000
130,000
140,000
Oct-11
Oct-12
Oct-13
Oct-14
Oct-15
Oct-16
Oct-17
Oct-18
Oct-19
Oct-20
Oct-21



Water Year (WY) = October 1 to September 30; WYTD = Water Year To Date

United Water
CONSERVATION DISTRICT

To: **UWCD Board of Directors**

From: Joseph Jereb, Chief Financial Officer

Date: **December 15, 2020 (January 13, 2021 meeting)**

Agenda Item: **3.C Monthly (November 30, 2020) Investment and Pipeline Delivery Reports**
Information Item

Recommendation
Review and discuss the most current investment and pipeline delivery reports for November 30, 2020 that are enclosed. Based on the information provided, and the ensuing discussion, provide any necessary direction to staff.

Discussion
Based on the information included in the attached reports, staff will present a summary and discuss key information as an overview.

Fiscal Impact
As shown.

Attachment A: Combined Investment Report

United Water Conservation District
Monthly Investment Report
November 30, 2020

Investment Recap	G/L Balance	Weighted Avg Days to Maturity	Diversification Percentage of Total
Bank of the Sierra	3,064,862	1	10.95%
Petty Cash	400	1	0.00%
County Treasury	1,444	1	0.01%
LAIF Investments	24,268,872	1	86.69%
Union Bank - 2001 revenue bond balance	40	1	0.00%
Union Bank - 2005 revenue bond balance	116	1	0.00%
Union Bank - 2009 COP Bond Reserve Account	654,525	6,781	2.34%
Total Cash, Cash Equivalents and Securities	**27,990,260**		**100.00%**
Investment Portfolio w/o Trustee Held Funds	**27,335,579**		
Trustee Held Funds	**654,681**		
Total Funds	**27,990,260**		

Local Agency Investment Fund (LAIF)	Beginning Balance	Deposits (Disbursements)	Ending Balance
	26,268,872	(2,000,000)	24,268,872
	Interest Earned YTD	**Interest Received YTD**	**Qtrly Yield**
	59,337	160,212	0.84%

All District investments are shown above and conform to the District's Investment Policy. All investment transactions during this period are included in this report. Based on budgeted cash flows the District appears to have the ability to meet its expenditure requirements for the next six months.

DocuSigned by: Mauricio Guardado 36D23F9D982745E...

12/15/2020

Mauricio E. Guardado, Jr., General Manager — **Date Certified**

DocuSigned by: 70D59ECE0D8D46F...

12/14/2020

Anthony Emmert, Assistant General Manager — **Date Certified**

DocuSigned by: Joseph Jereb 306DA3150F61440...

12/14/2020

Joseph Jereb, Chief Financial Officer — **Date Certified**

United Water Conservation District

Cash Position

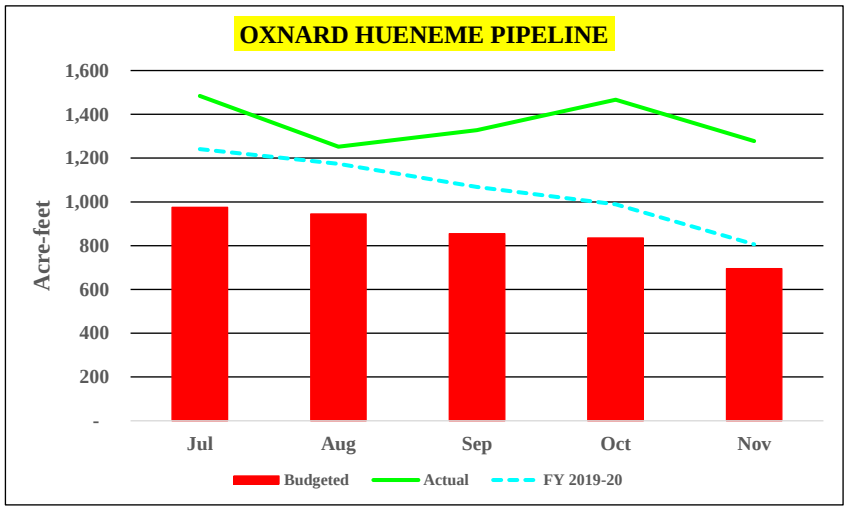
November 30, 2020

Fund	Total	Composition	Restrictions/Designations
General/Water Conservation Fund:			**Revenue collected for district operations**
General/Water Conservation	8,955,064	(695,888)	Includes General, Rec & Ranger, Water Conservation
		654,525	Reserved for future debt repayment 2009 COP
		1,725,000	Reserved for legal expenditures
		5,435,000	Designated for replacement, capital improvements, and environmental projects
		1,836,427	Supplemental Water Purchase Fund
General CIP Funds	5,217,323	5,217,323	Appropriated for capital projects
Special Revenue Funds:			**Revenue collected for a special purpose**
State Water Project Funds	2,885,437	2,885,437	Procurement of water/rights from state water project
Enterprise Funds:			**Restricted to fund usage**
Freeman Fund	(453,687)	(453,687)	Operations, Debt Service and Capital Projects
		-	Designated for replacement and capital improvements
		-	Reserved for legal expenditures
Freeman CIP Fund	4,447,751	4,447,751	Appropriated for capital projects
OH Pipeline Fund	1,835,025	1,835,025	Delivery of water to OH customers
OH CIP Fund	1,830,419	1,830,419	Appropriated for capital projects
OH Pipeline Well Replacement Fund	963,031	963,031	Well replacement fund
PV Pipeline Fund	382,260	382,260	Delivery of water to PV customers
PV CIP Fund	279,325	279,325	Appropriated for capital projects
PT Pipeline Fund	951,464	951,464	Delivery of water to PTP customers
PT CIP Fund	696,847	696,847	Appropriated for capital projects
Total District Cash & Investments	**27,990,260**	**27,990,260**	
	-	-	

United Water Conservation District
Pipeline Water Deliveries (Acre-feet)
FY 2020-21 data thru November 30, 2020

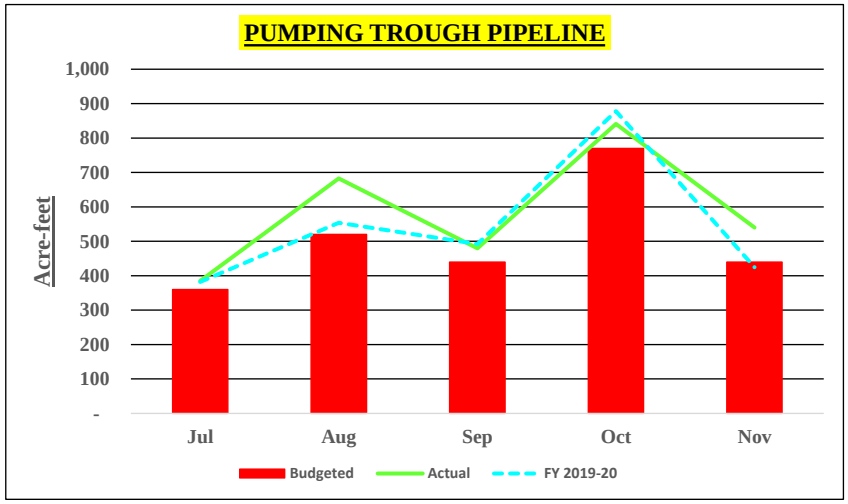
	OH Pipeline 20-21		
	Projection	Actual	Difference
Jul	975	1,484	509
Aug	945	1,252	307
Sep	855	1,328	473
Oct	835	1,467	632
Nov	695	1,278	583
Dec	605		
Jan	705		
Feb	735		
Mar	785		
Apr	925		
May	1,035		
Jun	895		
Totals	9,990	6,809	
YTD	**4,305**	**6,809**	**2,504**

YTD Actual to Budget: 58.2%

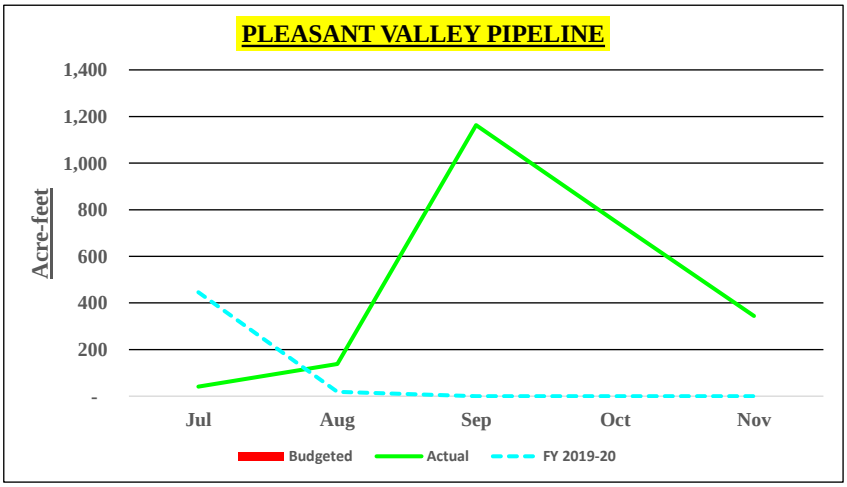


	PT Pipeline 2020-21		
	Projection	Actual	Difference
Jul	360	385	25
Aug	520	683	163
Sep	440	480	40
Oct	770	841	71
Nov	440	540	100
Dec	290		
Jan	210		
Feb	250		
Mar	290		
Apr	470		
May	480		
Jun	470		
Totals	4,990	2,929	
YTD	**2,530**	**2,929**	**399**

YTD Actual to Budget: 15.8%



	PV Pipeline 2020-21		
	Projection	Actual	Difference
Jul	-	41	41
Aug	-	138	138
Sep	-	1,163	1,163
Oct	-	752	752
Nov	-	344	344
Dec	-		-
Jan	-		-
Feb	-		-
Mar	-		-
Apr	-		-
May	-		-
Jun	-		-
Totals	-	2,438	
YTD	**-**	**2,438**	**2,438**



United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager

From: Maryam Bral, Chief Engineer

Date: **December 23, 2020 (Meeting date January 13, 2021)**

Agenda Item: **4.1 Resolution 2021-02 Accepting California Environmental Quality Act (CEQA) Notice of Categorical Exemption Determination for the Oxnard Hueneme (OH) Backup Generator Project at the El Rio Booster Plant**
Motion

Staff Recommendation:
The Board will consider approving **Resolution 2021-02** accepting the California Environmental Quality Act (CEQA) Notice of categorical exemption determination for the Oxnard Hueneme (OH) Backup Generator project at the El Rio Booster Plant and allowing staff to file a Notice of Exemption (NOE) with the Governor's Office of Planning and Research (via the State Clearinghouse's CEQA net web portal).

Discussion:
The District is the lead agency for the OH Backup Generator project at the El Rio Booster Plant under CEQA. The proposed project consists of the installation of a backup diesel-powered generator at the El Rio Water Treatment and Groundwater Recharge Facility which supplies the Oxnard-Hueneme Pipeline (OH) system. In the event of a power outage, the generator would automatically turn on to enable the District to continue to run the upper aquifer wells at the Wellfield, thereby facilitating continued supply to the OH System to meet customer potable water needs.

The project is categorically exempt pursuant the CCR Section 15301 "Existing Facilities" Class 1 and the CCR 15302 "Replacement or Reconstruction exemption" Class 2.

Fiscal Impact: Possible $50.00 filing fee (County Recorder's Office), which is included in the Adopted Fiscal Year 2020-2021 Budget.

Attachment A – Notice of Exemption
Attachment B – Resolution 2021-02

Print Form

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 958112-3044

County Clerk
County of: Not Applicable

From: (Public Agency): United Water Conservation District
1701 N. Lombard Street, Suite 200
Oxnard, CA 93030

Project Title: Oxnard-Hueneme System Backup Generator Project

Project Applicant: United Water Conservation District

Project Location - Specific:

UWCD's El Rio Booster Plant at 3561 North Rose Avenue, Oxnard, CA 93036-1821

Project Location - City: Oxnard Project Location - County: Ventura

Description of Nature, Purpose and Beneficiaries of Project:

The project consists of the installation of a new backup diesel-powered generator at UWCD's El Rio Booster Plant which supplies UWCD's Oxnard-Hueneme (OH) system. The generator would automatically turn on in the event of a power outage to maintain supply of potable water via UWCD's OH system. An existing 750 kW diesel generator will be removed prior to installation of the new generator.

Name of Public Agency Approving Project: United Water Conservation District

Name of Person or Agency Carrying Out Project: United Water Conservation District

Exempt Status: **(check one):**

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: Existing Facilities §15301, Replacement or Reconstruction §15302
- ☐ Statutory Exemptions. State code number: _____

Reasons why project is exempt:

Based on an examination of the project, this project qualifies for the following exemptions under the California Environmental Quality Act:
CEQA Guidelines section15301, Existing Facilities: The project, including the installation of the new generator, consists of the minor alteration of an existing facility that provides public utility services (water), involving no expansion of use beyond that currently existing.
CEQA Guidelines section15302, Replacement or Reconstruction: The project consists of replacement and reconstruction of existing utility facilities, in this case replacement of an existing, inoperable generator with a new generator and related modifications at the El Rio Booster Plant, involving no expansion of capacity beyond that currently existing.
It has been determined that none of the exceptions to exemption in CEQA Guidelines section 15300.2 are applicable.

Lead Agency Contact Person: Mauricio E. Guardado Area Code/Telephone/Extension: (805) 525-4431

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? Yes ▪ No

Signature: _____ Date: _____ Title: General Manager

▪ Signed by Lead Agency ▪ Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: _____

RESOLUTION 2021-02

RESOLUTION OF THE BOARD OF DIRECTORS OF THE UNITED WATER CONSERVATION DISTRICT APPROVING THE OXNARD HUENEME SYSTEM BACKUP GENERATOR PROJECT AT THE EL RIO BOOSTER PLANT

WHEREAS, for the purpose of continued supply of potable water to the Oxnard Hueneme ("OH") system during power outage events, the United Water Conservation District ("District") proposes the installation and operation of a new backup diesel-powered generator, the Oxnard Hueneme System Backup Generator ("Project"), at the existing District El Rio Booster Plant; and

WHEREAS, the proposed Project consists of the installation of a new backup diesel-powered generator at the District's El Rio Booster Plant which supplies the District's OH system. The generator would automatically turn on in the event of a power outage to maintain supply of potable water via the District's OH system. An existing 750 kW diesel generator would be removed prior to installation of the new generator; and

WHEREAS, the proposed Project, including the installation of the new generator, consists of the minor alteration of an existing facility that provides public utility services (water), involving no expansion of use beyond that currently existing; and

WHEREAS, the proposed Project consists of replacement and reconstruction of existing utility facilities, in this case replacement of an existing, inoperable generator with a new generator and related modifications at the El Rio Booster Plant, involving no expansion of capacity beyond that currently existing.

WHEREAS, the District has reviewed the proposed Project and has determined that it is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) ("CEQA") pursuant to the Class 1, Existing Facilities, and Class 2, Replacement or Reconstruction, categorical exemptions under State CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.) sections 15301 and 15302, respectively; and

WHEREAS, the District has reviewed the proposed Project and has determined that none of the exceptions to exemption set forth in State CEQA Guidelines section 15300.2 apply; and

WHEREAS, the beneficiaries of the proposed Project include the contractors of the Oxnard Hueneme Pipeline who are groundwater pumpers and water users within the District.

NOW THEREFORE, the Board of Directors of United Water Conservation District does hereby **RESOLVE, DETERMINE,** and **ORDER** as follows:

1. CEQA Compliance

The Board of Directors hereby finds that approval of the proposed Project is not subject to environmental review under CEQA and the State CEQA Guidelines, on grounds that the proposed Project is categorically exempt. Specifically, the Board of Directors finds that the proposed Project is categorically exempt pursuant to the Class 1, Existing Facilities exemption (State CEQA Guidelines, § 15301), and the Class 2, Replacement or Reconstruction exemption (State CEQA Guidelines, § 15302). The Board of Directors further finds that none of the exceptions to the application of these exemptions apply. (See State CEQA Guidelines, § 15300.2.)

2. Approval of the Project

The Board of Directors hereby approves the Project and its implementation.

3. Notice of Exemption

The Board of Directors hereby directs Staff to execute and file a Notice of Exemption for the Project as permitted by law.

PASSED AND ADOPTED THIS 13TH DAY OF JANUARY 2021

_____	_____
Michael W. Mobley, President	Sheldon G. Berger, Secretary/Treasurer

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager

From: Maryam Bral, Chief Engineer
Craig Morgan, Senior Engineer

Date: **December 22, 2020 (January 13, 2021 Meeting)**

Agenda Item: **4.2 Contract Amendment with Northwest Hydraulic Consultants for the Freeman Diversion Hardened Ramp Physical Modeling Support**
Motion

Staff Recommendation:
The Board will consider authorizing the General Manager to execute an amendment to the professional services agreement with Northwest Hydraulic Consultants (NHC) in the amount of $125,595 to provide further analysis and support for the physical modeling of the Hardened Ramp as a Freeman Diversion Fish Passage Facility alternative.

Discussion:
As the Hardened Ramp moves into the physical modeling phase there will be continued need for NHC's technical support. This technical support will include providing support with the design, construction, and implementation of alternative configurations, as necessary. NHC will continue to participate in meetings with the Bureau of Reclamation (Bureau), National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (CDFW).

At the completion of the physical modeling NHC will provide United a detailed comment letter summarizing NHC's observations of the physical modeling activities and how the results relate to the findings in the design development report.

Staff recommends the Board authorize the General Manager to execute a contract amendment with NHC to provide further analysis and support for the physical modeling of the Hardened Ramp as an alternative Fish Passage Facility at the Freeman Diversion.

Fiscal Impact:
The physical modeling support, hydraulic design and analysis of the Freeman Diversion Fish Passage Facility is included in the Fiscal Year 2020-21 Budget (421-400-81020 Project 8001), and sufficient funds are available to provide for the $125,595 contract amendment in addition to the previously authorized amount of $682,859.

Attachment A: NHC's Physical Model Support Letter
Attachment B: Contract Amendment No. 3

---

200 S. Los Robles Avenue, Suite 405| Pasadena, CA 91101 | 626.440.0080 | www.nhcweb.com

nhc
northwest hydraulic consultants

18 December 2020

United Water Conservation District
1701 Lombard Street
Oxnard, CA 93030

Attn: Craig Morgan, P.E.

Subject: Hardened Ramp Physical Model Support

Dear Mr. Morgan:

NHC completed the draft Design Development Report for the Hardened Ramp in September 2020. Comments from National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (CDFW) were received in early November 2020 and NHC prepared an initial comment resolution table. NHC and United Water Conservation District (United) are in the process of providing supplemental information for further discussion of the CDFW and NMFS comments on the draft DDR, and NHC is assisting United in review and discussion of the draft physical modeling plan prepared by the US Bureau of Reclamation (Reclamation). Physical modeling is expected to begin in March 2021 and continue through November 2021. United has requested that NHC prepare a brief scope and budget for engineering review and hydraulic design services to support the physical modeling effort. This letter proposal briefly outlines the services to be performed.

Model Review

NHC will provide review and advice during design, construction, initial testing, design development testing, and final testing and documentation of the physical modeling effort. In design and construction, NHC can review and provide advice on materials selection, approach for mobile bed modeling, instrumentation, modular construction to facilitate investigation of alternate configurations, or other subjects as requested by United and Reclamation. During design development testing, NHC will review model results and participate in discussions with United, Reclamation, CDFW, and NMFS to evaluate performance and consider potential modifications for improvement of fish passage, hydraulic, and sediment performance. The initial testing and design development phases are assumed to include model demonstrations, and NHC would participate in the demonstration tests virtually or in person (to the extent feasible considering public health considerations). Two trips for one NHC specialist have been assumed in the budget. Tests with and without a flushing channel are expected to be performed, and NHC will assist in interpretation of these results in terms of fish passage and sediment performance.

NHC will also review final testing and model documentation and provide a detailed comment letter to United summarizing NHC observations through the physical modeling process, including a section describing consequences for detailed design, expected performance for fish passage and diversions, and any remaining uncertainties to be addressed in design or development of operations and maintenance plans.

Hydraulic Design – Alternate Configurations

It is expected that the physical model will be used to refine the Hardened Ramp design to improve performance for multiple objectives. NHC has investigated several alternate configurations for the ramp, dam crest

modifications, sediment management, and intake configuration that can inform the physical modeling process. NHC will provide interpretation of previous numerical modeling results in discussion of potential refinements, and if requested by United, will support investigation of alternate configurations with hydraulic design and development of 3-dimensional drawings in AutoCAD format that can be used by Reclamation for design and construction of refinements in the model. Based on previous numerical results, alternate configurations may be considered for the exit section of the ramp; baffle size, shape, and spacing; intake alignment and configuration; sediment management features such as the flushing channel and interior sluice; and dam crest modifications. For budgeting purposes, up to four alternate configurations are assumed to require hydraulic design and drafting support. The alternates are assumed to be modifications of the geometry or configuration for specific features, with no fundamental changes to ramp size, location, or slope.

Meetings and Coordination

NHC will participate in regular coordination calls and progress review with United, Reclamation, NMFS, and CDFW. A 12-month coordination period is assumed, extending slightly beyond the expected modeling period tp address follow-up questions and comments on the physical modeling process and implications for next steps in design. Meetings are expected to be conducted virtually, with an average frequency of one to two meetings per month.

Costs

The services will be performed as-needed, and NHC will invoice on a time and expense basis for services requested by United. The expected costs for the three tasks outlined above are as follows:

Task 1. Model Review – $53,832
Task 2. Hydraulic Design Support – $44,753
Task 3. Meetings and Coordination – $27,010
Total - $125,595

Thank you for the opportunity to continue working with United, NMFS, CDFW, and Reclamation in this important step of the design process for the Hardened Ramp. Please contact me for any additional information needed.

Sincerely,
Northwest Hydraulic Consultants Inc.

Edward E. Wallace, P.E.
Principal

Attachment: Task Breakdown Budget

L:Projects\6004761\PM

NHC COST PROPOSAL - TASK BREAKDOWN BUDGET

PROJECT: Vern Freeman Diversion Hardened Ramp Physical Modeling
PROJECT NO: 6004761
CLIENT: United Water Conservation District
DATE: 18 Dec 2020
BY: eew

Task No	Task Description	NHC Personnel pe2 ew 248.19	pe2 bmc 248.19	pe2 kc 248.19	pe2 jpv 248.19	e1 dm 136.96	set tvs 138.14	Labor Cost	Subcons Cost	Direct Cost	Task Cost
1	**Physical Model Review**										
	Construction	4	4	12				$4,964		$0	$4,964
	Demonstration	12	12	32	4			$14,891		$1,601	$16,492
	Design Development	16	32	8	16			$17,870		$1,601	$19,470
	Final Testing and Reporting	16	16	16	4			$12,906	$0	$0	$12,906
2	**Hydraulic Design Support - Alt Configurations**										
	Intake	8	8		12	12	16	$10,803	$0	$0	$10,803
	Ramp	8	8		12	12	16	$10,803	$0	$0	$10,803
	Flushing	8	8		16	16	16	$12,344	$0	$0	$12,344
	Dam Crest	8	8		12	12	16	$10,803	$0	$0	$10,803
3	**Meetings and Coordination (12 mos)**	36	24	24	16	16		$27,010	$0	$0	$27,010
	Totals	*116*	*120*	*92*	*92*	*68*	*64*	*$122,394*	*$0*	*$3,201*	*$125,595*

NHC Rates (Jan 2020 CB)

Symbol	Classification	Hourly Rate*
pe2	principal engineer 2	$248.19
pe3	principal engineer 3	$230.46
spe	senior project engineer	$205.40
se1	senior engineer/scientist 1	$181.49
se2	senior engineer/scientist 2	$155.50
e1	engineer/scientist 1	$136.96
e2	engineer/scientist 2	$120.07
je	junior engineer/scientist	$109.80
gis1	gis analyst 1	$133.56
gis2	gis analyst 2	$105.35
set	senior engineering technician	$138.14
et	engineering technician	$106.19
jet	junior engineering technician	$79.81
sca	senior contract administrator	$163.09
ste	senior technical editor	$142.77
te	technical editor	$110.04
oa	office administrator	$88.13

2020 CB Rates

Direct Costs Mark-up for direct costs 0.1

Task	Travel	Lodging	Repro	Comm	Field	Subtotal	Mark-up	Total
1						$0.00	$0.00	$0.00
2	$750.00	705				$1,455.00	$145.50	$1,600.50
3	$750.00	705				$1,455.00	$145.50	$1,600.50
4						$0.00	$0.00	$0.00
5						$0.00	$0.00	$0.00
6						$0.00	$0.00	$0.00
7						$0.00	$0.00	$0.00

Subconsultant Costs Mark-up for subconsultants 0.1

Task	Sub1	Sub2	Sub3	Sub4	Sub5	Subtotal	Mark-up	Total
1						$0.00	$0.00	$0.00
2						$0.00	$0.00	$0.00
3						$0.00	$0.00	$0.00
4						$0.00	$0.00	$0.00
5						$0.00	$0.00	$0.00
6						$0.00	$0.00	$0.00
7						$0.00	$0.00	$0.00

Assumptions:

1 No travel to USBR lab - virtual review of model performance
2 Drawing production for up to 4 alternative configurations for model testing
3 No major changes in basic ramp and intake layout
4 Communication in monthly or bi-monthly meetings
5 Model completion in 2021
6 No work on screen bay and fish bypass
7 No work on year round multi-species passage design
8 Two trips to Reclamation's lab for 1 person - 3 days per trip

THIRD AMENDMENT TO
AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES

This Amendment to the Agreement for Professional Consulting Services is entered into as of January___, 2021, by and between **United Water Conservation District** (UNITED), a public entity, and **Northwest Hydraulic Consultants** (CONSULTANT) with reference to the following terms and conditions:

WITNESSETH

WHEREAS, on March 21, 2019, UNITED and CONSULTANT entered into a Professional Consulting Services and;

WHEREAS, UNITED and CONSULTANT have discussed and agreed to amend certain terms and conditions of the AGREEMENT involving term of agreement as specified in this Amendment dated January 14, 2021.

NOW, THEREFORE, based on the covenants and considerations set forth, UNITED and CONSULTANT mutually agree as follows:

1. The AGREEMENT amount is increased by $125,595 equaling to an AGREEMENT total of $808,454.
2. The term of the AGREEMENT is extended to January 31, 2022.
3. Each and all other provisions of said AGREEMENT remain in full force and effect and apply to all services and payments made under this THIRD AMENDMENT.

UNITED WATER CONSERVATION DISTRICT

By_____
Mauricio E. Guardado, Jr., General Manager

NORTHWEST HYDRAULIC CONSULTANTS INC.

By_____
(Name and Title)

ATTACHMENT "A"
THIRD AMENDMENT TO
AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES

Revised Fee Schedule

200 S. Los Robles Avenue, Suite 405| Pasadena, CA 91101 | 626.440.0080 | www.nhcweb.com

nhc
northwest hydraulic consultants

18 December 2020

United Water Conservation District
1701 Lombard Street
Oxnard, CA 93030

Attn: Craig Morgan, P.E.

Subject: Hardened Ramp Physical Model Support

Dear Mr. Morgan:

NHC completed the draft Design Development Report for the Hardened Ramp in September 2020. Comments from National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (CDFW) were received in early November 2020 and NHC prepared an initial comment resolution table. NHC and United Water Conservation District (United) are in the process of providing supplemental information for further discussion of the CDFW and NMFS comments on the draft DDR, and NHC is assisting United in review and discussion of the draft physical modeling plan prepared by the US Bureau of Reclamation (Reclamation). Physical modeling is expected to begin in March 2021 and continue through November 2021. United has requested that NHC prepare a brief scope and budget for engineering review and hydraulic design services to support the physical modeling effort. This letter proposal briefly outlines the services to be performed.

Model Review

NHC will provide review and advice during design, construction, initial testing, design development testing, and final testing and documentation of the physical modeling effort. In design and construction, NHC can review and provide advice on materials selection, approach for mobile bed modeling, instrumentation, modular construction to facilitate investigation of alternate configurations, or other subjects as requested by United and Reclamation. During design development testing, NHC will review model results and participate in discussions with United, Reclamation, CDFW, and NMFS to evaluate performance and consider potential modifications for improvement of fish passage, hydraulic, and sediment performance. The initial testing and design development phases are assumed to include model demonstrations, and NHC would participate in the demonstration tests virtually or in person (to the extent feasible considering public health considerations). Two trips for one NHC specialist have been assumed in the budget. Tests with and without a flushing channel are expected to be performed, and NHC will assist in interpretation of these results in terms of fish passage and sediment performance.

NHC will also review final testing and model documentation and provide a detailed comment letter to United summarizing NHC observations through the physical modeling process, including a section describing consequences for detailed design, expected performance for fish passage and diversions, and any remaining uncertainties to be addressed in design or development of operations and maintenance plans.

Hydraulic Design – Alternate Configurations

It is expected that the physical model will be used to refine the Hardened Ramp design to improve performance for multiple objectives. NHC has investigated several alternate configurations for the ramp, dam crest

modifications, sediment management, and intake configuration that can inform the physical modeling process. NHC will provide interpretation of previous numerical modeling results in discussion of potential refinements, and if requested by United, will support investigation of alternate configurations with hydraulic design and development of 3-dimensional drawings in AutoCAD format that can be used by Reclamation for design and construction of refinements in the model. Based on previous numerical results, alternate configurations may be considered for the exit section of the ramp; baffle size, shape, and spacing; intake alignment and configuration; sediment management features such as the flushing channel and interior sluice; and dam crest modifications. For budgeting purposes, up to four alternate configurations are assumed to require hydraulic design and drafting support. The alternates are assumed to be modifications of the geometry or configuration for specific features, with no fundamental changes to ramp size, location, or slope.

Meetings and Coordination

NHC will participate in regular coordination calls and progress review with United, Reclamation, NMFS, and CDFW. A 12-month coordination period is assumed, extending slightly beyond the expected modeling period tp address follow-up questions and comments on the physical modeling process and implications for next steps in design. Meetings are expected to be conducted virtually, with an average frequency of one to two meetings per month.

Costs

The services will be performed as-needed, and NHC will invoice on a time and expense basis for services requested by United. The expected costs for the three tasks outlined above are as follows:

Task 1. Model Review – $53,832
Task 2. Hydraulic Design Support – $44,753
Task 3. Meetings and Coordination – $27,010
Total - $125,595

Thank you for the opportunity to continue working with United, NMFS, CDFW, and Reclamation in this important step of the design process for the Hardened Ramp. Please contact me for any additional information needed.

Sincerely,
Northwest Hydraulic Consultants Inc.

Edward E. Wallace, P.E.
Principal

Attachment: Task Breakdown Budget

L:Projects\6004761\PM

NHC COST PROPOSAL - TASK BREAKDOWN BUDGET

PROJECT: Vern Freeman Diversion Hardened Ramp Physical Modeling
PROJECT NO: 6004761
CLIENT: United Water Conservation District
DATE: 18 Dec 2020
BY: eew

Task No	Task Description	NHC Personnel pe2 ew 248.19	pe2 bmc 248.19	pe2 kc 248.19	pe2 jpv 248.19	e1 dm 136.96	set tvs 138.14	Labor Cost	Subcons Cost	Direct Cost	Task Cost
1	**Physical Model Review**										
	Construction	4	4	12				$4,964		$0	$4,964
	Demonstration	12	12	32	4			$14,891		$1,601	$16,492
	Design Development	16	32	8	16			$17,870		$1,601	$19,470
	Final Testing and Reporting	16	16	16	4			$12,906	$0	$0	$12,906
2	**Hydraulic Design Support - Alt Configurations**										
	Intake	8	8		12	12	16	$10,803	$0	$0	$10,803
	Ramp	8	8		12	12	16	$10,803	$0	$0	$10,803
	Flushing	8	8		16	16	16	$12,344	$0	$0	$12,344
	Dam Crest	8	8		12	12	16	$10,803	$0	$0	$10,803
3	**Meetings and Coordination (12 mos)**	36	24	24	16	16		$27,010	$0	$0	$27,010
	Totals	*116*	*120*	*92*	*92*	*68*	*64*	*$122,394*	*$0*	*$3,201*	*$125,595*

NHC Rates (Jan 2020 CB)

Symbol	Classification	Hourly Rate*
pe2	principal engineer 2	$248.19
pe3	principal engineer 3	$230.46
spe	senior project engineer	$205.40
se1	senior engineer/scientist 1	$181.49
se2	senior engineer/scientist 2	$155.50
e1	engineer/scientist 1	$136.96
e2	engineer/scientist 2	$120.07
je	junior engineer/scientist	$109.80
gis1	gis analyst 1	$133.56
gis2	gis analyst 2	$105.35
set	senior engineering technician	$138.14
et	engineering technician	$106.19
jet	junior engineering technician	$79.81
sca	senior contract administrator	$163.09
ste	senior technical editor	$142.77
te	technical editor	$110.04
oa	office administrator	$88.13

2020 CB Rates

Direct Costs Mark-up for direct costs 0.1

Task	Travel	Lodging	Repro	Comm	Field	Subtotal	Mark-up	Total
1						$0.00	$0.00	$0.00
2	$750.00	705				$1,455.00	$145.50	$1,600.50
3	$750.00	705				$1,455.00	$145.50	$1,600.50
4						$0.00	$0.00	$0.00
5						$0.00	$0.00	$0.00
6						$0.00	$0.00	$0.00
7						$0.00	$0.00	$0.00

Subconsultant Costs Mark-up for subconsultants 0.1

Task	Sub1	Sub2	Sub3	Sub4	Sub5	Subtotal	Mark-up	Total
1						$0.00	$0.00	$0.00
2						$0.00	$0.00	$0.00
3						$0.00	$0.00	$0.00
4						$0.00	$0.00	$0.00
5						$0.00	$0.00	$0.00
6						$0.00	$0.00	$0.00
7						$0.00	$0.00	$0.00

Assumptions:

1 No travel to USBR lab - virtual review of model performance
2 Drawing production for up to 4 alternative configurations for model testing
3 No major changes in basic ramp and intake layout
4 Communication in monthly or bi-monthly meetings
5 Model completion in 2021
6 No work on screen bay and fish bypass
7 No work on year round multi-species passage design
8 Two trips to Reclamation's lab for 1 person - 3 days per trip

United Water
CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager

From: Maryam Bral, Chief Engineer
Craig Morgan, Senior Engineer

Date: **December 22, 2020 (January 13, 2021 Meeting)**

Agenda Item: **4.3 Contract Amendment with Stantec for the Freeman Diversion Modeling and Design of Vertical Slot Fish Ladder and Intake**
Motion

Staff Recommendation:
The Board will consider authorizing the General Manager to execute an amendment to the professional services agreement with Stantec in the amount of $403,879 to provide further analysis and support of the physical modeling of the Vertical Slot as a Freeman Diversion Fish Passage Facility alternative.

Discussion:
This contract amendment will include tasks that will take the Vertical Slot design through physical modeling, Computational Fluid Dynamics (CFD) modeling and geotechnical investigations necessary to inform the engineering design.

Stantec shall provide engineering support during the Bureau of Reclamation's design, construction, and implementation of the physical model of the Vertical Slot. At the conclusion of the physical modeling activities, Stantec will review and provide comments on the physical model report.

Two remaining sections of the CFD modeling plan, Model 3 - Canal Model and Model 4 – Auxiliary Water System (AWS) Model, will be modeled. Model 3 will assess flow patterns in the approach channel, trash screens, canal inlet, and part of AWS and primary canal screen channels. This model will be used for evaluating hydraulic losses through the trash rack and sediment deposition in the canal inlet. Model 4 will be used for evaluating whether velocity on AWS diffusers is uniform and evaluating hydraulic conditions in AWS stilling basin and fish resting area before entering the fish ladder. Based on the CFD modeling findings, Stantec will prepare and deliver a technical memorandum.

Stantec will conduct subsurface investigations and geotechnical analysis at the Vern Freeman Diversion site to develop recommendations for the analysis and design of the Vertical Slot fish passage facility. At the completion of the investigations and analysis Stantec will prepare and submit a Geotechnical Report to the District.

4.3 Contract Amendment with Stantec for the Freeman Diversion Modeling and Design of Vertical Slot Fish Ladder and Intake
Motion

Staff recommends that the Board authorize the General Manager to execute a contract amendment with Stantec to provide support and analysis for the physical modeling, continued CFD modeling and perform a geotechnical analysis for the Vertical Slot as an alternative fish passage facility at the Freeman Diversion.

Fiscal Impact:
The hydraulic design and analysis of the Freeman Diversion Fish Passage Facility is included in the Fiscal Year 2020-21 Budget (421-400-81020 Project 8001), and sufficient funds are available to provide for the $403,879 contract amendment in addition to the previously authorized amount of $370,182.

Attachment A: Stantec's Proposal for Phase 3 Design Letter
Attachment B: Contract Amendment No. 2

Stantec Consulting Services Inc.
1687 114th Avenue SE Suite 100, Bellevue WA 98440

December 22, 2020

Attention: Mr. Craig Morgan
United Water Conservation District
106 North 8th Street
Santa Paula, CA 93060

Reference: Freeman Diversion Dam,
Change Order 3 – Proposal for Phase 3 Design of Fish Ladder and Intake Modifications

Dear Craig,

Thank you for the opportunity to submit this proposal to United Water Conservation District (UWCD) to further develop and assess the feasibility of constructing a 'criteria' fish ladder at the Freeman Diversion Dam (FDD). Stantec Consulting Services Inc. (Stantec) has prepared the following scope and budget estimate for your consideration based on our conversation and understanding of the project. This proposal incorporates the Scope of Services as contracted between UWCD and Stantec on February 21, 2019 (Exhibit "A"), while clarifying and removing certain tasks that have been initiated and/or completed between project NTP and present, as noted herein.

These remaining project tasks have been defined to allow execution in phases recognizing UWCD will be presenting the vertical slot fish ladder as an alternate to the passage system currently defined in the court decision. For budgeting purposes the duration of this scope assumes the project will progress through the physical modeling. Stantec understands that the project tasks may be authorized in phases based on UWCD presentation of the alternate design to the parties of the litigation, and approval to proceed with the alternate vertical slot fish ladder design for fish passage. Prior to authorization of subsequent tasks UWCD and Stantec will review and amend the scope, budget, and assumptions to be consistent with identified changes to the scope of the project.

SCOPE OF SERVICES

Task 1 Project Management and Meetings

Project management and administration of the contract will be conducted throughout the duration of the work under this amendment to prepare construction documents suitable for public bidding to a general contractor. Bid support and construction services will be addressed under subsequent proposals and authorizations.

1.1 Project Management and Administration

Project management consists of work associated with organizing, controlling, monitoring, scheduling, invoicing, reporting and similar activities inherent with management of the work. Project management activities consist of the following:

- Project Setup. Set up the initial job work breakdown structure, files, agreements, and internal systems necessary to monitor and control the activities of the work.
- Prepare invoices along with a brief, one-page status summary each month.
- Update and maintain a project specific Health and Safety Plan.
- Review and monitor budget and manage resources to meet project objectives.
- Review and monitor scope of work and develop potential change notice (PCN) log.
- Develop and maintain a project schedule with UWCD.

1.2 Project Meetings

Hold or attend project coordination meetings. For budgeting the following meetings and Stantec attendance have been assumed:

- Kickoff Meeting. Up to four Stantec staff will attend a design phase kickoff virtual meeting. The meeting purpose is to discuss the approach to the design and interactions with the agencies. Review and update criteria or operational changes following the Modeling and direction from the Court.
- Bi-weekly Project Coordination Meetings with UWCD via web conference (1+ up to 2 additional staff depending on topics).
- Additional review meetings and presentations are included as defined in tasks below.

1.3 Agency/External Meetings

Attend agency, legal, or other external meetings as requested and invited by UWCD. These include:

- Agency meetings. Stantec will attend a single, one-half day virtual agency design comment review meetings to present the fish ladder and screen designs to the resource agencies following the 30% and DDR Update submittal. This meeting will be held following UWCD's review and comment. Design phase agency review meetings, focused on the selected designs, will be facilitated by UWCD and supported by Stantec. The meeting will be attended by no more than three members of the design team. Prior to the agency meeting UWCD and Stantec will review the agenda and determine a consensus strategy for the agency presentation. Stantec, with UWCD input, will prepare meeting agendas for distribution prior to the meetings. Meeting summary notes will be developed jointly by UWCD and Stantec.
- Bi-weekly agency conference calls will be attended for coordination with agency review team and to present design progress. 12, one-hour calls for four engineers are budgeted for virtual meetings.

Task 1 Deliverables:

- Monthly Invoices with one-page status summary and PCN log
- Project Milestone Schedule and updates to reflect agreed upon changes
- Meeting agenda and summary notes

Task 2 Preliminary Design

This task was initiated under previous authorizations producing the Hydraulic Basis of Design report (HBOD dated 8/15/2019 and updated 12/6/2019) and the Design Development Report (DDR) dated 9/18/2020. These preliminary design documents were developed and submitted to show the progress of the design concepts and to reflect changes suggested by the agencies in their reviews. The DDR submittal presents the ladder configuration that will be evaluated in the initial physical model of the vertical slot fish ladder. Under this Change Order, this task provides updates to the DDR as the design progresses through the CFD and physical modeling so set the basis of design. One update to the report is assumed at each of the milestone design review submittal stages (30%, for this authorization) to describe and document the basis of the design and narratives for anticipated operation. The budget assumes one round of compiled edits to be provided by UWCD and addressed by Stantec for each submittal stage. All report submittals will be provided in electronic format.

This DDR replaces the previous Basis of Design Report under Task 4.

Task 2 Deliverables:

- 30% Draft DDR (60% and 90% Draft DDR will be included under future authorization(s))

Task 3 Geotechnical Investigation and Hydraulic Modeling

3.1 Geotechnical Investigation

Stantec will conduct subsurface investigations and geotechnical analysis at the FDD site to develop recommendations for the analysis and design of the new facility. Three previous studies, one for initial diversion construction (GTC, 1983) and two for the fish ramp design (NV5, 2013 and 2016) will be considered and supplemented in this analysis.

3.1.1 Subsurface Exploration and Analysis

Stantec will coordinate with UWCD regarding advancing subsurface explorations at specific locations at the site.

- Literature Review. Review available and published geological and hydrogeological reports/ maps that include the site and site area. The purpose of this element of the study is to establish and evaluate the geologic framework of the site.

- Review of previous geotechnical explorations.
- Screening Level Slope Stability Evaluation. Since the new plans cut into the toe of the rock slope to the southeast of the fish ladder location, we will have a geologist/geotechnical engineer look over the slope and provide thoughts and recommendations for additional analysis as appropriate. This will specifically include:
  - Two people spending one day traveling to and walking over the site and reviewing the slope conditions.
  - Time for review of available information and to prepare recommendations for additional studies/analyses, if warranted.
- Perform a site visit to locate the proposed explorations in the field. Coordinate the location of utilities at the exploration locations by contacting the "One-Call" utility locating service.
- Subsurface Explorations. Complete subsurface exploration program to include up to 4 borings under 50 ft in depth. All borings are assumed to be located within the driveable parking or roadway areas of the intake site accessible by a highway legal truck mounted drill rig. Stantec has identified local drilling firm ABC Drilling to perform this work.
- Laboratory Testing. Complete laboratory testing on soil samples collected from the subsurface explorations. Selected soil samples will be tested for grain-size determinations, moisture-density and fines content, and direct shears.
- Develop Geotechnical Recommendations and Opinions. Develop geotechnical recommendations for the project site based on the results of the subsurface explorations and review of data provided by others. The geotechnical investigations, recommendations, and report shall comply with the requirements of the 2015 IBC, Section 1803 and other applicable Building Department or local agency requirements. Recommendations will be provided on site conditions, seismicity, groundwater, site preparation and design parameters, limited soil corrosivity information, groundwater, and foundation recommendations.

3.1.2 Geotechnical Report

Present geotechnical recommendations and opinions in a preliminary geotechnical report for the project. Prepare draft and final reports summarizing the results of the study including recommendations subsurface exploration records, logs and figures. Draft report will be provided to UWCD for review and comment. The final report will incorporate mutually agreed upon revisions. The budget assumes one round of compiled comments will be provided by UWCD and incorporated by Stantec.

Assumptions:

- Access rights and permits for borings on UWCD property (if required) and easements to be provided by UWCD.

- No field investigation or analysis is included for any in-river work.
- Dewatering recommendations will be limited to general characteristics for construction contractor use but will not include specific pumping or production recommendations.
- It will not be necessary to pay field crews Prevailing Wage rates.
- Collection (drums) and disposal off site of drill cuttings and/or drilling mud will NOT be the responsibility of Stantec or our drilling subcontractor.
- Stantec will apply for (and pay for) a Ventura County exploratory drilling permit.
- If any other drilling permit(s) is/are required from any jurisdiction(s), it will be obtained by others
- No project specific environmental permits or procedures will be required
- No hazardous materials will be encountered
- Free access will be provided to the site with NO special coordination or scheduling with different owners, entities, etc.
- There will be no limitations on days or hours of field work.
- Evaluation and/or mitigation of surface fault rupture seismic hazards are not included in the scope of work.
- No construction period support services are included.

Task 3.1 Deliverables:

- Draft Geotechnical Report (electronic)
- Final Geotechnical Report (electronic)

3.2 CFD Modeling

CFD Modeling of the vertical slot fish ladder passage alternative was initiated under a subsequent Professional Consulting Services Agreement executed March 12, 2020 (Change Order 1) as amended November 10, 2020 (Change Order 2). Four CFD Models were proposed, with the first two models focused on in-river hydraulic conditions that were completed under the March 12, 2020 Agreement. Under this Change Order, this task would complete the final two models focusing on internal hydraulics at the intake area and within the fish ladder entrance pool.

Hydraulic modeling is required to support and inform the design and to demonstrate to resource agencies that operating conditions within the fishways are conducive for fish passage under specified operating flow ranges. Stantec proposes to develop the final two CFD models for the FDD fish ladder project using the state-of-the-art CFD software, ANSYS FLUENT. The completion of CFD Modeling will be directed and supervised by Dr. Fangbiao Lin and will consist of the following two models.

- **Model 3 – Canal Model.** The modeling extent of the Model 3 boundary will include the approach channel downstream to the flushing gate, trashrack, canal inlet through the Canal gates and terminating upstream of the fish screens about 40 ft downstream of the Canal Gate. This model will assess flow patterns in the approach channel, trash screens, canal inlet, and part of AWS and primary canal screen channels. This model will be used for evaluating hydraulic losses through the trash rack and sediment deposition in the canal inlet. A total of six (6) CFD runs will be included.
- **Model 4 – AWS Model.** The modeling extent of the Model 4 starts at the AWS control gate, AWS pipe and stilling basin, diffuser panels, ladder entrance pool and south entrance gates and a portion of the SAWS tunnel to the north entrance gates. This model will be used for evaluating whether velocity on AWS diffusers are uniform and evaluating hydraulic conditions in AWS stilling basin and fish resting area before entering the fish ladder. It is estimated that six (6) CFD runs will be included for this model.

The models described above focus on discrete areas and may be done independently or in combination. The preliminary design and requirements from the resource agencies will review the information needed and the objective of the modeling. Modeling will be based on survey base map information and structural models provided under previous Preliminary Design and CFD Modeling efforts. Physical modeling will be performed under separate contract with UWCD by the U.S. Bureau of Reclamation (USBR).

At the conclusion of the Model 3 and 4 runs a draft technical memorandum will be prepared that defines the model and summarizes the results. This memorandum will be submitted to UWCD for review and comment and then an updated version will be submitted for agency review. The budget assumes one round of compiled comments from UWCD will be provided to Stantec prior to finalizing for agency review. The memorandum content may be added to the DDR (Task 2) document as a new section for consistency and to provide responses to agency comments on previous work. A presentation will be made at one of the regular agency coordination meetings to present the methodology, input, and results from each model and to address the NMFS areas of concern. The meeting will also be used to develop an agreed-upon list of structural changes or post-processing of the models.

Assumptions:

- The level of effort assumes a single set of boundary conditions for each model (i.e. design flow and range).
- Physical modeling is not part of this scope item, see Task 3.3.

Task 3.2 Deliverables:

- CFD Modeling Technical Memorandum, draft and final (electronic)

3.3 Physical Modeling Observation and Integration

Physical modeling of the vertical slot design will be conducted by the USBR at their lab in Colorado under direct contract to UWCD. Stantec will work with UWCD to provide input to the USBR modeling team in the formation of the physical modeling plan and to address agency comments made on that plan. Two, two-hour coordination calls are assumed prior to the start of modeling. Stantec will review and comment on model design plans and approach within the allowed two-week review period. Two Stantec staff will attend weekly update phone calls with the USBR modeling team to hear progress and to provide direction for continued modeling and trails. Three trips are assumed to allow two Stantec engineers to observe the model in-person. Each trip is assumed to last 3 days including travel and 2 days in the lab. Stantec will review the draft modeling report and provide written comments within the two-week review window. Design changes will be documented for the drawings that were included in the September 2020 DDR for review by UWCD and the agencies. Design changes will be incorporated into the 30% designs as approved by UWCD. The physical modeling report is projected to be completed by the USBR by the end of March 2022.

Assumptions and Support Required from UWCD

In preparing this proposal we made the following assumptions. Changes to the assumptions below and in the scope of work above will result in changes to the scope, schedule, and budget.

- UWCD will furnish to Stantec as required for the performance of the Services hereunder the following:
  - (1) Reports of explorations and tests of surface and subsurface conditions at or contiguous to the site, and reports of explorations and tests of the conditions at the site (both surface and subsurface) with respect to the presences or absence of hazardous waste or similar materials (such as, but not limited to, asbestos, polychlorinated biphenyls (PCBs), petroleum and radioactive materials), all of such reports and drawings to be based on appropriate borings, probings, examinations, surveys, tests, and samplings of the conditions involved, to be prepared by qualified persons, and to be accompanied by appropriate professional interpretations of all of the findings;
  - (2) Environmental assessments and impact statements.
  - (3) Property boundary, easement, right-of-way, topographical and utility surveys.
  - (4) Property descriptions; and
  - (5) Zoning, deed and other land use restrictions
- Wetland or other jurisdictional critical areas wetlands on the project site will be flagged by others prior to field surveying.
- LIMITED SCOPE: The reported condition of the facility is based on observations of field conditions made under normal operating conditions and water levels at the time of

inspection, along with data available to the inspection team as of the date of this writing. It is critical to note that the condition of the facility depends on numerous and constantly changing internal and external conditions and is evolutionary in nature. It would be incorrect to assume that the present condition of the facility will continue to represent the condition of the dam at some point in the future. Only through continued care and inspection can there be any chance that unsafe conditions be detected. Stantec disclaims any liability for any latent defects or deficiencies which are not reasonably discoverable under generally accepted industry standards or that should reasonably have been identified pursuant to other applicable inspection criteria. Any assessments of the facilities are limited in terms of accuracy to the time, scope and purpose for which the assessment was prepared.

- UWCD will establish requirements for operation, reliability and required design life.
- UWCD will provide cost data for labor, power, and other known O&M activities.
- All coordination and communication with the resource agencies (NMFS, CDFW) will be by UWCD unless specifically authorized by UWCD.
- No allowance for expert testimony is included and would require separate authorization.
- Future Task 4 (Final Design), Task 5 (Cost Opinion) and Task 6 (Permitting Support), as well as a continuation of Task 1 (Project Management) and the completion of Task 2 (DDR), will proceed under future authorization(s).
- For budgeting purposes this proposal assumes the project will progress through physical modeling of the vertical slot ladder, the new 600 cfs auxiliary water system (AWS), and 750 cfs replacement canal fish screen on the schedule as presented herein. Stantec understands that the project tasks may be authorized in phases based on UWCD presentation of the alternate design to the parties of the litigation, and approval to proceed with the alternate vertical slot fish ladder design for fish passage. Prior to authorization of subsequent tasks UWCD and Stantec will review and amend the scope, budget, and assumptions to be consistent with any changes to the scope of the project.

BASIS OF COMPENSATION AND BUDGET

Compensation for these Scope of Services shall be in accordance with the methods and specific amounts described herein.

1. Rate Schedule. Compensation shall be on an hourly rate basis as presented on the attached 2021Rate Sheet.
2. Other Direct Cost. Stantec will bill Other Direct Costs for travel, materials, equipment, or consumable supplies related to this project, including outside printing/scans of full-size drawings or subconsultants at actual costs plus 12%.

3. Flat Rate Disbursement at the rate of $11.00 per labor hour for each hour incurred by Stantec employees for Direct Labor as described herein. Flat Rate Disbursement charge shall include computer equipment and usage, telecommunications, routine copying, printing of draft and final documents, information sharing platform (SharePoint), and Computer Aided Drafting (CAD). This charge will appear on invoices as "Flat Rate Disbursement."
4. Mileage for use of employee personal vehicles will be reimbursed at a per mile value equal to rates established by the Federal government at the time that travel is incurred.

The estimate to complete the work described in Scope of Services is $403,879. The budget breakdown by phase and major task is provided below in Table 1. Services will be billed on an hourly rate basis based on the attached 2021 Rate Sheet for actual work completed. Should the work extend beyond 2021, the billing rates will be increased January 1 of each year by 3%.

Table 1 Budget Summary Table

Task		Estimated Labor Hours	Estimated Budget
Phase 3 – Complete Final Design			
1	**Project Management and Meetings**	**264**	**$55,121**
1.1	1.1 PM and Administration	196	$37,990
1.2	1.2 Project Meetings	26	$6,357
1.3	1.3 Agency/External Meetings	42	$10,774
2	**Preliminary Design (Design Development Report)**	**105**	**$23,758**
3	**Geotechnical Investigation and Hydraulic Modeling**	**1274**	**$325,000**
	3.1 Geotechnical	588	$163,990
	3.2 CFD Modeling (2 models)	686	$161,010
	Total Phase 3	**1,643**	**$403,879**

PRELIMINARY SCHEDULE

The project will generally be conducted in accordance with the Milestone Target Dates presented below based on an assumed Notice to Proceed conservatively three weeks following the Board Meeting. UWCD review times are assumed to be two weeks and agency reviews are assumed to be one month unless otherwise defined in the Court Order. Interim dates are subject to change based on mutual agreement between Stantec and UWCD provided the changes do not conflict with the stipulated dates in the Court Order.

December 22, 2020

Key Milestone Target Dates:

- Notice to Proceed with Final Design..... 1/18/2021
- Submit Field drilling plan for review..... 2/02/2021
- Finalize Concept Changes from Physical model recommendations..... 2/11/2022
- Submit Design Update (~30%) and DDR Update..... 2/11/2022
- Return Comments to United on the Draft Physical Modeling Report..... 2/28/2022
- Amendment Scope Complete..... 4/01/2022

Regards,

STANTEC CONSULTING SERVICES INC.

Heidi Wahto
Project Manager
Phone: (425) 602-3514
heidi.wahto@stantec.com

Aaron Burns
Vice President
Phone: (303) 291-2235
aaron.burns@stantec.com

Attachment: Schedule of Billing Rates 2021
Table 1 Preliminary List of Drawings
Preliminary Schedule Update – 12.22.2020

SCHEDULE OF BILLING RATES – 2021

Billing Level	Hourly Rate	Description
3 4 5	$111 $116 $132	**Junior Level position** ❑ Independently carries out assignments of limited scope using standard procedures, methods and techniques ❑ Assists senior staff in carrying out more advanced procedures ❑ Completed work is reviewed for feasibility and soundness of judgment ❑ Graduate from an appropriate post-secondary program or equivalent ❑ Generally, one to three years experience
6 7 8	$136 $147 $153	**Fully Qualified Professional Position** ❑ Carries out assignments requiring general familiarity within a broad field of the respective profession ❑ Makes decisions by using a combination of standard methods and techniques ❑ Actively participates in planning to ensure the achievement of objectives ❑ Works independently to interpret information and resolve difficulties ❑ Graduate from an appropriate post-secondary program, with credentials or equivalent ❑ Generally, three to six years experience
9 10 11	$164 $170 $181	**First Level Supervisor or first complete Level of Specialization** ❑ Provides applied professional knowledge and initiative in planning and coordinating work programs ❑ Adapts established guidelines as necessary to address unusual issues ❑ Decisions accepted as technically accurate, however may on occasion be reviewed for soundness of judgment ❑ Graduate from an appropriate post-secondary program, with credentials or equivalent ❑ Generally, five to nine years experience
12 13 14	$191 $199 $215	**Highly Specialized Technical Professional or Supervisor of groups of professionals** ❑ Provides multi-discipline knowledge to deliver innovative solutions in related field of expertise ❑ Participates in short- and long-range planning to ensure the achievement of objectives ❑ Makes responsible decisions on all matters, including policy recommendations, work methods, and financial controls associated with large expenditures ❑ Reviews and evaluates technical work ❑ Graduate from an appropriate post-secondary program, with credentials or equivalent ❑ Generally, ten to fifteen years experience with extensive, broad experience
15 16 17 18	$226 $241 $249 $251	**Senior Level Consultant or Management** ❑ Recognized as an authority in a specific field with qualifications of significant value ❑ Provides multidiscipline knowledge to deliver innovative solutions in related field of expertise ❑ Independently conceives programs and problems for investigation ❑ Participates in discussions to ensure the achievement of program and/or project objectives ❑ Makes responsible decisions on expenditures, including large sums or implementation of major programs and/or projects ❑ Graduate from an appropriate post-secondary program, with credentials or equivalent ❑ Generally, more than twelve years experience with extensive experience

Note: Rates subject to escalation at end of calendar year.

TABLE 1 PRELIMINARY LIST OF DRAWINGS
Vern Freeman Diversion Fish Passage

Area Designation:
No Designation = General Site
1 = Weir and Crest Gate
2 = Fish Ladder
3 = Canal and Fish Screen
4 = Appurtenant Facilities & Buildings

	Drawing No.		Drawing Name	PreDesign Figures
GENERAL				
	1	G-1	Cover Sheet	
	2	G-2	Location and Vicinity Map	
	3	G-3	Drawing Index	
	4	G-4	Symbols and Abbreviations	
	5	G-5	Existing Site Plan	X
	6	G-6	Hydraulic Profile and Design Criteria - Fish Ladder	X
	7	G-7	Hydraulic Profile and Design Criteria - Screen and Bypass	X
	8	G-8	Equipment and Piping Schedules	
x				
EROSION AND SEDIMENT CONTROL				
	1	ES-1	Erosion, Sediment and Water Control Plan (1:40)	
	2	ES-2	Details -2	
	3	ES-3	Details -3	
x				
DEMOLITION				
	1	1D-1	Weir and Stilling Basin Demolition Plan	
	2	1D-2	Weir and Stilling Basin Demolition Sections & Details	
	1	2D-1	Fish Ladder Demolition Plan	
	2	2D-2	Fish Ladder Demolition Sections & Details	
	3	2D-3	Fish Ladder Electrical Demolition Details	
	1	3D-1	Canal and Screen Demolition Plan	
	2	3D-2	Canal and Screen Demolition Sections & Details	
	3	3D-3	Canal and Screen Demolition Sections & Details	
	4	3D-4	Canal and Screen Electrical Demolition Details	
	1	4D-1	Control Building Demolition Plan and Details	
	2	4D-2	Storage Building Demolition Plan and Details	
x				
CIVIL				
	1	GC-1	General Civil Notes and Details -1	
	2	GC-2	General Civil Details -2	
	3	GC-3	General Civil Details -3	
	4	GC-4	General Civil Details -4	
x				
	1	C-1	Site Plan	X
	2	C-2	Horizontal Control Plan (1:40)	
	3	C-3	Grading and Drainage Plan-1 (west)(1:20)	
	4	C-4	Grading and Drainage Plan-2 (east)(1:20)	
	5	C-5	Road Profiles	
	6	C-6	Yard Piping Plan (1:20)	X
	7	C-7	Yard Piping Profiles-1 (aws & sediment)	
	8	C-8	Yard Piping Profiles-2 (sediment)	
	9	C-9	Yard Piping Profiles-3 (fish return & discharge section)	
	10	C-10	Civil Sections-1 (global)	X
	11	C-11	Civil Sections-2 (global)	
	12	C-12	Civil Sections-3 (global)	
	13	C-13	Civil Sections-4 (small area slopes and ditches)	
	14	C-14	Civil Sections-5 (small area slopes and ditches)	
	15	C-15	Civil Sections-6 (riprap & channel)	
	16	C-16	Civil Sections-7 (riprap & channel)	
x				
ARCHITECTURE				
	1	GA-1	Architectural General Notes and Standard Details	
	2	GA-2	Architectural Standard Details	
	1	3A-1	Evaluation Building Floor and Roof Plan	
	2	3A-2	Evaluation Building Elevations	
	3	3A-3	Evaluation Building Details	
	4	3A-4	Evaluation Building Details	
	1	4A-1	Control Building Floor and Roof Plan	
	2	4A-2	Control Building Elevations	
	3	4A-3	Control Building Details	
	4	4A-4	Storage Building Floor and Roof Plan	
	5	4A-5	Storage Building Elevations	
x				

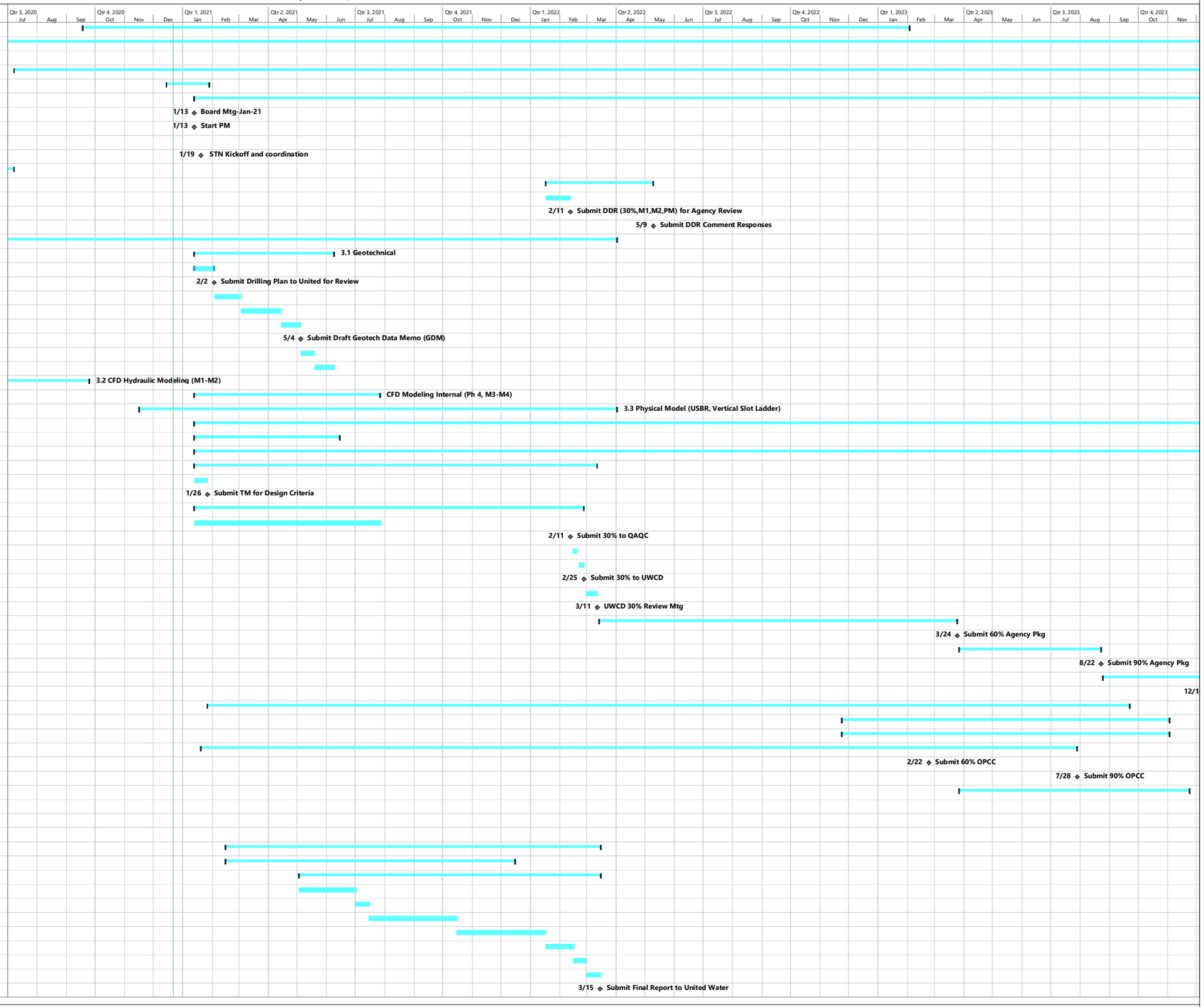
Drawing No.			Drawing Name	PreDesign Figures
STRUCTURAL				
	1	GS-1	Structural General Notes and Standard Details	
	2	GS-2	Structural Standard Details II	
	3	GS-3	Structural Standard Details III	
	4	GS-4	Structural Standard Details IV	
	5	GS-5	Structural Standard Details V	
	6	GS-6	Structural Standard Details VI	
	7	GS-7	Structural Standard Details VII	
x				
	1	1S-1	Weir and Stilling Basin Plan (1/4 or 3/16:1) (incl at grade slab near entrance)	X
	2	1S-2	Weir and Stilling Basin Sections (3/8":1') -1	X
	3	1S-3	Weir and Stilling Basin Sections (3/8":1') -2	
	4	1S-4	Weir and Stilling Basin Sections (3/8":1') -3	
	5	1S-5	Weir and Stilling Basin Sections (3/8":1') -4	
x				
	6	2S-6	Fish Ladder Entrance Foundation Plan (1/4"=1')	
	7	2S-7	Fish Ladder Entrance Intermediate Plan (1/4"=1')	
	8	2S-8	Fish Ladder Entrance Top Plan (1/4"=1')	X
	9	2S-9	Fish Ladder Entrance Sections (3/8"=1') -1	
	10	2S-10	Fish Ladder Entrance Sections (3/8"=1') -2	
	11	2S-11	Fish Ladder Entrance Sections (3/8"=1') -3	
	12	2S-12	Fish Ladder Middle Foundation Plan (1/4"=1')	
	13	2S-13	Fish Ladder Middle Top Plan (1/4"=1')	X
	14	2S-14	Fish Ladder Middle Sections (3/8"=1') -1 profile w/ detail	
	15	2S-15	Fish Ladder Middle Sections (3/8"=1') -2 profile w/ detail	
	16	2S-16	Fish Ladder Middle Sections (3/8"=1') -3 perpendicular	
	17	2S-17	Fish Ladder Middle Sections and Details (3/8"=1') -4 access	
	18	2S-18	Fish Ladder Exit Foundation Plan (1/4"=1')	
	19	2S-19	Fish Ladder Exit Top Plan (1/4"=1')	X
	20	2S-20	Fish Ladder Exit Sections(3/8"=1') -1	
	21	2S-21	Fish Ladder Exit Sections(3/8"=1') -2	
	22	2S-22	Fish Ladder Exit Sections(3/8"=1') -3	
	23	2S-23	Fish Ladder Exit Sections & Details (3/8"=1') -4	
	24	2S-24	Fish Ladder Exit Sections & Details (3/8"=1') -5	
x				
	1	3S-1	Fish Screen Key Plan and Control	X
	2	3S-2	Foundation Plan - 1 (1/4")	
	2	3S-2	Foundation Plan - 2	
	3	3S-3	Foundation Plan - 3	
	3	3S-3	Foundation Plan - 4	
	4	3S-4	Top Plan - 1	
	4	3S-4	Top Plan - 2	
	5	3S-5	Top Plan - 3	
	5	3S-5	Top Plan - 4	
	6	3S-6	Screen Sections - 1	
	6	3S-6	Screen Sections - 2	
	7	3S-7	Screen Sections - 3	
	7	3S-7	Screen Sections - 4	
	8	3S-8	Screen Sections - 5	
	8	3S-8	Screen Sections - 6	
	9	3S-9	Screen Sections - 7	
	9	3S-9	Screen Sections - 8	
	10	3S-10	Screen Sections - 9	
	10	3S-10	Screen Sections - 10	
	11	3S-11	Evaluation Station Section & Details - 1	X
	11	3S-11	Evaluation Station Section & Details - 2	
	12	3S-12	Evaluation Station Section & Details - 3	
	13	3S-13	Miscellaneous Screen Area Details -1	
	14	3S-14	Miscellaneous Screen Area Details -2	
	15	3S-15	Miscellaneous Screen Area Details -3	
	16	3S-16	Miscellaneous Screen Area Details -4	
	17	3S-17	Miscellaneous Screen Area Details -5	
x				
	1	4S-1	Control Building Plans	X
	2	4S-2	Control Building Sections	
	3	4S-3	Storage Building Floor and Roof Plan	X
	4	4S-4	Storage Building Sections	
	5	4S-5	Miscellaneous Site Structures Details -1	
	6	4S-6	Miscellaneous Site Structures Details -2	
	7	4S-7	Miscellaneous Site Structures Details -3	
	8	4S-8	Miscellaneous Site Structures Details -4	
x				

Drawing No.			Drawing Name	PreDesign Figures
MECHANICAL				
	1	GM-1	Mechanical Key Plan	
	2	GM-2	Mechanical Standard Details 1	
	3	GM-3	Mechanical Standard Details 2	
	4	GM-4	Mechanical Standard Details 3	
	5	GM-5	Mechanical Standard Details 4	
x				
	1	1M-1	Crest Gate Plan and Details	X
	2	1M-2	Crest Gate Details -1	
	3	1M-3	Crest Gate Details -2	
x				
	1	3M-1	Fish Ladder Entrance Mechanical Plan	X
	2	3M-2	Fish Ladder Exit Mechanical Plan	
	3	3M-3	Fish Ladder Entrance Mechanical and Gate Sections -1	
	4	3M-4	Fish Ladder Entrance Mechanical and Gate Sections -2	
	5	3M-5	Fish Ladder Exit Mechanical and Gate Sections -1	
	6	3M-6	Fish Ladder Exit Mechanical and Gate Sections -2	
	7	3M-7	Counting Weir Mechanical	
	8	3M-8	Misc Mechanical Detail -1	
	9	3M-9	Misc Mechanical Detail -2	
x				
	1	3M-1	Screen Mechanical Plan -1 (match stru top plan)	X
	2	3M-2	Screen Mechanical Plan -2	
	3	3M-3	Screen Mechanical Plan -3	
	4	3M-4	Screen Mechanical Plan -4	
	5	3M-5	Area Plan Canal Secondary Screen	
	6	3M-6	Screen Mechanical Sections - 1 (long aws)	
	7	3M-7	Screen Mechanical Sections - 2 (long primary)	
	8	3M-8	Screen Mechanical Sections - 3	
	9	3M-9	Screen Mechanical Sections - 4	
	10	3M-10	Screen Mechanical Sections - 5	
	11	3M-11	Primary Cleaner Details -1	
	12	3M-12	Primary Cleaner Details -2	
	13	3M-13	Primary Cleaner Details -3	
	14	3M-14	Primary Cleaner Details -4	
	15	3M-15	Secondary Cleaner Details -1	
	16	3M-16	Secondary Cleaner Details -2	
	17	3M-17	AWS Screen Cleaner Details -1	
	18	3M-18	AWS Screen Cleaner Details -2	
	19	3M-19	AWS Screen Cleaner Details -3	
	20	3M-20	Finishing Screen Details - 1	
	21	3M-21	Finishing Screen Details - 2	
	22	3M-22	Primary Screen Panel Details	
	23	3M-23	Primary Baffles Details	
	24	3M-24	Secondary Screen Panel Details	
	25	3M-25	Secondary Baffle Details	
	26	3M-26	AWS & Finishing Screen Panel Details	
	27	3M-27	Screen Connection Details	
	28	3M-28	Fish Bypass Gate Details -1	
	29	3M-29	Fish Bypass Gate Details -2	
	30	3M-30	Fish Bypass Gate Details -3	
	31	3M-31	Valve and Gate Details-1 (aws)	
	32	3M-32	Valve and Gate Details-2 (misc)	
	33	3M-33	Valve and Gate Details-3 (sed valves)	
	34	3M-34	Sediment Control Pump-AWS Plan and Section	
	35	3M-35	Sediment Control Pump-Canal Screen Plan and Section	
	36	3M-36	Sediment Control System Details -1	
	37	3M-37	Sediment Control System Details -2	
	38	3M-38	Evaluation Facility Mechanical Plan and Details	
	39	3M-39	Evaluation Facility Mechanical Details-1	
	40	3M-40	Evaluation Facility Mechanical Details-2	
	41	3M-41	Misc Mechanical & Piping Details -1	
	42	3M-42	Misc Mechanical & Piping Details -2	
x				
	1	4M-1	Control Building Mechanical Plan and Details (incl air compressor)	
	2	4M-2	Control Building Sections	
	3	4M-3	Storage Building Mechanical Plan and Details	
x				

Drawing No.			Drawing Name	PreDesign Figures
ELECTRICAL				
	1	GE-1	Electrical Symbols & Abbreviations	
	2	GE-2	Power One Line Diagram -1	X
	3	GE-3	Power One Line Diagram -2	
	4	GE-4	Power One Line Diagram -3	
	5	GE-5	Equipment Elevations - 1	
	6	GE-6	Equipment Elevations - 2	
	7	GE-7	Control Schematics -1	
	8	GE-8	Control Schematics -2	
	9	GE-9	Control Schematics -3	
	10	GE-10	Control Schematics -4	
	11	GE-11	Control Schematics -5	
	12	GE-12	Control Schematics -6	
	13	GE-13	Control Schematics -7	
	14	GE-14	Control Schematics -8	
	15	GE-15	Panel Schedules -1	
	16	GE-16	Panel Schedules -2	
	17	GE-17	Lighting Schedules & Details	
	18	GE-18	Control/Monitor Network One line	
	19	GE-19	Process Flow diagram _ fish Ladder	
	20	GE-20	Process Flow diagram _ Screen	
	21	GE-21	Electrical Site Plan - west (1"=20'))	
	22	GE-22	Electrical Site Plan - east (1"=20'))	
x				
	1	1E-1	Electrical Plan - Weir & Crest Gate (limit switches and lighting)	
	2	1E-2	Electrical Sections and Details - Weir & Crest Gate	
x				
	1	2E-1	Electrical Plan - Ladder -1 (stru plan ref at 1.4"/ft)	
	2	2E-2	Electrical Plan - Ladder -2	
	3	2E-3	Electrical Plan - Ladder -3	
	4	2E-4	Electrical Sections & Details - Sheet 1	
	5	2E-5	Electrical Sections & Details - Sheet 2	
	6	2E-6	Electrical Sections & Details - Sheet 3	
	7	2E-7	Control Panel Arrangements & Details - Sheet 1	
	8	2E-8	Control Panel Arrangements & Details - Sheet 2	
x				
	1	3E-1	Electrical Plan - Fish Screen -1	
	2	3E-2	Electrical Plan - Fish Screen -2	
	3	3E-3	Electrical Plan - Fish Screen -3	
	4	3E-4	Electrical Plan - Fish Screen -4	
	5	3E-5	Electrical Plan - Evaluation Building Area	
	6	3E-6	Electrical Power & Control Plan - Evaluation Building	
	7	3E-7	Electrical Lighting Plan - Evaluation Building	
	8	3E-8	Electrical Sections & Details - Sheet 1	
	9	3E-9	Electrical Sections & Details - Sheet 2	
	10	3E-10	Electrical Sections & Details - Sheet 3	
	11	3E-11	Control Panel Arrangements & Details - Sheet 1	
	12	3E-12	Control Panel Arrangements & Details - Sheet 2	
	13	3E-13	Control Panel Arrangements & Details - Sheet 3	
	1	4E-1	Control Building-electrical Power & Control Plan	
	2	4E-2	Control Building-Electrical Lighting Plan	
	3	4E-3	Storage Building-electrical Power & Control Plan	
	4	4E-4	Storage Building-Electrical Lighting Plan	
x				
INSTRUMENTATION				
	1	GI-1	General Instrumentation Symbols & Abbreviations	
	2	GI-2	Network Block Diagram	X
	3	GI-3	Instrumentation Details -1	
	4	GI-4	Instrumentation Details -2	
	1	I-1	Crest Gate P&ID	
	2	I-2	Fish Ladder & AWS P&ID	
	3	I-3	Fish Screen and Canal P&ID	
	4	I-4	Sediment Control System P&ID	
x				
			Total Number of Drawings PreDesign	20
			Total Number of Drawings for Complete Final Design	239

Vern Freeman Diversion Dam - Vertical Slot Fish Ladder Design
Preliminary Schedule Update - 12-22-2020

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Physical % Complete
1		**COURT ORDER DATES**	**620 days**	**Fri 9/18/20**	**Thu 2/2/23**		**0%**
26		**Stantec Design and Construction Documents**	**1307 days**	**Wed 1/9/19**	**Thu 1/11/24**		**0%**
27		**1 Project Management -Phase 1**	**157 days**	**Wed 1/9/19**	**Thu 8/15/19**		**0%**
36		**1 Project Management -Phase 2**	**917 days**	**Wed 7/8/20**	**Thu 1/11/24**		**0%**
41		**1 Project Management -Phase 3**	**33 days**	**Tue 12/15/20**	**Fri 1/29/21**		**0%**
47		**1 Project Management -Phase 4**	**782 days**	**Wed 1/13/21**	**Thu 1/11/24**		**0%**
48		Board Mtg-Jan-21	0 days	Wed 1/13/21	Wed 1/13/21		0%
49		Start PM	0 days	Wed 1/13/21	Wed 1/13/21	48	0%
50		End PM	0 days	Thu 1/11/24	Thu 1/11/24	223	0%
51		STN Kickoff and coordination	0 days	Tue 1/19/21	Tue 1/19/21	49FS+5 days	0%
52		**2. Preliminary Design**	**373 days**	**Fri 2/1/19**	**Wed 7/8/20**		**0%**
83		**DDR (task 3.2 +T2 amend)**	**81 days**	**Mon 1/17/22**	**Mon 5/9/22**		**0%**
84		Prepare Update to DDR	20 days	Mon 1/17/22	Fri 2/11/22	239	0%
85		Submit DDR (30%,M1,M2,PM) for Agency Review	0 days	Fri 2/11/22	Fri 2/11/22	2,84	0%
86		Submit DDR Comment Responses	0 days	Mon 5/9/22	Mon 5/9/22	85FS+46 days,19	0%
87		**3. Geotechnical and Modeling**	**471 days**	**Fri 6/12/20**	**Fri 4/1/22**		**0%**
88		**3.1 Geotechnical**	**105 days**	**Wed 1/13/21**	**Tue 6/8/21**		**0%**
89		3.1.1 Review Geotech Data - Develop Drilling Plan	15 days	Wed 1/13/21	Tue 2/2/21	97,48	0%
90		Submit Drilling Plan to United for Review	0 days	Tue 2/2/21	Tue 2/2/21	89	0%
91		Subcontract and schedule drilling company	20 days	Wed 2/3/21	Tue 3/2/21	89,48	0%
92		3.1.1 Subsurface Exploration	30 days	Wed 3/3/21	Tue 4/13/21	90FS+10 days,91	0%
93		3.1.2 Geotech Design Memo (GDM) Draft	15 days	Wed 4/14/21	Tue 5/4/21	92	0%
94		Submit Draft Geotech Data Memo (GDM)	0 days	Tue 5/4/21	Tue 5/4/21	93	0%
95		GDM Review (Stantec, United)	10 days	Wed 5/5/21	Tue 5/18/21	93	0%
96		GDM Final	15 days	Wed 5/19/21	Tue 6/8/21	95	0%
97		**3.2 CFD Hydraulic Modeling (M1-M2)**	**75 days**	**Fri 6/12/20**	**Thu 9/24/20**		**0%**
105		**CFD Modeling Internal (Ph 4, M3-M4)**	**139 days**	**Wed 1/13/21**	**Mon 7/26/21**		**0%**
124		**3.3 Physical Model (USBR, Vertical Slot Ladder)**	**360 days**	**Mon 11/16/20**	**Fri 4/1/22**		**0%**
132		**4. Final Design**	**762 days**	**Wed 1/13/21**	**Thu 12/14/23**		**0%**
133		**4.1 Hydraulic Design**	**109 days**	**Wed 1/13/21**	**Mon 6/14/21**		**0%**
140		**4.2 Detailed Design**	**762 days**	**Wed 1/13/21**	**Thu 12/14/23**		**0%**
141		**30% Design Development**	**303 days**	**Wed 1/13/21**	**Fri 3/11/22**		**0%**
142		Design Criteria TM	2 wks	Wed 1/13/21	Tue 1/26/21	48	0%
143		Submit TM for Design Criteria	0 days	Tue 1/26/21	Tue 1/26/21	142	0%
144		**30% Design Plans and Specifications**	**293 days**	**Wed 1/13/21**	**Fri 2/25/22**		**0%**
145		30% Design Development	140 days	Wed 1/13/21	Tue 7/27/21	48	0%
146		Submit 30% to QAQC	0 days	Fri 2/11/22	Fri 2/11/22	145,84	0%
147		QAQC Review	5 days	Mon 2/14/22	Fri 2/18/22	146	0%
148		Address Comments	5 days	Mon 2/21/22	Fri 2/25/22	147	0%
149		Submit 30% to UWCD	0 days	Fri 2/25/22	Fri 2/25/22	148	0%
150		UWCD Review	10 days	Mon 2/28/22	Fri 3/11/22	149	0%
151		UWCD 30% Review Mtg	0 days	Fri 3/11/22	Fri 3/11/22	150	0%
152		**60% Design Development**	**270 days**	**Mon 3/14/22**	**Fri 3/24/23**		**0%**
165		Submit 60% Agency Pkg	0 days	Fri 3/24/23	Fri 3/24/23	164	0%
166		**90% Design Development**	**107 days**	**Mon 3/27/23**	**Tue 8/22/23**		**0%**
179		Submit 90% Agency Pkg	0 days	Tue 8/22/23	Tue 8/22/23	178	0%
180		**100% Design Development**	**80 days**	**Fri 8/25/23**	**Thu 12/14/23**		**0%**
187		**Design Complete-Bid Ready Documents**	**0 days**	**Thu 12/14/23**	**Thu 12/14/23**	**186**	**0%**
188		**4.3 Agency Presentation-Consultation**	**692 days**	**Wed 1/27/21**	**Thu 9/21/23**		**0%**
200		**4.4 Basis of Design Report**	**246 days**	**Thu 11/24/22**	**Thu 11/2/23**		**0%**
204		**4.5 Operation and Maintenance Plan**	**246 days**	**Thu 11/24/22**	**Thu 11/2/23**		**0%**
208		**5. Cost Opinion**	**658 days**	**Tue 1/19/21**	**Fri 7/28/23**		**0%**
215		Submit 60% OPCC	0 days	Wed 2/22/23	Wed 2/22/23	160FS+5 days	0%
216		Submit 90% OPCC	0 days	Fri 7/28/23	Fri 7/28/23	174FS+5 days	0%
217		**6. Permitting Support (permits by others)**	**174 days**	**Mon 3/27/23**	**Thu 11/23/23**		**0%**
222		Closeout and Final Invoice	20 days	Fri 12/15/23	Thu 1/11/24	187	0%
223		Contract Closeout	0 days	Thu 1/11/24	Thu 1/11/24	222	0%
224							
225		**Physical Model Schedule(USBR-11-19-2020)**	**282 days?**	**Mon 2/15/21**	**Tue 3/15/22**		**0%**
226		**Hardened Ramp**	**218 days?**	**Mon 2/15/21**	**Wed 12/15/21**		**0%**
235		**Vertical Slot Ladder Model**	**227 days**	**Mon 5/3/21**	**Tue 3/15/22**		**0%**
236		Model Design Drawings and Order Materials	44 days	Mon 5/3/21	Thu 7/1/21		0%
237		Review of Model Design Drawings by United Water	11 days	Thu 7/1/21	Thu 7/15/21		0%
238		Vertical Slot Fishway Option: Model Construction	67 days	Thu 7/15/21	Fri 10/15/21		0%
239		Vertical Slot Fishway Option: Model Shakedown and Testing	66 days	Fri 10/15/21	Sat 1/15/22		0%
240		Draft Report	22 days	Mon 1/17/22	Tue 2/15/22		0%
241		Submit Draft Report to United Water for Comment	10 days	Tue 2/15/22	Mon 2/28/22		0%
242		Finalize Report	12 days	Mon 2/28/22	Tue 3/15/22		0%
243		Submit Final Report to United Water	0 days	Tue 3/15/22	Tue 3/15/22		0%



Project: sch_VFDD_design-phas
Date: Tue 12/22/20

Task | Milestone | Summary | Inactive Task | Inactive Summary | Duration-only | Manual Summary | Finish-only | External Milestone | Progress | Task
Split | Milestone COMPLETE | Project Summary | Inactive Milestone | Manual Task | Manual Summary Rollup | Start-only | External Tasks | Deadline | Manual Progress

printed--Tue 12/22/20

SECOND AMENDMENT TO
AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES

This Amendment to the Agreement for Professional Consulting Services is entered into as of January ___, 2021, by and between **United Water Conservation District** (UNITED), a public entity, and **Stantec Consulting Services Inc.** (CONSULTANT) with reference to the following terms and conditions:

WITNESSETH

WHEREAS, on March 12, 2020, UNITED and CONSULTANT entered into a Professional Consulting Services and;

WHEREAS, UNITED and CONSULTANT have discussed and agreed to amend certain terms and conditions of the AGREEMENT involving term of agreement as specified in this Amendment dated January 14, 2021.

NOW, THEREFORE, based on the covenants and considerations set forth, UNITED and CONSULTANT mutually agree as follows:

1. The AGREEMENT amount is increased by $403,879 equaling to an AGREEMENT total of $774,061
2. The term of the AGREEMENT is extended to April 1, 2022.
3. Each and all other provisions of said AGREEMENT remain in full force and effect and apply to all services and payments made under this SECOND AMENDMENT.

UNITED WATER CONSERVATION DISTRICT

By_____
Mauricio E. Guardado, Jr., General Manager

STANTEC CONSULTING SERVICES INC.

By_____
(Name and Title)

ATTACHMENT "A"
SECOND AMENDMENT TO
AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES

Revised Fee Schedule

Stantec Consulting Services Inc.
1687 114th Avenue SE Suite 100, Bellevue WA 98440

December 22, 2020

Attention: Mr. Craig Morgan
United Water Conservation District
106 North 8th Street
Santa Paula, CA 93060

Reference: Freeman Diversion Dam,
Change Order 3 – Proposal for Phase 3 Design of Fish Ladder and Intake Modifications

Dear Craig,

Thank you for the opportunity to submit this proposal to United Water Conservation District (UWCD) to further develop and assess the feasibility of constructing a 'criteria' fish ladder at the Freeman Diversion Dam (FDD). Stantec Consulting Services Inc. (Stantec) has prepared the following scope and budget estimate for your consideration based on our conversation and understanding of the project. This proposal incorporates the Scope of Services as contracted between UWCD and Stantec on February 21, 2019 (Exhibit "A"), while clarifying and removing certain tasks that have been initiated and/or completed between project NTP and present, as noted herein.

These remaining project tasks have been defined to allow execution in phases recognizing UWCD will be presenting the vertical slot fish ladder as an alternate to the passage system currently defined in the court decision. For budgeting purposes the duration of this scope assumes the project will progress through the physical modeling. Stantec understands that the project tasks may be authorized in phases based on UWCD presentation of the alternate design to the parties of the litigation, and approval to proceed with the alternate vertical slot fish ladder design for fish passage. Prior to authorization of subsequent tasks UWCD and Stantec will review and amend the scope, budget, and assumptions to be consistent with identified changes to the scope of the project.

SCOPE OF SERVICES

Task 1 Project Management and Meetings

Project management and administration of the contract will be conducted throughout the duration of the work under this amendment to prepare construction documents suitable for public bidding to a general contractor. Bid support and construction services will be addressed under subsequent proposals and authorizations.

1.1 Project Management and Administration

Project management consists of work associated with organizing, controlling, monitoring, scheduling, invoicing, reporting and similar activities inherent with management of the work. Project management activities consist of the following:

- Project Setup. Set up the initial job work breakdown structure, files, agreements, and internal systems necessary to monitor and control the activities of the work.
- Prepare invoices along with a brief, one-page status summary each month.
- Update and maintain a project specific Health and Safety Plan.
- Review and monitor budget and manage resources to meet project objectives.
- Review and monitor scope of work and develop potential change notice (PCN) log.
- Develop and maintain a project schedule with UWCD.

1.2 Project Meetings

Hold or attend project coordination meetings. For budgeting the following meetings and Stantec attendance have been assumed:

- Kickoff Meeting. Up to four Stantec staff will attend a design phase kickoff virtual meeting. The meeting purpose is to discuss the approach to the design and interactions with the agencies. Review and update criteria or operational changes following the Modeling and direction from the Court.
- Bi-weekly Project Coordination Meetings with UWCD via web conference (1+ up to 2 additional staff depending on topics).
- Additional review meetings and presentations are included as defined in tasks below.

1.3 Agency/External Meetings

Attend agency, legal, or other external meetings as requested and invited by UWCD. These include:

- Agency meetings. Stantec will attend a single, one-half day virtual agency design comment review meetings to present the fish ladder and screen designs to the resource agencies following the 30% and DDR Update submittal. This meeting will be held following UWCD's review and comment. Design phase agency review meetings, focused on the selected designs, will be facilitated by UWCD and supported by Stantec. The meeting will be attended by no more than three members of the design team. Prior to the agency meeting UWCD and Stantec will review the agenda and determine a consensus strategy for the agency presentation. Stantec, with UWCD input, will prepare meeting agendas for distribution prior to the meetings. Meeting summary notes will be developed jointly by UWCD and Stantec.
- Bi-weekly agency conference calls will be attended for coordination with agency review team and to present design progress. 12, one-hour calls for four engineers are budgeted for virtual meetings.

Task 1 Deliverables:

- Monthly Invoices with one-page status summary and PCN log
- Project Milestone Schedule and updates to reflect agreed upon changes
- Meeting agenda and summary notes

Task 2 Preliminary Design

This task was initiated under previous authorizations producing the Hydraulic Basis of Design report (HBOD dated 8/15/2019 and updated 12/6/2019) and the Design Development Report (DDR) dated 9/18/2020. These preliminary design documents were developed and submitted to show the progress of the design concepts and to reflect changes suggested by the agencies in their reviews. The DDR submittal presents the ladder configuration that will be evaluated in the initial physical model of the vertical slot fish ladder. Under this Change Order, this task provides updates to the DDR as the design progresses through the CFD and physical modeling so set the basis of design. One update to the report is assumed at each of the milestone design review submittal stages (30%, for this authorization) to describe and document the basis of the design and narratives for anticipated operation. The budget assumes one round of compiled edits to be provided by UWCD and addressed by Stantec for each submittal stage. All report submittals will be provided in electronic format.

This DDR replaces the previous Basis of Design Report under Task 4.

Task 2 Deliverables:

- 30% Draft DDR (60% and 90% Draft DDR will be included under future authorization(s))

Task 3 Geotechnical Investigation and Hydraulic Modeling

3.1 Geotechnical Investigation

Stantec will conduct subsurface investigations and geotechnical analysis at the FDD site to develop recommendations for the analysis and design of the new facility. Three previous studies, one for initial diversion construction (GTC, 1983) and two for the fish ramp design (NV5, 2013 and 2016) will be considered and supplemented in this analysis.

3.1.1 Subsurface Exploration and Analysis

Stantec will coordinate with UWCD regarding advancing subsurface explorations at specific locations at the site.

- Literature Review. Review available and published geological and hydrogeological reports/ maps that include the site and site area. The purpose of this element of the study is to establish and evaluate the geologic framework of the site.

- Review of previous geotechnical explorations.
- Screening Level Slope Stability Evaluation. Since the new plans cut into the toe of the rock slope to the southeast of the fish ladder location, we will have a geologist/geotechnical engineer look over the slope and provide thoughts and recommendations for additional analysis as appropriate. This will specifically include:
  - Two people spending one day traveling to and walking over the site and reviewing the slope conditions.
  - Time for review of available information and to prepare recommendations for additional studies/analyses, if warranted.
- Perform a site visit to locate the proposed explorations in the field. Coordinate the location of utilities at the exploration locations by contacting the "One-Call" utility locating service.
- Subsurface Explorations. Complete subsurface exploration program to include up to 4 borings under 50 ft in depth. All borings are assumed to be located within the driveable parking or roadway areas of the intake site accessible by a highway legal truck mounted drill rig. Stantec has identified local drilling firm ABC Drilling to perform this work.
- Laboratory Testing. Complete laboratory testing on soil samples collected from the subsurface explorations. Selected soil samples will be tested for grain-size determinations, moisture-density and fines content, and direct shears.
- Develop Geotechnical Recommendations and Opinions. Develop geotechnical recommendations for the project site based on the results of the subsurface explorations and review of data provided by others. The geotechnical investigations, recommendations, and report shall comply with the requirements of the 2015 IBC, Section 1803 and other applicable Building Department or local agency requirements. Recommendations will be provided on site conditions, seismicity, groundwater, site preparation and design parameters, limited soil corrosivity information, groundwater, and foundation recommendations.

3.1.2 Geotechnical Report

Present geotechnical recommendations and opinions in a preliminary geotechnical report for the project. Prepare draft and final reports summarizing the results of the study including recommendations subsurface exploration records, logs and figures. Draft report will be provided to UWCD for review and comment. The final report will incorporate mutually agreed upon revisions. The budget assumes one round of compiled comments will be provided by UWCD and incorporated by Stantec.

Assumptions:

- Access rights and permits for borings on UWCD property (if required) and easements to be provided by UWCD.

- No field investigation or analysis is included for any in-river work.
- Dewatering recommendations will be limited to general characteristics for construction contractor use but will not include specific pumping or production recommendations.
- It will not be necessary to pay field crews Prevailing Wage rates.
- Collection (drums) and disposal off site of drill cuttings and/or drilling mud will NOT be the responsibility of Stantec or our drilling subcontractor.
- Stantec will apply for (and pay for) a Ventura County exploratory drilling permit.
- If any other drilling permit(s) is/are required from any jurisdiction(s), it will be obtained by others
- No project specific environmental permits or procedures will be required
- No hazardous materials will be encountered
- Free access will be provided to the site with NO special coordination or scheduling with different owners, entities, etc.
- There will be no limitations on days or hours of field work.
- Evaluation and/or mitigation of surface fault rupture seismic hazards are not included in the scope of work.
- No construction period support services are included.

Task 3.1 Deliverables:

- Draft Geotechnical Report (electronic)
- Final Geotechnical Report (electronic)

3.2 CFD Modeling

CFD Modeling of the vertical slot fish ladder passage alternative was initiated under a subsequent Professional Consulting Services Agreement executed March 12, 2020 (Change Order 1) as amended November 10, 2020 (Change Order 2). Four CFD Models were proposed, with the first two models focused on in-river hydraulic conditions that were completed under the March 12, 2020 Agreement. Under this Change Order, this task would complete the final two models focusing on internal hydraulics at the intake area and within the fish ladder entrance pool.

Hydraulic modeling is required to support and inform the design and to demonstrate to resource agencies that operating conditions within the fishways are conducive for fish passage under specified operating flow ranges. Stantec proposes to develop the final two CFD models for the FDD fish ladder project using the state-of-the-art CFD software, ANSYS FLUENT. The completion of CFD Modeling will be directed and supervised by Dr. Fangbiao Lin and will consist of the following two models.

- **Model 3 – Canal Model.** The modeling extent of the Model 3 boundary will include the approach channel downstream to the flushing gate, trashrack, canal inlet through the Canal gates and terminating upstream of the fish screens about 40 ft downstream of the Canal Gate. This model will assess flow patterns in the approach channel, trash screens, canal inlet, and part of AWS and primary canal screen channels. This model will be used for evaluating hydraulic losses through the trash rack and sediment deposition in the canal inlet. A total of six (6) CFD runs will be included.
- **Model 4 – AWS Model.** The modeling extent of the Model 4 starts at the AWS control gate, AWS pipe and stilling basin, diffuser panels, ladder entrance pool and south entrance gates and a portion of the SAWS tunnel to the north entrance gates. This model will be used for evaluating whether velocity on AWS diffusers are uniform and evaluating hydraulic conditions in AWS stilling basin and fish resting area before entering the fish ladder. It is estimated that six (6) CFD runs will be included for this model.

The models described above focus on discrete areas and may be done independently or in combination. The preliminary design and requirements from the resource agencies will review the information needed and the objective of the modeling. Modeling will be based on survey base map information and structural models provided under previous Preliminary Design and CFD Modeling efforts. Physical modeling will be performed under separate contract with UWCD by the U.S. Bureau of Reclamation (USBR).

At the conclusion of the Model 3 and 4 runs a draft technical memorandum will be prepared that defines the model and summarizes the results. This memorandum will be submitted to UWCD for review and comment and then an updated version will be submitted for agency review. The budget assumes one round of compiled comments from UWCD will be provided to Stantec prior to finalizing for agency review. The memorandum content may be added to the DDR (Task 2) document as a new section for consistency and to provide responses to agency comments on previous work. A presentation will be made at one of the regular agency coordination meetings to present the methodology, input, and results from each model and to address the NMFS areas of concern. The meeting will also be used to develop an agreed-upon list of structural changes or post-processing of the models.

Assumptions:

- The level of effort assumes a single set of boundary conditions for each model (i.e. design flow and range).
- Physical modeling is not part of this scope item, see Task 3.3.

Task 3.2 Deliverables:

- CFD Modeling Technical Memorandum, draft and final (electronic)

3.3 Physical Modeling Observation and Integration

Physical modeling of the vertical slot design will be conducted by the USBR at their lab in Colorado under direct contract to UWCD. Stantec will work with UWCD to provide input to the USBR modeling team in the formation of the physical modeling plan and to address agency comments made on that plan. Two, two-hour coordination calls are assumed prior to the start of modeling. Stantec will review and comment on model design plans and approach within the allowed two-week review period. Two Stantec staff will attend weekly update phone calls with the USBR modeling team to hear progress and to provide direction for continued modeling and trails. Three trips are assumed to allow two Stantec engineers to observe the model in-person. Each trip is assumed to last 3 days including travel and 2 days in the lab. Stantec will review the draft modeling report and provide written comments within the two-week review window. Design changes will be documented for the drawings that were included in the September 2020 DDR for review by UWCD and the agencies. Design changes will be incorporated into the 30% designs as approved by UWCD. The physical modeling report is projected to be completed by the USBR by the end of March 2022.

Assumptions and Support Required from UWCD

In preparing this proposal we made the following assumptions. Changes to the assumptions below and in the scope of work above will result in changes to the scope, schedule, and budget.

- UWCD will furnish to Stantec as required for the performance of the Services hereunder the following:
  - (1) Reports of explorations and tests of surface and subsurface conditions at or contiguous to the site, and reports of explorations and tests of the conditions at the site (both surface and subsurface) with respect to the presences or absence of hazardous waste or similar materials (such as, but not limited to, asbestos, polychlorinated biphenyls (PCBs), petroleum and radioactive materials), all of such reports and drawings to be based on appropriate borings, probings, examinations, surveys, tests, and samplings of the conditions involved, to be prepared by qualified persons, and to be accompanied by appropriate professional interpretations of all of the findings;
  - (2) Environmental assessments and impact statements.
  - (3) Property boundary, easement, right-of-way, topographical and utility surveys.
  - (4) Property descriptions; and
  - (5) Zoning, deed and other land use restrictions
- Wetland or other jurisdictional critical areas wetlands on the project site will be flagged by others prior to field surveying.
- LIMITED SCOPE: The reported condition of the facility is based on observations of field conditions made under normal operating conditions and water levels at the time of

inspection, along with data available to the inspection team as of the date of this writing. It is critical to note that the condition of the facility depends on numerous and constantly changing internal and external conditions and is evolutionary in nature. It would be incorrect to assume that the present condition of the facility will continue to represent the condition of the dam at some point in the future. Only through continued care and inspection can there be any chance that unsafe conditions be detected. Stantec disclaims any liability for any latent defects or deficiencies which are not reasonably discoverable under generally accepted industry standards or that should reasonably have been identified pursuant to other applicable inspection criteria. Any assessments of the facilities are limited in terms of accuracy to the time, scope and purpose for which the assessment was prepared.

- UWCD will establish requirements for operation, reliability and required design life.
- UWCD will provide cost data for labor, power, and other known O&M activities.
- All coordination and communication with the resource agencies (NMFS, CDFW) will be by UWCD unless specifically authorized by UWCD.
- No allowance for expert testimony is included and would require separate authorization.
- Future Task 4 (Final Design), Task 5 (Cost Opinion) and Task 6 (Permitting Support), as well as a continuation of Task 1 (Project Management) and the completion of Task 2 (DDR), will proceed under future authorization(s).
- For budgeting purposes this proposal assumes the project will progress through physical modeling of the vertical slot ladder, the new 600 cfs auxiliary water system (AWS), and 750 cfs replacement canal fish screen on the schedule as presented herein. Stantec understands that the project tasks may be authorized in phases based on UWCD presentation of the alternate design to the parties of the litigation, and approval to proceed with the alternate vertical slot fish ladder design for fish passage. Prior to authorization of subsequent tasks UWCD and Stantec will review and amend the scope, budget, and assumptions to be consistent with any changes to the scope of the project.

BASIS OF COMPENSATION AND BUDGET

Compensation for these Scope of Services shall be in accordance with the methods and specific amounts described herein.

1. Rate Schedule. Compensation shall be on an hourly rate basis as presented on the attached 2021Rate Sheet.
2. Other Direct Cost. Stantec will bill Other Direct Costs for travel, materials, equipment, or consumable supplies related to this project, including outside printing/scans of full-size drawings or subconsultants at actual costs plus 12%.

3. Flat Rate Disbursement at the rate of $11.00 per labor hour for each hour incurred by Stantec employees for Direct Labor as described herein. Flat Rate Disbursement charge shall include computer equipment and usage, telecommunications, routine copying, printing of draft and final documents, information sharing platform (SharePoint), and Computer Aided Drafting (CAD). This charge will appear on invoices as "Flat Rate Disbursement."
4. Mileage for use of employee personal vehicles will be reimbursed at a per mile value equal to rates established by the Federal government at the time that travel is incurred.

The estimate to complete the work described in Scope of Services is $403,879. The budget breakdown by phase and major task is provided below in Table 1. Services will be billed on an hourly rate basis based on the attached 2021 Rate Sheet for actual work completed. Should the work extend beyond 2021, the billing rates will be increased January 1 of each year by 3%.

Table 1 Budget Summary Table

Task		Estimated Labor Hours	Estimated Budget
Phase 3 – Complete Final Design			
1	**Project Management and Meetings**	**264**	**$55,121**
1.1	1.1 PM and Administration	196	$37,990
1.2	1.2 Project Meetings	26	$6,357
1.3	1.3 Agency/External Meetings	42	$10,774
2	**Preliminary Design (Design Development Report)**	**105**	**$23,758**
3	**Geotechnical Investigation and Hydraulic Modeling**	**1274**	**$325,000**
	3.1 Geotechnical	588	$163,990
	3.2 CFD Modeling (2 models)	686	$161,010
	Total Phase 3	**1,643**	**$403,879**

PRELIMINARY SCHEDULE

The project will generally be conducted in accordance with the Milestone Target Dates presented below based on an assumed Notice to Proceed conservatively three weeks following the Board Meeting. UWCD review times are assumed to be two weeks and agency reviews are assumed to be one month unless otherwise defined in the Court Order. Interim dates are subject to change based on mutual agreement between Stantec and UWCD provided the changes do not conflict with the stipulated dates in the Court Order.

December 22, 2020

Key Milestone Target Dates:

- Notice to Proceed with Final Design..... 1/18/2021
- Submit Field drilling plan for review..... 2/02/2021
- Finalize Concept Changes from Physical model recommendations..... 2/11/2022
- Submit Design Update (~30%) and DDR Update..... 2/11/2022
- Return Comments to United on the Draft Physical Modeling Report..... 2/28/2022
- Amendment Scope Complete..... 4/01/2022

Regards,

STANTEC CONSULTING SERVICES INC.

Heidi Wahto
Project Manager
Phone: (425) 602-3514
heidi.wahto@stantec.com

Aaron Burns
Vice President
Phone: (303) 291-2235
aaron.burns@stantec.com

Attachment: Schedule of Billing Rates 2021
Table 1 Preliminary List of Drawings
Preliminary Schedule Update – 12.22.2020

SCHEDULE OF BILLING RATES – 2021

Billing Level	Hourly Rate	Description
3 4 5	$111 $116 $132	**Junior Level position** ❑ Independently carries out assignments of limited scope using standard procedures, methods and techniques ❑ Assists senior staff in carrying out more advanced procedures ❑ Completed work is reviewed for feasibility and soundness of judgment ❑ Graduate from an appropriate post-secondary program or equivalent ❑ Generally, one to three years experience
6 7 8	$136 $147 $153	**Fully Qualified Professional Position** ❑ Carries out assignments requiring general familiarity within a broad field of the respective profession ❑ Makes decisions by using a combination of standard methods and techniques ❑ Actively participates in planning to ensure the achievement of objectives ❑ Works independently to interpret information and resolve difficulties ❑ Graduate from an appropriate post-secondary program, with credentials or equivalent ❑ Generally, three to six years experience
9 10 11	$164 $170 $181	**First Level Supervisor or first complete Level of Specialization** ❑ Provides applied professional knowledge and initiative in planning and coordinating work programs ❑ Adapts established guidelines as necessary to address unusual issues ❑ Decisions accepted as technically accurate, however may on occasion be reviewed for soundness of judgment ❑ Graduate from an appropriate post-secondary program, with credentials or equivalent ❑ Generally, five to nine years experience
12 13 14	$191 $199 $215	**Highly Specialized Technical Professional or Supervisor of groups of professionals** ❑ Provides multi-discipline knowledge to deliver innovative solutions in related field of expertise ❑ Participates in short- and long-range planning to ensure the achievement of objectives ❑ Makes responsible decisions on all matters, including policy recommendations, work methods, and financial controls associated with large expenditures ❑ Reviews and evaluates technical work ❑ Graduate from an appropriate post-secondary program, with credentials or equivalent ❑ Generally, ten to fifteen years experience with extensive, broad experience
15 16 17 18	$226 $241 $249 $251	**Senior Level Consultant or Management** ❑ Recognized as an authority in a specific field with qualifications of significant value ❑ Provides multidiscipline knowledge to deliver innovative solutions in related field of expertise ❑ Independently conceives programs and problems for investigation ❑ Participates in discussions to ensure the achievement of program and/or project objectives ❑ Makes responsible decisions on expenditures, including large sums or implementation of major programs and/or projects ❑ Graduate from an appropriate post-secondary program, with credentials or equivalent ❑ Generally, more than twelve years experience with extensive experience

Note: Rates subject to escalation at end of calendar year.

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager

From: Brian Collins, Operations & Maintenance Manager

Date: **December 28, 2020 (January 13, 2021 Meeting)**

Agenda Item: **4.4 Resolution 2021-03 Approving the Authorization of a Purchase of Carryover Water from Ventura Water and Casitas Municipal Water District and Finding that the Associated State Water Project is Statutorily Exempt from the California Environmental Quality Act (CEQA)**
Motion

Staff Recommendation:
The Board will consider approving Resolution 2021-03, authorizing the General Manager or his designee to execute a contract for the purchase of carryover water from Ventura Water and/or Casitas Municipal Water District; and finding that the associated single year State Water Project (SWP) transfer from Ventura Water and/or Casitas Municipal Water District to the District is exempt from the California Environmental Quality Act (CEQA) and direct staff to post a Notice of Exemption consistent with applicable requirements.

Background: The following information is provided in regard to the State of California, Department of Water Resources ("DWR") agreements related to State Water Project (SWP) water within Ventura County.

- DWR entitled Ventura County Flood Control District (VCFCD) now known as Ventura County Watershed Protection District (VCWPD) to receive up to 20,000 acre-feet of SWP water in an agreement entered into on December 2, 1963 (referred to as Table A water supply);

- VCFCD assigned its entire right of 20,000 acre-feet SWP water to Ventura River Municipal Water District, which entity later became Casitas Municipal Water District (Casitas) , in an agreement entered into on June 23, 1970;

- United Water Conservation District (United) purchased an annual entitlement of 5,000 acre-feet in an agreement entered into on July 1, 1970;

- Ventura purchased an annual entitlement of 10,000 acre-feet in an agreement entered into on July 7, 1971;

- Casitas retained an annual entitlement of 5,000 acre-feet.

- United subleased 1,850 acre-feet to the Port Hueneme Water Agency on June 12, 1996.

Ventura's remaining available 2021 carryover is 525 acre-feet. United submitted an offer to transfer 525 acre-feet of Ventura's 2021 Carryover to United in accordance with the proposed term sheet (Attachment A). United would pay Ventura $28,071 for its fixed costs and the transportation cost (estimated at $200/AF). United would take delivery of transfer water through Reach 29 of the California Aqueduct at Lake Pyramid through our facilities at Lake Piru or through Reach 30 at Castaic Lake. The project would use existing SWP facilities in this transfer.

Casitas Municipal Water's remaining available 2021 carryover is 3100 acre-feet. United submitted an offer to transfer 3100 acre-feet of Casitas' 2021 carryover to United in accordance with the proposed term sheet (Attachment A). United would pay Casitas $165,757 for its fixed costs and the transportation cost (estimated at $200/AF). United would take delivery of transfer water through Reach 29 of the California Aqueduct at Lake Pyramid through our facilities at Lake Piru or through Reach 30 at Castaic Lake. The project would use existing SWP facilities in this transfer.

The proposed agreements authorize the single year transfer of SWP water between parties authorized to receive and transfer such water under a SWP contract approved in 1963. The action taken pursuant to the SWP contract is exempt from the CEQA pursuant to Public Resources Code section 21169 and CEQA Guidelines section 15261(a) (statutory exemption for ongoing project). The transfer would use existing facilities and involves no construction or changes in land use.

The offer is consistent with United's Strategic Plan, specifically, with its strategic objective A.2 (Maximize and expand State Water Project import opportunities) of Goal A, Water Supply-Ensure Long-Term Water Supply for all users.

A copy of the term sheet is contained in Attachment A and would be used as the basis for preparation of a water transfer agreement with Ventura and Casitas. The transfer would not require approval by DWR because water would not leave the State Contractor's service area, i.e., Ventura County.

Fiscal Impact
The cost of delivery of the 3,625 AF is estimated to be $918,828 and includes the fixed cost payment of $193,828 and the estimated DWR transportation cost (est $200/AF). United has established a separate fund for water purchases which would be used to fund this purchase.

Attachment A- Proposed Term Sheet
Attachment B – Resolution 2021-03
Attachment C – Notice of Exemption

Proposed Terms for Water Transfer
Between
United Water Conservation District
And
City of San Buenaventura
And
Casitas Municipal Water

Description

City of San Buenaventura (Ventura) agrees to transfer up to 525 acre-feet of its allocated 2020 SWP Table A Water Supply for delivery to United Water Conservation District (United). The water will be delivered by Ventura per UWCD's request and is projected to be in January and February, 2021.

Casitas Municipal Water (Casitas) agrees to transfer up to 3100 acre-feet of its allocated 2020 SWP Table A Water Supply for delivery to United Water Conservation District (United). The water will be delivered by Casitas per UWCD's request and is projected to be in January and February, 2021.

Financial Terms

United will pay Ventura $53.47/acre-foot for transferred water ($28,071) Additionally United will pay all variable SWP costs to deliver water to its own service area (i.e. transportation cost).

United will pay Casitas $53.47/acre-foot for transferred water ($165,757) Additionally United will play all variable SWP costs to deliver water to its own service area (i.e. transportation cost).

DWR Coordination

No formal approval of this transfer is required by the Department of Water Resources (DWR) or Ventura County Watershed Protection District (VCWPD) as the transfer is between member units of the VCWPD, consistent with existing State Water allocation agreements between VCWPD and DWR; and VCWPD and United, which allow transfers if the transferred water is used within the VCWPD service area. United will coordinate the release of the transfer water with DWR.

Delivery

The water will be delivered using existing SWP facilities and as scheduled with, and approved by DWR.

RESOLUTION 2021-03

RESOLUTION OF THE BOARD OF DIRECTORS OF THE UNITED WATER CONSERVATION DISTRICT APPROVING THE PURCHASE OF STATE WATER PROJECT CONTRACT CARRYOVER WATER FROM VENTURA WATER AND/OR CASITAS MUNICIPAL WATER DISTRICT AND FINDING THAT THE ASSOCIATED STATE WATER PROJECT TRANSFER IS EXEMPT FROM CEQA

WHEREAS, for the purpose of meeting water resource management goals and maximizing importation of State Water Project water into Ventura County, the United Water Conservation District ("District") proposes to execute a contract for the purchase of carryover water allocated under the State Water Project contract from Ventura Water and/or Casitas Municipal Water District (the "Project"); and

WHEREAS, the proposed Project consists of the contractual purchase of 525 acre-feet from Ventura Water and/or 3,100 acre-feet from Casitas Municipal Water District. The District will take delivery of State Water Project water through Reach 29 of the California Aqueduct at Lake Pyramid or through Reach 30 at Castaic Lake; and

WHEREAS, the State Water Project water transferred between Ventura County agencies under the proposed Project will be used for beneficial purposes in Ventura County; and

WHEREAS, the proposed Project will result in a single year transfer of State Water Project water between parties authorized to receive and transfer of such water under a State Water Project contract approved in 1963; and

WHEREAS, the proposed Project will use existing facilities and involves no construction or changes in land use and negligible expansion of use; and

WHEREAS, the District has reviewed the proposed Project and has determined that it is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) ("CEQA") pursuant to the ongoing project statutory exemption under Public Resources Code section 21169 and State CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.) section 15261(a) because the proposed Project is merely an incidental part of an original, ongoing pre-CEQA project – the State Water Project contract; and

WHEREAS, the District has reviewed the proposed Project and has determined that it is exempt from the provisions of CEQA pursuant to the Class 1, Existing Facilities, categorical exemption under State CEQA Guidelines section 15301 because the proposed Project involves the operation of existing facilities with negligible expansion of use; and

WHEREAS, the District has reviewed the proposed Project and has determined that none of the conditions prohibiting exemption set forth in State CEQA Guidelines section 15261(a) apply; and

WHEREAS, the District has reviewed the proposed Project and has determined that none of the exceptions to categorical exemption set forth in State CEQA Guidelines section 15300.2 apply.

NOW THEREFORE, the Board of Directors of United Water Conservation District does hereby **RESOLVE, DETERMINE,** and **ORDER** as follows:

1. CEQA Compliance

The Board of Directors hereby finds that approval of the proposed Project is not subject to environmental review under CEQA and the State CEQA Guidelines, on grounds that the proposed Project is statutorily and categorically exempt. Specifically, the Board of Directors finds that the proposed Project is statutorily exempt pursuant to the ongoing project statutory exemption under Public Resources Code section 21169 and State CEQA Guidelines section 15261(a) because the proposed Project is merely an incidental part of an original, ongoing pre-CEQA project – the State Water Project contract. The proposed Project is also categorically exempt under CEQA Guidelines section 15301 because the proposed Project involves the operation of existing facilities with negligible expansion of use. The Board of Directors further hereby finds none of the conditions prohibiting exemption set forth in State CEQA Guidelines section 15261(a) apply and that none of the exceptions to categorical exemption set forth in State CEQA Guidelines section 15300.2 apply.

2. Approval of the Project

The Board of Directors hereby approves the Project and its implementation.

3. Notice of Exemption

The Board of Directors hereby directs Staff to execute and file a Notice of Exemption for the Project as permitted by law.

PASSED AND ADOPTED THIS 13TH DAY OF JANUARY 2021

_____	_____
Michael W. Mobley, President	Sheldon G. Berger, Secretary/Treasurer

NOTICE OF EXEMPTION

To:
Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

From:
United Water Conservation District
106 North 8th Street
Santa Paula, CA 93060

Project Title: Single Year State Water Project Transfer from Ventura Water and/or Casitas Municipal Water District to United Water Conservation District

Project Location: State Water Project water transferred between Ventura County Agencies will be used for beneficial purposes in Ventura County. Water will be delivered through Reach 29 or Reach 30 of the California Aqueduct System and transported to United Water Conservation District's existing facilities.

Lead Agency: United Water Conservation District

Project Applicant: N/A

Project:

United Water Conservation District (United) proposes to enter into a contractual agreement with Ventura Water and/or Casitas Municipal Water District to purchase carryover water allocated under the State Water Project (SWP) contract for Ventura County. United proposes to purchase 525 acre-feet from Ventura Water and 3,100 acre-feet from Casitas Municipal Water District. United will take delivery of purchased water through Reach 29 of the California Aqueduct at Lake Pyramid through our facilities at Lake Piru or through Reach 30 at Castaic Lake. The project will use existing facilities and involves no construction or changes in land use and negligible expansion of use.

Exempt Status:

__ Ministerial (Sec. 21080(b)(1); 15268);
__ Declared Emergency (Sec. 21080(b)(3); 15269(a));
__ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
X_ Categorical Exemption. State type and section number: Guidelines § 15301
X_ Statutory Exemptions. State code number: Pub. Res. Code § 21169; Guidelines § 15261(a)

Name of Public Agency Approving Project: United Water Conservation District

Name of Person or Agency Carrying Out Project: United Water Conservation District

Reasons Why Project is Exempt: The project is statutorily exempt pursuant to the ongoing project statutory exemption under Public Resources Code section 21169 and State CEQA Guidelines section 15261(a) because the project is merely an incidental part of an original, ongoing pre-CEQA project – the State Water Project contract. The project is also categorically exempt under CEQA Guidelines section 15301 because the project involves the operation of existing facilities with negligible expansion of use.

None of the conditions prohibiting exemption set forth in State CEQA Guidelines section 15261(a) apply and none of the exceptions to categorical exemption set forth in State CEQA Guidelines section 15300.2 apply

Lead Agency Contact Person: Linda Purpus
Telephone: (805) 525-4431
Email: lindap@unitedwater.org

_____

Linda Purpus Date
Environmental Services Manager
United Water Conservation District

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager

From: Brian Collins, Operations & Maintenance Manager

Date: **December 28, 2020 (January 13, 2021 Meeting)**

Agenda Item: **4.5 Execution of a Contributed Funds Agreement for the Physical Modeling of the Freeman Diversion Rehabilitation Project with the Bureau of Reclamation.**
Motion

Staff Recommendation:
The Board will consider authorizing the General Manager or his designee to execute a contributed funds agreement (CFA) with the Bureau of Reclamation (Bureau) for the physical modeling of the two proposed project alternatives for the Freeman Diversion Rehabilitation Project, currently under engineering design by Stantec and Northwest Hydraulic Consultants.

Discussion:
District and Bureau staff have worked to develop a physical modeling plan to hydraulically model both the hardened ramp and the vertical slot project proposals within the Bureau's Technical Service Center (TSC) in Denver, Colorado.

In accordance with the court ordered stipulation, the District submitted the proposed Physical Modeling Plan and are currently awaiting formal feedback comments from National Marine Fisheries Services (NMFS) and California Department of Fish and Wildlife (CDFW) for District consideration and potential inclusion within the finalized Physical Modeling Work Plan, which is due by February 8, 2021.

The current schedule timeline within the Physical Modeling Plan proposes to initiate work on the hardened ramp on February 15, 2021 and to conclude the vertical slot modeling by February 15, 2022. Due to Bureau fiscal requirements, the Bureau is not permitted to initiate work until the funds identified within the proposed CFA have been received by the Bureau.

Fiscal Impact
Approval of this item would result in a budgeted expenditure of up to $1,850,000. These proposed activities were included within Fiscal Year 2020-21 Budget (421-400-81020 Project 8001) and sufficient funds are currently available.

Attachment- Physical Modeling Plan DRAFT

BUREAU OF RECLAMATION

DRAFT - Physical Hydraulic Modeling Plan for Fish Passage at Vern Freeman Diversion Dam

Background

United Water Conservation District (United Water) contacted the Bureau of Reclamation's (Reclamation) Hydraulics Laboratory to establish a qualified path to accomplish court-mandated physical hydraulic modeling of two proposed fish passage alternatives for the Vern Freeman Diversion Dam (Freeman Dam) facility. Freeman Dam is a 28-ft-high, 1,200-ft-long roller compacted concrete gravity structure with an existing Denil fish ladder and diversion facilities. United Water currently diverts up to 375 cfs, but it plans to file for a water right to divert up to 750 cfs from the Santa Clara River. The goal of both fishway designs is to provide for successful upstream passage of adult steelhead during river flows of 45 to 6,000 cfs with little or no delay at Freeman Dam. It is desired to also provide successful passage of adult Pacific lamprey. This physical model test plan is based on Northwest Hydraulic Consultants' Design Development Reports for the 30% design of a hardened ramp fishway and Stantec's Design Development Report for the 30% design of a vertical slot fishway.

The hardened ramp is designed to provide continuous upstream fish passage for steelhead and Pacific lamprey at river flows of 45 to 6,000 cfs without shutdown for sediment flushing operations. The 90-ft-wide and 420-ft-long hardened ramp is designed at a 5% slope with an asymmetric cross section to provide fish passage at acceptable water depths and velocities over a range of flow conditions. A 30-ft-wide triangular roughened low-flow section contains rocks approximately 1-2 ft with larger 3-ft rocks placed every 20 ft. The 60-ft-wide baffled ramp on a 30:1 cross slope contains 5-ft-wide V-shaped sloped steel baffle plates with a 2.5-ft slot width. Four crest gates control flow into the hardened ramp. The design also contains a 15-ft-wide sediment flushing channel and a 1.5-ft-deep fixed ogee-shaped notch in the dam over 400 ft length to the right of the hardened ramp. More detailed information and drawings on the hardened ramp design can be found in Northwest Hydraulic Consultants' Design Development Report.

The vertical slot fishway alternative includes construction of a vertical slot fish ladder, north and south fish ladder entrances, an auxiliary water system and associated fish screens, and crest gates. The fish ladder is designed to pass 34 cfs at the design upstream water level of 161.5 ft. The fish ladder flow ranges from 34-37 cfs over the design flow range. The auxiliary water system is designed to pass up to 570 cfs for a total of 600 cfs of attraction flow to the fishway entrance, which is 10 percent of the design river flow of 6,000 cfs. The dam will be notched about 10 ft deep and 73 ft long to accommodate new rubber bladder-style crest gates designed to control the forebay elevation and concentrate spill over the diversion crest to improve attraction to the ladder entrance. The downstream face of the dam below the crest gate will contain a fish transport tunnel which allows

fish entering the north entrances to move into the fish ladder. The existing 15-ft-wide sediment flushing channel will be maintained from the existing features. More detailed information and drawings on the vertical slot fish ladder can be found in Stantec's Design Development Report.

Construction and testing of a separate physical hydraulic model is recommended for each alternative in this test plan with the primary goals of assessing overall hydraulic performance of the proposed design, measuring and observing hydraulic conditions in and around the proposed features, and identifying issues related to sediment and debris movement and accumulation. The model plan and test matrix outlined in this document are subject to modification as modeling progresses. The modeling team may note that certain operational scenarios are inconsequential while other operational scenarios appear to be more significant. The modeling team will communicate these recommended modifications to United Water and a path forward will be identified.

Hardened Ramp Fishway Physical Model

Model Objectives

1.) Measure water depths and velocities and observe flow patterns within and around the hardened ramp including areas upstream and downstream of the hardened ramp.
2.) Observe recirculation zones or other adverse hydraulic conditions that may impact to attraction flow to the hardened ramp.
3.) Observe baffle performance and interaction of roughened low-flow channel with sloped baffle portion of the ramp.
4.) Observe sediment deposition and erosion patterns within and around the hardened ramp. If deposition occurs, determine how hydraulic conditions for fish passage are impacted.
5.) Determine if sediment can be flushed from the ramp under certain flow conditions or with modified gate operations.
6.) Determine hydraulics and sediment deposition in and around the flushing channel. Assess conditions with and without construction of a flushing channel.
7.) Determine if baffles in upstream fishway exit (top 5 rows) should be modified to optimize hydraulic performance.
8.) Determine flow patterns related to notch in dam during hardened ramp operation to identify nuisance attraction flow. Modify notch as needed.
9.) Observe debris collection or accumulation within and around the hardened ramp.

Modeling Approach

A physical hydraulic model at a Froude-scale of approximately 1:12 is recommended to incorporate relevant project features and best meet the model objectives. The model scale may change slightly based on laboratory floor space and sediment availability. The selected model scale is a tradeoff between model objectives and available floor space and pump capacity. The model was scaled with a focus on assessing overall hydraulic, sediment, and debris performance of structures and interaction between project features. A physical model at a smaller scale would provide more detailed information about hydraulics within the ramp, particularly at lower flows, but the model would not adequately represent the surrounding features needed to address the primary model objectives.

The physical model extents will include approximately 490 ft upstream of the dam, 400 ft downstream of the dam, and 170 ft of the dam to the right of the hardened ramp (Figure 1). The

model will have a fixed bed with movable bed sections upstream of the hardened ramp and canal intake and downstream of hardened ramp (Figure 2). Model features will include the hardened ramp with low-flow roughened section and baffle section, control structure crest gates, 170 ft of the dam to the right of the hardened ramp (with 1.5-ft-deep notch), flushing channel, canal headgates (piers and trashrack). All baffles on the hardened ramp will be included. The most upstream 5 rows of baffles will be adjustable to accommodate potential design modifications and the remaining rows of baffles will be fixed. The canal fish screens and associated sediment jetting system will not be included.

The maximum total discharge in the model is approximately 10,000 cfs prototype (20 cfs model) in the modeled section of the left side of the river which represents to total river discharge of approximately 18,900 cfs (equivalent to a 2- to 5-year return period). The hardened ramp will be able to pass river flows from 45-6,000 cfs, but low flow conditions may not be represented well at a 1:12 scale due to shallow depths in the hardened ramp. It will not be possible to obtain detailed hydraulic data such as local velocities behind baffles at low flows such as 45 cfs. A flow rate of 150 cfs prototype (0.3 cfs model), with a corresponding model water depth of approximately 1 inch, is the minimum flow that can be passed through the hardened ramp without experiencing scale effects due to low Reynolds number. Canal diversions of up to 750 cfs will be modeled.

Model topography and bathymetry will be provided by the design consultant. The same bathymetric configuration will be used for both the hardened ramp fishway and vertical slot fishway alternatives as a baseline condition. Boundary condition hydraulics (flow rate and water surface elevations) and sediment loading for the selected model extents will be based on numerical modeling provided by the design consultant to ensure that the modeled section experiences appropriate inflow conditions.

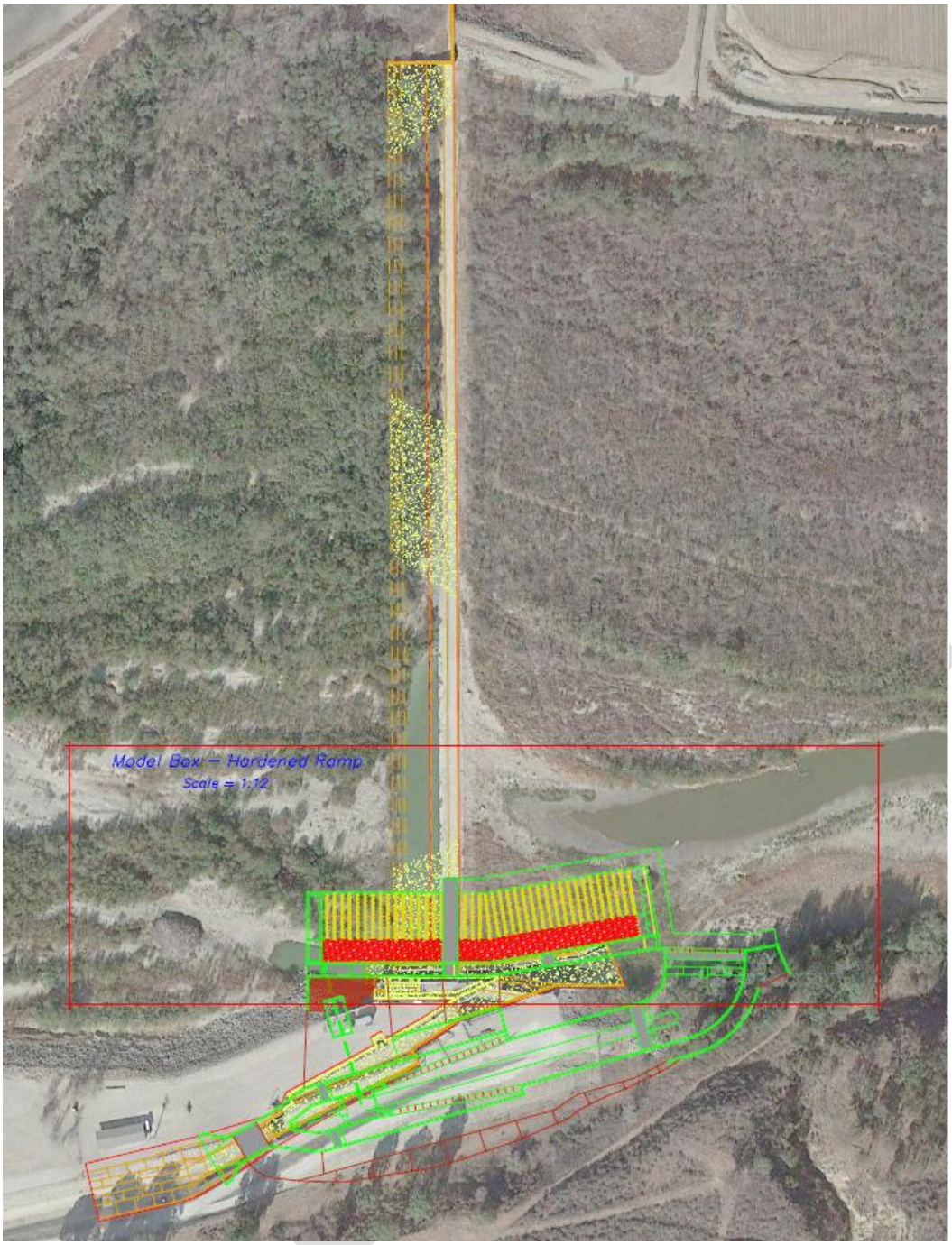


Figure 1. Extents of proposed 1:12 scale physical hydraulic model for 30% design of the hardened ramp fishway alternative.

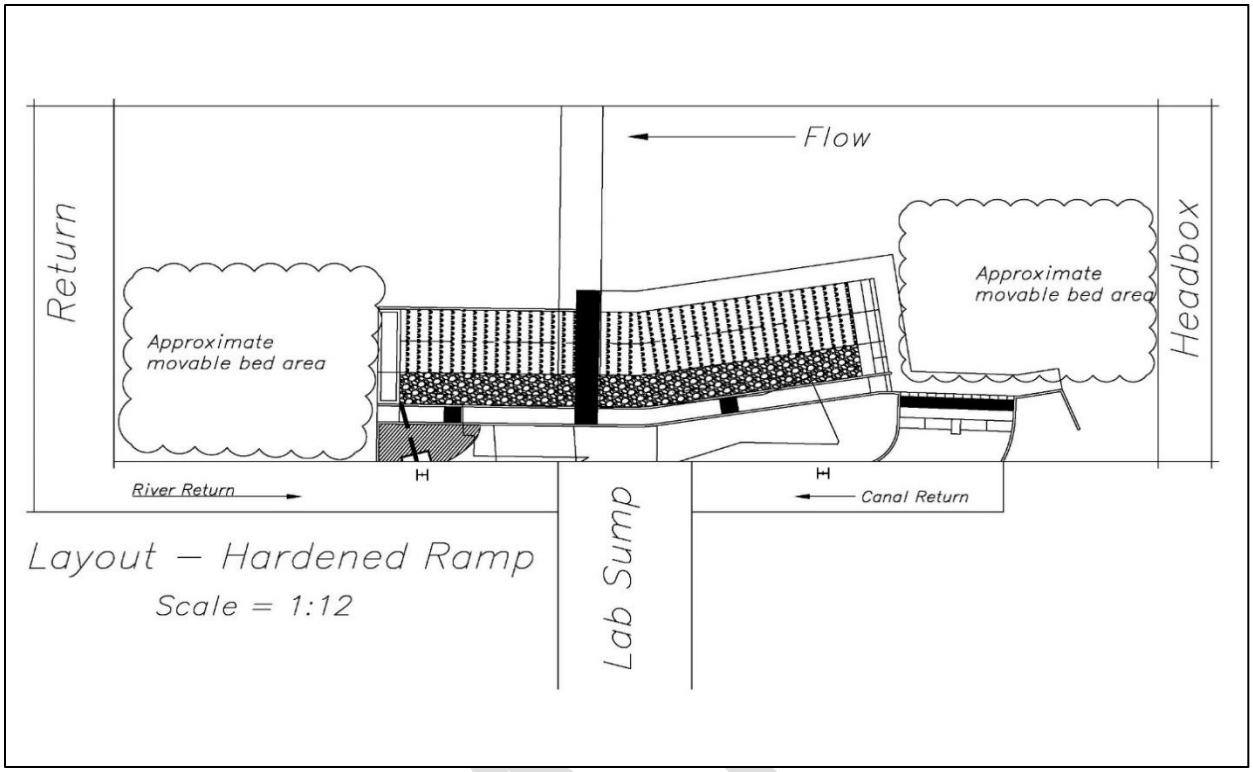


Figure 2. Proposed simplified layout and features of the hardened ramp fishway alternative within the model box, showing the headbox and return channel. Approximate movable bed areas are indicated. The remainder of the topography will be constructed as a fixed concrete bed. Model topography and bathymetry are not presented here, but will be represented in the physical model.

Sediment Modeling

Bedload and suspended sediment will be incorporated into the model flow during sediment tests. Sediment scaling for the average field gradation greater than about the d_5 material size meets cohesion and fall velocity scaling requirements and can thus be scaled geometrically at a 1:12 scale. Incipient motion of prototype and modeled particles will be compared to ensure that sediment movement is appropriately simulated. Although exact representation of the entire gradation is not expected, key sediment sizes (i.e. d_{80}, d_{50}, and d_5) will be scaled and incorporated in the model (Figure *3*). Actual sediment for the model will be selected based on availability of local quarries. Alternate model materials such as coal or ground walnut shells are not proposed for use in this model in order to complete more test scenarios. The model is expected to produce qualitative trends, patterns, and locations of deposition or degradation in the field but not accurately represent actual quantities.

For sediment test runs, material will be located in the movable bed sections according to Figure 2. Additional sediment will be inserted into the model flow via a conveyor or hopper system at the inlet to the model box, or via a closed loop system of recirculated sediment laden flow depending on material size.

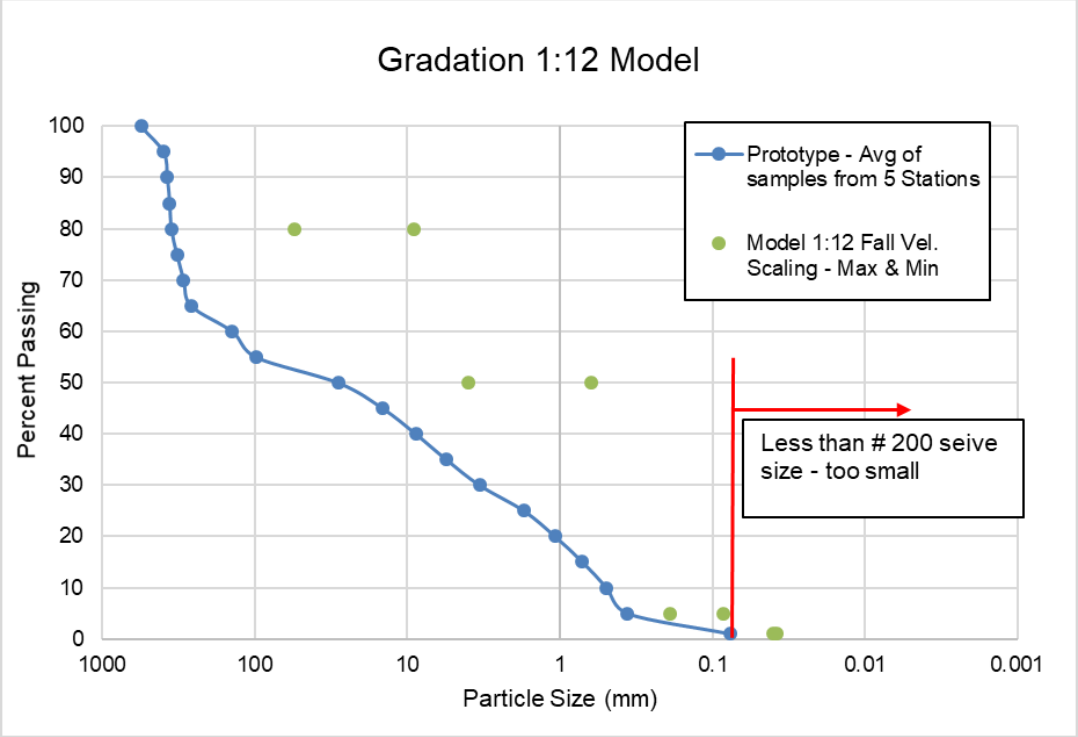


Figure 3 Sediment gradation curves representing the prototype (average of 5 river station samples from AECOM Sediment Transport Analysis-Santa Clara River at Freeman Diversion, 2014) in blue. The green dots represent the range of acceptable sediment sizes at d80, d50, and d5 that meet fall velocity scaling requirements at the proposed model scale of 1:12.

Debris Modeling

For debris test runs, scaled debris will be inserted at the upstream end of the model to assess areas of accumulation. Debris type, size, composition (floating versus waterlogged), and quantity will be provided by United Water for specific river conditions. Debris elements may be natural material or artificial material depending on material properties. Debris will be manually loaded into the model as individual pieces or in integrated mats.

Test Matrix

Testing will be completed over a range of relevant flow rates and operational conditions for the selected model scale (Table 1). Testing will be conducted during steady state flow conditions.

Testing will be conducted with the existing dam crest and a flushing channel adjacent to the canal intake structure. Testing will also be conducted with a 1.5-ft ogee crest-shaped dam notch over the dam section to the right of the hardened ramp and no flushing channel (Table 1). When the flushing channel is not constructed, the canal intake entrance structure will be moved out into the river and the flushing channel will be blocked off.

The hardened ramp test matrix may be modified as testing progresses based on model results. If certain flow or operational scenarios are less consequential than expected and other operational scenarios appear to be more significant, recommendations for changes to the test matrix will be submitted to United Water.

Table 1. Initial test matrix for hardened ramp fishway physical model. Hydraulic measurements will be collected for all scenarios. Flow scenarios with sediment and debris input are indicated. For hardened ramp flows less than 150 cfs, observations will be made, but no data will be collected due to model scale effects.

River Flow (cfs)	Ramp Flow Estimated (cfs)	Diversion Flow (cfs)	Flushing Channel Flow (cfs)	Dam Crest Flow (cfs)	Modified Cutout Flow (cfs)	Scenarios with Sediment Input	Scenarios with Debris Input
250	200	50				Sediment	
410	45	375				Sediment	
575	200	375					
950	200	750				Sediment	
1500	1125	375					
1500	750	750				Sediment	Debris
3000	1787.5	750	462.5				Debris
3000	1787.5	750					Debris
6000	2900	750	0		2350	Sediment	Debris
6000	3030	750	1745	475		Sediment	Debris
6000	3600	750	0	1650	0		Debris
18900	5000	0	0	13900		Sediment	Debris
17500	4800	0	0		12700	Sediment	Debris
18900	5000	0	2000	11900		Sediment	Debris

Data Collection

The following data will be collected during testing:

- Water surface elevation upstream and downstream of the dam (headwater, tailwater)
- Water surface elevations at top and bottom of hardened ramp
- Water surface elevation in the canal diversion entrance
- Water surface elevations and point velocities around fishway baffles to assess performance and identify resting zones
- Point velocities in front of the canal intake structure
- Point velocities upstream and downstream of hardened ramp
- Surface velocity maps of key flow conditions, if required
- Total model flow rate, canal diversion flow rate, fish bypass flow rate, and calculated fishway and dam crest flow rate.
- Observations of hydraulic conditions inside the hardened ramp
- Observations of hydraulic conditions upstream and downstream of hardened ramp
- Observations of hydraulic conditions downstream of dam notch to assess nuisance attraction flow
- Observations of sediment behavior and operational strategies to limit adverse impacts
- Mapped locations of sediment deposition and erosion with approximate lateral extents and depths
- Observations of debris movement and accumulation and operational strategies to limit adverse impacts

Instrumentation

The following instrumentation is planned for physical measurements during testing. Final instrument selection will be completed during the model design process. Modifications to measurement methods and/or instrumentation may be required during shakedown testing as determined by the modeling team.

Water Surface Elevations – Water depths will be measured with down-looking ultrasonic meters with an accuracy to within ±0.25%.

Model Flow Rate – Measurements will be acquired using the laboratory flow measurement system (Venturi meters) calibrated to within ±0.5%.

Feature Flow Rates – The canal diversion and fish bypass flow rate will be measured with in-line flowmeters or open channel flow measurement structures. Flow through the hardened ramp, flushing channel, and over the dam will not be measured directly.

Velocities – Point velocities will be measured within the water column using acoustic Doppler velocity meters (ADV). Surface velocities will be measured with particle tracking using large-scale particle image velocimetry (LSPIV) as needed.

Gate Position – Crest gate position will be determined using templates or string position sensors to set proper gate openings.

Flow Patterns – Flow patterns and recirculation zones will be observed using dye tracing or surface tracking particles. Results will be documented with photographs and videos.

Sedimentation – Sedimentation patterns and trends will be observed using physical measurements of lateral extents and depths, photographs and videos, photogrammetry, or sediment concentration probes (using ratios for relative performance between operational scenarios).

Overall Observations – All model runs will be documented using photographs and videos.

Exclusions

It is assumed that the hardened ramp geometry in cross-section and alignment are fixed and will not be modified in the model. It is assumed that the baffle size, shape, and configuration are fixed and will not be modified aside from upstream 5 rows of baffles. A full rating curve for the hardened ramp during various diversion scenarios is not planned since the model will not represent low flows less than 150 cfs through the ramp accurately. The canal fish screen will not be modeled. Impact forces on the baffles or other structures will not be measured in the model and damage assessment will not be conducted. Evaluation of sediment deposition and areas of debris accumulation can be used as an indicator of potential locations where damage may occur. Sparger systems will not be represented in the model due to low expected discharges; however, locations where sparger systems may be needed will be identified based on sediment accumulation. Flow rates greater than 10,000 cfs in the modeled river section (approximate river flow 18,900 cfs) should not be expected due to laboratory facility limitations, however slightly higher model flow rates may be possible. Simulation of sediment and debris movement during river flows above the maximum model discharge will not be possible. However, sediment can be placed in locations where deposits are expected to occur and the model can be run to identify strategies for mobilizing sediment to enhance hydraulic performance.

Vertical Slot Fishway Physical Model

Model Objectives

1.) Measure attraction flow conditions to north and south fish entrances with and without crest gate spill.
2.) Measure hydraulics within and downstream of auxiliary water system (e.g. stilling area, diffuser) to determine if adverse impacts such as eddies occur in the south fishway entrance pool and to assess the probable zone of passage from the entrance gates and tunnel to the ladder.
3.) Observe hydraulics in the north fish entrance pool and in the tunnel to the north fish entrance.
4.) Observe qualitative sediment deposition and erosion downstream of the fishway near the south entrance and on the apron adjacent to the entrance structure. Observe if sediment deposits can be resuspended and flushed away from south fishway entrances.

5.) Observe qualitative sediment deposition in front of and within north fishway entrance.
6.) Observe sediment erosion upstream of crest gates to the mouth of the approach channel.
7.) Observe sediment deposition in the fishway exit channel, within the auxiliary water system, and in the canal entrance channel between the trashrack and auxiliary water system and canal control gates.
8.) Determine if fishway operation can be maintained during flushing channel operations. Determine how flushing channel operations impact downstream flow conditions.
9.) Evaluate strategic operation of crest gates by opening and closing specified gates to minimize impacts on sediment deposition and attraction flows.

Modeling Approach

A physical hydraulic model at a Froude-scale of approximately 1:10 is recommended to incorporate relevant project features and best meet the model objectives. The model scale may change slightly based on laboratory floor space and sediment availability. The model was scaled with a focus on assessing overall hydraulic performance of structures and interaction between project features, but not detailed hydraulics in the vertical slot fishway.

The physical model extents will include approximately 310 ft upstream of the dam, 380 ft downstream of the dam, and 80 ft to the right of the crest gates (Figure 4). The model will have a fixed bed with movable bed sections directly upstream of the crest gates and canal intake and downstream of the fish entrances and spillway apron (Figure 5).

Model features will include the vertical slot fishway and control structure, north fishway entrance and tunnel, south fishway entrances, auxiliary water system, crest gates, flushing channel, canal headgates (piers and trashrack), and independently operated auxiliary water and canal control gates. If possible, the crest gate spillway and tunnel will be modeled in clear plastic to allow for visual observations. The canal and auxiliary fish screens and associated sediment jetting systems will not be included. Only vertical slot elements at the upstream and downstream ends of the fishway will be modeled. The vertical slot elements will not be represented in full.

The maximum total model discharge in the model is approximately 6,300 cfs prototype (20 cfs model) in the modeled section of the left side of the river which is approximately equivalent to the total river discharge (less than 2 year return period). The vertical slot fishway will be able to pass 34-37 cfs, but flow conditions may not be represented well at a 1:10 scale due to shallow depths in the vertical slot. It will not be possible to obtain detailed hydraulic data such as local velocities in the vertical slot. Scale effects due to low Reynolds number will occur for flow rates less than 150 cfs prototype (0.5 cfs model). Canal diversions of up to 750 cfs will be modeled and the canal diversion to the auxiliary water system screen and ladder entrance will be up to 594 cfs.

Model topography and bathymetry will be provided by the design consultant. The same bathymetric configuration will be used for both the vertical slot fishway and hardened ramp alternatives as a baseline condition. Boundary condition hydraulics (flow rate and water surface elevations) and sediment loading for the selected model extents will be based on numerical modeling provided by the design consultant to ensure that the modeled section experiences appropriate inflow conditions.

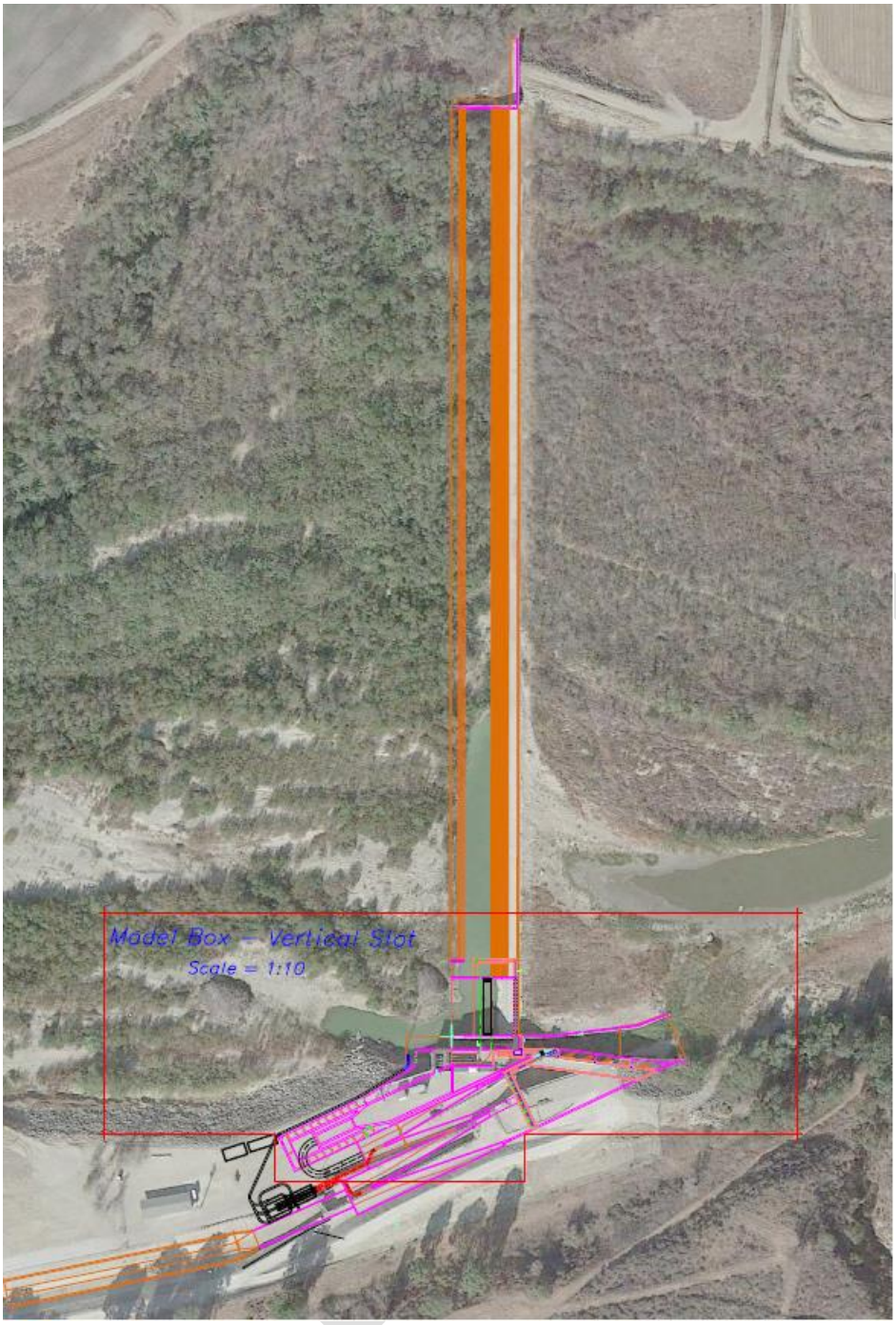


Figure 4. Extents of proposed 1:10 scale physical hydraulic model for 30% design of the vertical slot fishway alternative.

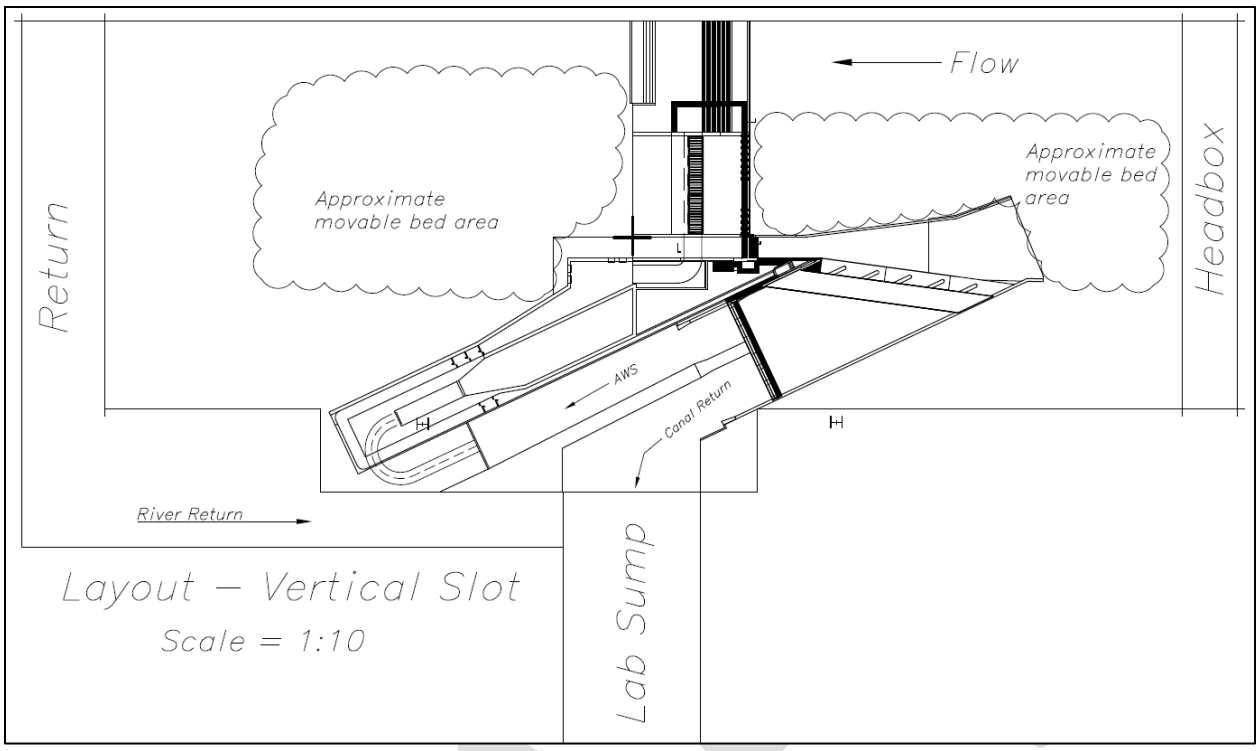


Figure 5. Proposed simplified layout and features of the vertical slot fishway alternative within the model box, showing the headbox and return channel. Approximate movable bed areas are indicated. The remainder of the topography will be constructed as a fixed concrete bed. Model topography and bathymetry are not presented here, but will be represented in the physical model.

Sediment Modeling

Bedload and suspended sediment will be incorporated into the inflow water during sediment tests. Sediment scaling for the average field gradation greater than about the d_5 material size meets cohesion and fall velocity scaling requirements and can thus be scaled geometrically at a 1:10 scale. Incipient motion of prototype and modeled particles will be compared to ensure that sediment movement is appropriately simulated. Although exact representation of the entire field gradation is not expected, key sediment sizes (i.e. d_{80}, d_{50}, and d_5) will be scaled and incorporated in the model (Figure 6). Actual sediment for the model will be selected based on availability of local quarries. Alternate model materials such as coal or ground walnut shells are not proposed for use in this model in order to complete more test scenarios. The model is expected to produce qualitative trends, patterns, and locations of deposition or degradation in the field but not accurately represent actual quantities.

For sediment test runs, material will be located in the movable bed sections according to Figure 5. Additional sediment will be inserted into the model flow via a conveyor or hopper system at the inlet to the model box, or via a closed loop system of recirculated sediment laden flow depending on material size.

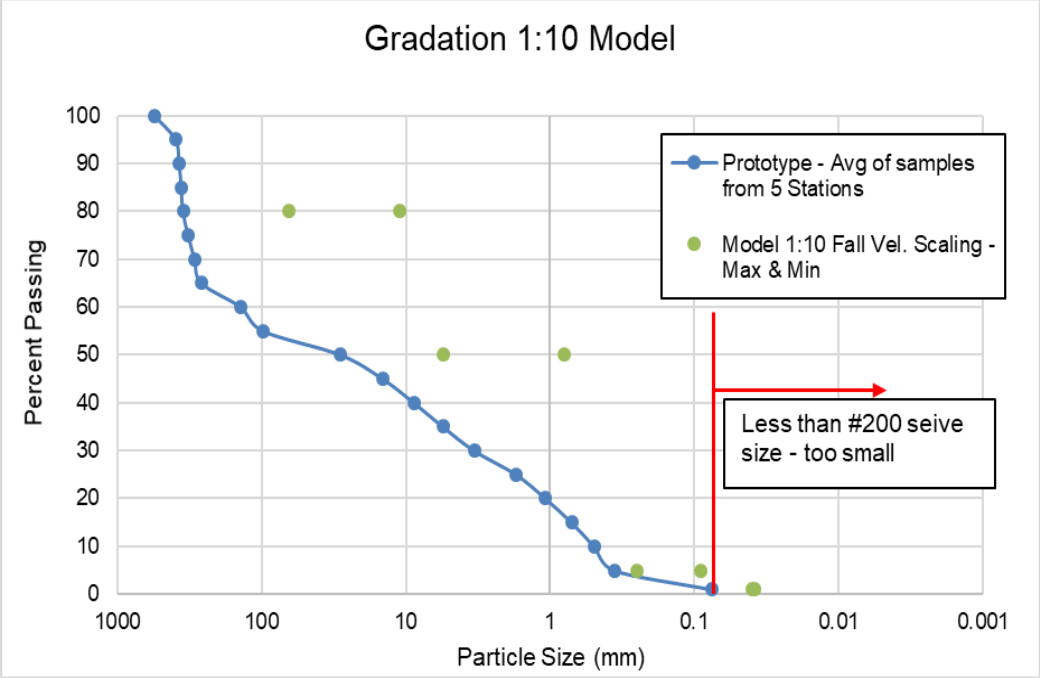


Figure 6. Sediment gradation curves representing the prototype (average of 5 river station samples from AECOM Sediment Transport Analysis-Santa Clara River at Freeman Diversion, 2014) in blue. The green dots represent the range of acceptable sediment sizes at d80, d50, and d5 that meet fall velocity scaling requirements at the proposed model scale of 1:10.

Test Matrix

Testing will be completed over a range of relevant flow rates and operational conditions for the selected model scale (Table 2). Testing will be conducted during steady state flow conditions.

Testing will be conducted with and without operation of the flushing channel as indicated in Table 2. The flushing channel gates will simply be closed during testing without the flushing channel. Variable gate operation for the crest gates will be completed, although details of the gate operation have not yet been determined. Baseline testing will also be conducted to examine regulatory compliance without the north fish entrance and tunnel as specified in Table 3.

The vertical slot fishway test matrix may be modified as testing progresses based on model results. If certain flow or operational scenarios are less consequential than expected and other operational scenarios appear to be more significant, recommendations for changes to the test matrix will be submitted to United Water.

Table 2. Initial test matrix for vertical slot fishway physical model. Hydraulic measurements will be collected for all scenarios. Flow scenarios with sediment input are indicated. Debris testing is not included because debris loading is limited at simulated model flow rates.

River Flow (cfs)	Fish Ladder Flow (cfs)	Diversion Flow (cfs)	Canal Fish Bypass Flow (cfs)	Auxiliary Water System Flow (cfs)	Auxiliary Water Fish Bypass Flow (cfs)	Crest Gate Flow (cfs)	River Flow Downstream (cfs)	Notes	Scenarios with Sediment Input
200	34	40	24	0	102	0	160	Test entrance gates in combination and separately	
800	34	0	24	570	24	148	800	Adjust crest flows by reducing auxiliary water	
800	34	375	24	343	24	0	425		
1500	34	750	24	168	24	500	750		Sediment
1500	0	0	0	0	0	0	0	1500 cfs flushing channel	Sediment
1500	34	375	24	168	24	875	1125		
3000	34	750	24	570	24	1598	2250		
3000	34	375	24	570	24	1973	2625		
3000	34	750	24	300	24	1868	2250		Sediment
6000	34	750	24	570	24	4598	5250		Sediment

Table 3. Initial test matrix for vertical slot fishway physical model without the north fish entrance and tunnel. The maximum auxiliary flow rate is 270 cfs. Hydraulic measurements will be collected for all scenarios. One flow scenario with sediment input is indicated.

River Flow (cfs)	Fish Ladder Flow (cfs)	Diversion Flow (cfs)	Canal Fish Bypass Flow (cfs)	Auxiliary Water Sytem Flow (cfs)	Auxiliary Water Fish Bypass Flow (cfs)	Crest Gate Flow (cfs)	River Flow Downstream (cfs)	Notes	Scenarios with Sediment Input
800	34	375	24	270	24	73	425		
1500	34	750	24	168	24	500	750		
1500	34	0	24	270	24	1148	1500		
1500	34	375	24	270	24	773	1125		
2000	34	375	24	270	24	1273	1625		Sediment
2000	34	750	24	270	24	898	1250		
3000	34	750	24	270	24	1898	2250		
3000	34	375	24	270	24	2273	2625		
3000	34	750	24	270	24	1898	2250		
6000	34	750	24	270	24	4898	5250		

Data Collection

The following data will be collected during testing:

- Water surface elevation upstream and downstream of the dam (headwater, tailwater)
- Water surface elevations upstream and downstream of vertical slot fishway and inside fishway entrance and exit.
- Water surface elevation in the canal diversion entrance
- Point velocities in front of the canal intake structure
- Point velocities upstream and downstream of the vertical slot fishway
- Point velocities at fishway entrance at auxiliary water system diffuser
- Surface velocity maps during key flow conditions, if required
- Total flow rate entering the model box, through the auxiliary water system, through the fish bypass, and through the canal diversion
- Observations of hydraulic conditions inside auxiliary water system stilling area and through the auxiliary water system diffuser
- Observations of hydraulic conditions in north fishway entrance and tunnel
- Observations of flow patterns, eddying, or adverse hydraulic conditions downstream of crest gates during operation and the associated impact on approach conditions to the north and south fish entrances. Remedial options to improve attraction flows during crest gate operation will be explored.
- Observations of sediment behavior and operational strategies to limit adverse impacts
- Mapped locations of sediment deposition and erosion with approximate lateral extents and depths
- Observations of debris movement and accumulation and operational strategies to limit adverse impacts

Instrumentation

The following instrumentation is planned for physical measurements during testing. Final instrument selection will be completed during the model design process. Modifications to measurement methods and/or instrumentation may be required during shakedown testing as determined by the modeling team.

Water Surface Elevations – Water depths will be measured with down-looking ultrasonic meters with an accuracy to within ±0.25%.

Model Flow Rate – Measurements will be acquired using the laboratory flow measurement system (Venturi meters) calibrated to within ±0.5%.

Feature Flow Rates – The auxiliary water system flow rate and canal diversion flow rate will be measured with in-line flowmeters. Flow through the crest gates and flushing channel will not be measured directly.

Velocities – Point velocities will be measured within the water column using acoustic Doppler velocity meters (ADV). Surface velocities will be measured with particle tracking using large-scale particle image velocimetry (LSPIV) as needed.

Gate Position – Crest gate position will be determined using templates or string position sensors to set proper gate openings.

Flow Patterns – Flow patterns and recirculation zones will be observed using dye tracing or surface tracking particles. Results will be documented with photographs and videos.

Sedimentation – Sedimentation patterns and trends will be observed using physical measurements of lateral extents and depths, photographs and videos, photogrammetry, or sediment concentration probes (using ratios for relative performance between operational scenarios).

Overall Observations – All model runs will be documented using photographs and videos.

Exclusions

Fishway ladder hydraulics will not be assessed, since this information is well documented in literature. Only the most upstream and downstream vertical slot elements will be constructed in the model. The canal fish screens and auxiliary water system fish screens will not be modeled; therefore, associated velocities and water depths will not be measured. Impact forces will not be measured in the model and damage assessment will not be conducted. Evaluation of sediment deposition and areas of debris accumulation can be used as an indicator of potential locations where damage may occur. A single excavation plan for the structures and surrounding areas will be constructed in the model. Flow rates greater than 6,300 cfs in the modeled river section should not be expected due to laboratory facility limitations, however slightly higher model flow rates may be possible. Simulation of sediment and debris movement during river flows above the maximum model discharge will not be possible. However, sediment can be placed in locations where deposits are expected to occur and the model can be run to identify strategies for mobilizing sediment to enhance hydraulic performance.

Major Model Limitations

Sedimentation

Suspended sediment will be added to the model inflow water during sediment tests. Sediment results will provide qualitative information about erosive and depositional zones and transport patterns near modeled features and can provide comparative data between different flow configurations and operational scenarios. Results from sediment tests are not quantitative and cannot be used to predict the depth of sediment erosion or deposition. Due to scaling limitations, armoring and sediment sorting processes are unlikely to be seen in the model.

Predictions of the amount of time required to flush sediment from in front of the canal headworks would require information about exact sediment quantities that deposit in this location. Since the

physical model can only provide qualitative information about sediment deposition, relative flushing channel timing can be assessed, but exact sluiceway operational duration will not be determined.

Geomorphological Changes

The physical hydraulic model will contain a fixed bed with mobile bed sections constructed upstream and downstream of key project features. Long-term channel evolution and simulation of channel-forming flows will not be assessed with the proposed models. Geomorphological assessments can be conducted in physical models that fully represent the physical extents of the river over a range of high flows. It is likely that a physical model of the full width of the river with a river length on the order of miles would be required to have confidence in observed bed changes.

Attempting to simulate channel-forming flows with partial-width river models may not provide suitable results given the uncertainty in modeled boundary conditions. Estimating the general form of the river bed and then creating selected section of mobile bed seems like an appropriate balance to allow for assessment of project features and local scour and deposition without trying to predict the entire river morphology.

Structural Assessment

Impact forces will not be measured in the physical model and damage assessment will not be conducted. Structural assessment requires appropriate representation of materials and material properties at model scale. Evaluation of sediment deposition and areas of debris accumulation can be used as an indicator of potential damage locations.

Preliminary Physical Model Schedule

According to the stipulation to modify the injunction, a final physical modeling work plan will be submitted by United Water Conservation District to National Marine Fisheries Service and California Department of Fish and Wildlife on February 8, 2021 after initial incorporation of comments by regulatory agencies. It is assumed that any subsequent changes to the model plan will be minor and preliminary modeling work can begin at this time, such as creating model drawings and ordering materials. Physical modeling efforts will begin by March 22, 2021 as specified by the stipulation.

The hardened ramp fishway model will be constructed first. Once construction is complete, the vertical slot fishway alternative will be constructed. As currently proposed, approximately ten months is required to complete construction, testing, and documentation for each model. The final modeling report for the hardened ramp fishway and the vertical slot fishway alternatives will be submitted to United Water by December 15, 2021 and March 15, 2022, respectively (Tables 4-5).

Model testing of each alternative will occur over twelve-week period. Shakedown of physical model instrumentation, components, and test procedures will occur during the first two weeks after model construction. Clear-water tests will be run to measure hydraulic conditions in the model, followed by sediment testing and debris testing. During the test period, a site visit will be planned for each fish passage model alternative for United Water and stakeholders to view the physical models either in person or via remote streaming.

This preliminary model schedule will be revised as the model plan and test matrix are refined.

Table 4. Proposed schedule for a physical model of the hardened ramp fishway alternative.

Physical Model Study Tasks	Start Date	End Date	Approximate Duration
Model Design Drawings and Order Materials	2/15/2021	4/1/2021	45 days
Review of Model Design Drawings by United Water	4/1/2021	4/15/2021	15 days
Hardened Ramp Option: Model Construction	4/15/2021	7/15/2021	90 days
Hardened Ramp Option: Model Shakedown and Testing	7/15/2021	10/15/2021	90 days
Draft Report	10/15/2021	11/15/2021	30 days
Submit Draft Report to United Water for Comment	11/15/2021	11/31/2021	15 days
Finalize Report	11/31/2021	12/15/2021	15 days
Submit Final Report to United Water	12/15/2021		

Table 5. Proposed schedule for a physical model for the vertical slot fishway alternative.

Physical Model Study Tasks	Start Date	End Date	Approximate Duration
Model Design Drawings and Order Materials	5/1/2021	7/1/2021	45 days
Review of Model Design Drawings by United Water	7/1/2021	7/15/2021	14 days
Vertical Slot Fishway Option: Model Construction	7/15/2021	10/15/2021	90 days
Vertical Slot Fishway Option: Model Shakedown and Testing	10/15/2021	1/15/2021	90 days
Draft Report	1/15/2022	2/15/2022	30 days
Submit Draft Report to United Water for Comment	2/15/2022	2/28/2022	15 days
Finalize Report	2/28/2022	3/15/2022	15 days
Submit Final Report to United Water	3/15/2022		

Risk Register for Physical Model Schedule

The risk register shows anticipated risks to project schedule along with potential ways to manage risk.

Table 6. Risk Register for physical modeling projects.

Risk	Risk Description & Potential Impacts	Severity (H, M, L)	Probability (H, M, L)	Risk Mitigation
Building Closure or Staff Illness Due to COVID-19 Pandemic	Temporary laboratory closure or limitation of the number of staff allowed on-site due to COVID-19 restrictions would impact schedule. Significant loss of key staff due to illness would impact schedule.	H	M	There is no way to mitigate a building closure due to mandatory orders. If this situation arises, communication with the client will occur immediately and updates will be provided on a time frame for re-opening, as available. There will be redundancy in qualified staff where possible to limit staff-related impacts due to illness.
Late Changes to Model Test Plan	Model schedule assumes that model planning can begin on February 9, 2021. Late changes to the model scale, extents, major features, and test plan by regulatory agencies could impact model drawings or ordered materials.	H	L	Communicate with regulatory agencies regarding the need to solidify major features of the model study after the first round of comments. Comments from first round reviews of the physical model plan will be incorporated. If late changes to the test plan occur, a Change Order to adjust schedule and budget will be required.
Material Availability	Availability of model materials and sediment depends on current stock and delivery times.	M	L	Materials will be ordered in February after the first round of regulatory agency comments to provide substantial time for delivery.

Deliverables

A peer-reviewed model report will be completed for each physical model separately. The draft reports will be submitted to United Water for review and comment. Edits and comments will be incorporated, or if not incorporated, a rebuttal will be provided to describe why changes were not made. A final peer-reviewed model report will be submitted to United Water. All collected data including spreadsheets, text documents, photographs, and videos will be delivered to United Water. The overall period of performance for the project will include time to support United Water in responding to comments received from regulatory agencies on the model findings and reports.

Points of Contact

Connie Svoboda, Project Manager
Bureau of Reclamation, Technical Service Center
Hydraulic Investigations and Laboratory Services
303-445-2152
csvoboda@usbr.gov

Josh Mortensen, Technical Lead
Bureau of Reclamation, Technical Service Center
Hydraulic Investigations and Laboratory Services
303-445-2156
jmortensen@usbr.gov

Bob Einhellig, Group Manager
Bureau of Reclamation, Technical Service Center
Hydraulic Investigations and Laboratory Services
303-445-2142
reinhellig@usbr.gov

United Water CONSERVATION DISTRICT

Staff Report

To: Board of Directors

Through: Mauricio E. Guardado, Jr., General Manager
Anthony A. Emmert, Assistant General Manager

From: Joseph Jereb, Chief Financial Officer
Josh Perez, Human Resources Manager
Zachary Plummer, Information Technology Administrator
Kris Sofley, Executive Administrative Coordinator/Clerk of the Board

Date: **January 4, 2021 (January 13, 2021 meeting)**

Agenda Item: **5.1 Monthly Administrative Services Department Report**
Informational Item

Staff Recommendation:
The Board will receive and file this staff report from the Administrative Service Department regarding its activities for the month of December as well as receive the presentation to the Board supporting this report.

Discussion:
Activities that took place during the month of December 2020 include:

Finance:

- Completed FY 19-20 Comprehensive Annual Financial Report and delivered to Board of Directors at December meeting.
- Submitted application to Government Financial Officers Association for award for excellence in financial reporting based on FY19-20 CAFR
- Received proceeds from 2020 COP bonds issue on December 2. Researched and prepared accounting entries to record receipt of proceeds, payment of issuing expense and refunding of outstanding bonds.
- Provided Recreation staff with financial analysis of options for management of Lake Piru Recreation Area in 2021.
- Prepared H1 2021 groundwater statements and delivered to users.
- Began preparations for FY2021-22 Budget.

Administration:

- Organized the District's Virtual Holiday Staff Lunch (December 16).
- Coordinated General Manager's end of year check-in meetings with all staff.

- Continued updating documents to new website (Committee agendas, minutes, presentations, reports, filings, et cetera).

Human Resources & Risk Management:

- Processed onboarding paperwork for new Board Member.
- Coordinated annual service awards for tenured employees.
- Completed draft job descriptions for potential new positions within the District for the FY20-21 and 21-22 year.
- Posted internal recruitment notice for Chief Operations Officer and coordinated interviews.
- Processed employee evaluations and step increases that were scheduled for December.
- Processed employee payroll changes into Incode (address change, tax changes, changes in deductions, base pay, cash out requests).
- Completed extraordinary number of verifications of employment requests for current staff members.
- Processed several requests for Certificates of Insurance through SDRMA (equipment rentals).
- Submitted and processed 2021 flexible spending plan for staff to be effective January 1, 2021.
- Updated 2021 health insurance rates into Incode to reflect 2021 rates for all health plans.
- Processed several end of year updates (SDI, SUI, misc. allowances, etc.) into Incode.
- Processed authorization forms for Hepatitis B vaccinations for several staff members.

Safety and Risk Management

- Reviewed and issued Rangers Policy Manual Updates and Monthly, Daily Training Bulletins covering topics such as protests and use of force.
- Completed draft of updated Injury & Illness Prevention Plan (IIPP).
- Completed update to COVID-19 Prevention Plan.
- Secured Additional Face Masks (cloth masks and KN95s) for District staff.
- Presented two monthly safety meetings, covering Confined Space and Industrial Ergonomics, as well as COVID-19 updates.
- Coordinated respirator fit testing for new District staff.
- Supported Engineering Department with FERC Annual Compliance Letter on security matters pertaining to Santa Felicia Dam.
- Investigated and resolved camera and access control system troubleshooting issues
- Completed two additional OSHA Courses (Accident Investigation and Transitioning to Safe Chemicals) to achieve credits/cost savings for insurance premiums.
- Assisted Environmental Services with essential services designation for upcoming Freeman Rehab Project.
- In Conjunction with Operations and Maintenance Manager, completed certification of Risk and Resilience Assessment to EPA.

Information Technology:

- Provided IT Support for the following virtual meetings:
  - Engineering and Operations Committee (Dec 3)
  - UWCD Finance and Audit Committee (Dec 8)
  - UWCD Board of Directors Monthly Meeting (Dec 9)
  - ACWA Virtual Meeting (December 9)
  - FPB GSA Stakeholder Workshop Meeting (Dec 9)
  - SFD EAP Seminar (Dec 16)
  - FPB GSA Board Meeting (Dec 17)
  - Special Finance Committee Meeting (December 21)
  - Monthly Modeling and Simulation Information Analysis Center (MSIAC) Meeting (Dec 29)

- General IT Helpdesk/Cyber Support:
  - Made progress towards Active Directory Replacement from 2008 to 2016 Operating System.
  - Replaced expiring RSA Multi Factor Keychain tokens with O&M Operators and provided new RSA tokens to newest operators.
  - Supported Environmental Services staff to troubleshoot Ethernet and PC Connections for fish monitoring and recording equipment at Freeman Diversion.
  - Migrated GM and CFO cellular service to AT&T's First Responders (FirstNet) service program and issued new devices.
  - Installed conferencing PC in the General Manager's office for Teams, and all other virtual meeting suites used by District partners and agencies.
  - Purchased and installed Xerox all-in one-color printer for the Lake Piru Recreation Area Rangers.
  - Installed networking equipment at the Lake Piru Recreation Area Rangers Office to support planned activities and communications requirements.
  - Worked with service providers to repair area-wide internet service outage that impacted our Internet Service Provider on December 15th.
  - Supported District employees virtual holiday party over Microsoft Teams Virtual Meeting product.
  - Responded to SolarWinds hack, which was the largest in history. Initial finding of analysis reveals no direct impact to the District; however, efforts will be needed to ensure strength of network systems moving forward to thwart and prevent similar nefarious cyber activities.

- IT Meetings and Events:
  - Wed Dec 2 - Call with IT vendor regarding Office 365 Online Backup Toolkit that pairs with Veeam Enterprise Backup (another backup product we use for onsite data).

- Wed Dec 3rd - Call with Novacoast Engineering Team regarding Microsoft Cloud Technology, End User Authentication and Security products; general discussion about migration path to the newest Microsoft Cloud products.
- Tues Dec 10 - Meeting with local service provider to evaluated technology utilized in the Santa Clara Conference Room. Requested proposal to provide equipment and installation of overhead speaker and virtual conferencing camera.
- Wed Dec 17th - Meeting with Netwrix Sales and Presales Engineers to discuss IT Audit Software - Monitoring of privileged access and system changes.
- Wed Dec 18th - Urgent CISA Partners Call - SolarWinds Exploitation and Mitigation. District does not use the SolarWinds software at any of its facilities and continues to monitor the recommendations from DHS, CISA, and other cyber partners to prevent exploitation of District Networks.

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager

From: Maryam A. Bral, Chief Engineer
Craig A. Morgan, Senior Engineer
Robert J. Richardson, Senior Engineer
Michel Kadah, Engineer
Adrian Quiroz, Associate Engineer
Erik Zvirbulis, GIS Analyst

Date: **January 4, 2021 (January 13, 2021 meeting)**

Agenda Item: **5.2 Monthly Engineering Department Report**
Information item

Staff Recommendation:
The Board will receive and file this staff report from the Engineering Department regarding its activities for the month of December as well as receive the presentation to the Board supporting this report.

Discussion:
As noted in our previous staff reports, the majority of staff continue to work from home and communicate via teleconferencing products during the Covid-19 pandemic.

1. Santa Felicia Dam Safety Improvement Projects
   - SFD 2020 Drilling Program Plan (DPP)
     - The as-drilled survey of the borings and test pits was completed by GEI Consultants and Encompass Consultant Group, Inc. (ECG) on November 30.
     - Staff collected the first round of groundwater levels through the Vibrating Wire Piezometers (VWP) using a new laptop assigned for data collection. Staff will continue the groundwater elevation monitoring on a monthly basis and the additional data will be included in the SFD monthly inspection reports.

- Spillway Improvement Project
  - ECG finalized the topographic survey incorporating staff comments in the survey results and submitted the survey data to the District on December 15.
  - Staff completed the review of the 60% design plans for the new spillway heel drain cleanouts. Comments were submitted to GEI Consultants to be incorporated in the revised plans.

- Outlet Works Improvement Project
  - The above updates reported for the Spillway Improvement Project also apply to the Outlet Works Improvement Project.
  - Staff has scheduled a design review meeting on January 06, 2021 during which GEI Consultants and staff will discuss the 30% design of the new outlet works with the O&M staff who is involved with the operation of the Santa Felicia Dam.

- Santa Felicia Dam Safety
  - Engineering Staff conducted the 2020 SFD EAP Seminar on December 16, 2020 via Microsoft Teams. At the seminar, staff provided an overview of the SFD facility and focused on reviewing the SFD Inundation Maps and Notification Charts. In attendance were personnel from the Ventura County Office of Emergency Services, FBI, Piru Neighborhood Council, Fillmore Unified School District, Santa Paula Police Department, City of Ventura and City of Oxnard. The next SFD EAP Seminar will be conducted in 2021.
  - Staff completed the Owner Inspection Form (OIF) and submitted it to FERC on September 21, 2020. FERC discussed the OIF with staff through a virtual meeting conducted on December 7, 2020. FERC did not identify any significant issues during the meeting.
  - Staff completed and submitted the Annual Security Compliance Certification via email to FERC on December 22, 2022.
  - Staff completed the 2020 Dam Safety and Surveillance Report (DSSMR) and submitted it to FERC and DSOD on December 23, 2020, respectively.
  - Staff completed the annual Emergency Action Plan (EAP) Status Letter and submitted it to FERC on December 23, 2020.

- FERC License Amendment Application and NEPA Documentation
  - Staff submitted the 401 Water Quality Certification application to the State Water Resources Control Board (WRCB) on November 20, 2020. Staff received a letter from the WRCB on December 21 notifying the District that the 401 Water Quality Certification application is incomplete per the California Code of Regulations (CCR), title 23, section 3856. Additional information is also needed to comply with the new certification procedures established by the U.S. Environmental Protection Agency

(USEPA), which went into effect on September 11, 2020. Staff will submit a pre-construction notification to the Army Corps of Engineers (ACOE) for coverage under Nationwide Permit No. 17 and include a copy of the AEOC and other information necessary to satisfy the requirements of the CCR and USEPA in the 401 Water Quality Certification application prior to resubmittal to the WRCB.

- Staff submitted a follow up response letter to FERC comments on the draft Biological Assessment report and the Section 7 consultation on December 16. Currently, the draft BA is being revised per FERC comments.

2. Santa Felicia Dam Sediment Management Project
   - The dive inspection of the Santa Felicia Dam Intake Tower was completed on December 21, 2020 (See Figure 1). The diver confirmed verbally that the lakebed sediment is approximately 6 feet below the rim of the intake tower. He also confirmed that the trash rack and intake tower had no visible signs of deterioration and appear to be in good condition. Additionally, he observed no presence of Quagga Mussels on the surface of the intake tower structure. The District will receive an inspection report, video footage and photos as deliverables in early January.

3. Freeman Diversion Rehabilitation/Fish Passage Facility
   - On December 16, staff and USBR conducted a meeting to introduce Senior Fish Passage Advisor Dr. Larry Weber. Dr. Weber has extensive knowledge of fish passage structures and physical modeling activities.
   - On December 18, staff, USBR, NMFS, CDFW, Dr. Weber, Stantec and NHC had a conference call to discuss USBR's physical modeling plan.
   - Staff prepared two contract amendment agreements for continued technical support by NHC and Stantec during the physical modeling efforts (please see Motion Items for the January Board Meeting).

4. Ferro-Rose Recharge Basins
   - Staff submitted the application for a watercourse permit with the County of Ventura for the three-barrel culvert. Due to the three-barrel culvert bisecting the Santa Clara River levee, the County of Ventura will have to get a permit from the Army Corps of Engineers. The watercourse permit is the first step for the County to start the permit process with the Corps.

5. Recycled Water Update
   - On December 17, 2020, the City of Oxnard opened bids on the second rebid of the Hueneme Road Recycled Water Pipeline Phase II project. The bids were as follows:
     - $13,713,961 – Blois Construction, Inc. (Oxnard)

- $14,138,000 – Teichert Energy & Utilities Group, Inc. (Long Beach)
- $15,704,944 – Vido Artukovich & Son, Inc. (South El Monte)
- Bid rejected – Toro Enterprises, Inc. (Oxnard)
  The lowest bidder appears to be Blois Construction. It is not currently known when the City of Oxnard will award a construction contract for the Hueneme Road Recycled Water Pipeline Phase II project.

- On December 14, 2020, staff met with Ian Prichard (Camrosa Water District or "Camrosa"), Jared Bouchard (Pleasant Valley County Water District or "PVCWD") and Lucie McGovern (Camarillo Sanitary District or "CSD"). Topics included:
  - Potential distribution and use of excess Conejo Creek surface water diversions of up to 2,500 acre-feet per year.
  - Potential distribution and use of non-utilized Camarillo Water Reclamation Facility recycled water of up to 1,500 acre-feet per year.
  - Additional water storage and pipeline connection opportunities for the PVCWD and the Pumping Trough Pipeline systems.

6. PTP Turnout Metering System Improvement
   - Total number of meters installed: 20 of 61 installed, 33% (no change)
   - O&M staff is working to resolve communication issues with the equipment supplier and radio manufacturer.
   - Easement acquisition completion: 11 of 41 obtained, 27% (+5% since Dec 9)
   - The District has received comments from two attorneys representing different property owners on some of the language included in the default utility easement deed. Staff is working with the District's legal counsel and Hamner, Jewell & Associates to resolve.
   - Negotiated scope of work and fee to complete six additional easements with Hamner Jewell & Associates and subconsultant Stantec. The work is anticipated to utilize the existing contract contingency amount with no additional funding requested.
   - Prepared progress and financial reports and submitted Invoice No. 8 to the Department of Water Resources (DWR). DWR has been billed $405,551.39 in grant funds due to date.

7. Iron and Manganese Removal at the El Rio Water Treatment Plant
   - On December 8, 2020, staff prepared a notice to the State Water Resources Control Board Division of Drinking Water (DDW) requesting an amendment to the District's Domestic Water Supply Permit for the Oxnard-Hueneme Pipeline system.
   - On December 16, 2020, staff directed Kennedy/Jenks Consultants to complete the 100% design following review of the District's comments. Additionally, staff authorized

additional work that was identified as part of the 100% design comments. The work will be performed utilizing the existing contract contingency amount.

- On December 17, 2020, the Calleguas Municipal Water District (CMWD) provided a draft scope of work and fee from Kennedy/Jenks Consultants for grant administration services related to the five (5) projects that received grant funding under the Proposition 1 Integrated Regional Water Management (IRWM) Round 1 Implementation Grant for the Watersheds Coalition of Ventura County. Staff is currently reviewing and providing comments.
- The District has not received an update from CMWD or DWR on when the Prop 1 IRWM grant agreement will be executed.
- On December 21, 2020, staff confirmed Kennedy/Jenks Consultants responses and provided additional clarifications to the District's 100% design comments.
- Staff coordinated with the Ventura County Fire Department the review of an application for a fire clearance permit.
- The tentative schedule for the project is as follows:
  - February 5, 2021 – Advertise for construction bids
  - April 14, 2021 – Award construction contract (pending Prop 1 IRWM grant agreement)

8. State Water Project (SWP) Interconnection Project
   - Staff received an updated draft joint agency agreement (agreement) for the SWP Interconnection project from the City of Ventura on December 13. Staff is currently reviewing the updated agreement that includes the City's response to Staff comments and questions that were submitted to the City of on November 15.

9. Pothole Trailhead Parking Area
   - Construction of the Pothole Trailhead Parking Area broke ground on December 03, 2020. Grading, subgrade compaction, aggregate base installation and perimeter boulder placement is complete (See Figures 2 and 3). Construction will be completed by December 31, 2020.

10. Freeman Diversion and Lower River System Quagga Mussel Control Project)
    - On December 2, 2020, staff prepared an analysis of volumetric flows in the Pleasant Valley (PV) Terminal Reservoirs. There are currently no flow meters that measure outflow from the PV Terminal Reservoirs. The purpose of this analysis is to identify the potential size and scope of a chemical treatment system for quagga mussels and other potential contaminants of concern. It should be noted that District staff has not detected the presence of quagga mussel veligers or adults in frequent sampling conducted at the PV Terminal Reservoirs.

11. Coastal Brackish Water Treatment Plant

- On December 17, 2020, Engineering and Water Resources staff observed field sampling of coastal well CM1A which is located at Naval Base Ventura County (NBVC) Point Mugu. This is the third sampling event that includes an expanded list of constituents in addition to the regularly scheduled list of constituents to help identify treatment requirements.
- On December 17, 2020, Engineering, Water Resources and Environmental staff met with Nathan Jacobsen (U.S. Navy) at NBVC Point Mugu. The purpose of the meeting was to explore potential extraction well locations (13 in total) on Beach Road that are closer to Mugu Canyon.
- On December 18, 2020, staff submitted a data request to Navy staff related to the potential extraction well locations along Beach Road that will aid in a more detailed location selection process.

12. OH Backup Generator at the El Rio Booster Plant

- Formerly listed as CalOES HGMP sub application in the staff report, Item 16 is updated to OH Backup Generator at the El Rio Booster Plant as shown above. Staff continues to report the project progress under the new project title.
- Following the kickoff meeting with CalOES on December 2, staff completed and submitted the grant agreement to CalOES on December 10.
- On December 10, staff held a kickoff meeting with the Operations staff and Lucci & Associates, the Electrical Engineering Consultant, to discuss the scope of work and project schedule.
- On December 18, staff met with the Operations staff and Lucci & Associates at the project site.
- Staff has prepared a CEQA Notice of Categorical Exemption (Motion Item for the January Board Meeting) and is awaiting the Board's approval for filing the Notice of Exemption with the County of Ventura.

13. Piru Stormwater Capture for Groundwater Recharge

- The Ventura County Watershed Protection District (VCWPD) is preparing for the upcoming wet season and will continue to monitor the flow monitoring equipment at the Piru Spreading Grounds. Mr. Scott Meckstroth, the newly appointed VCPWA-Water & Sanitation Deputy Director will coordinate the field monitoring efforts with the Operations Staff.

14. Asset Management
    - On December 10, 2020, Erik Zvirbulis, Robert Richardson and Zachary Plummer met with ESRI to discuss ESRI's Small Utility Enterprise implementation and how ESRI's Enterprise system would communicate with UWCD's data.
    - On December 17, 2020, Erik Zvirbulis and Zachary Plummer met with ESRI Technical representatives to discuss if UWCD's current server specifications would meet the requirements needed to correctly run an ESRI Small Utility Enterprise system.

15. 2020 Urban Water Management Plan
    - On December 4, 2020 Staff submitted to Stantec the requested data to prepare the 2020 Urban Water Management Plan (UWMP).
    - On December 7, 2020 Staff held a progress meeting with Stantec to discuss the initial data request items and additional data request items and refinement needed.
    - Staff will hold a progress meeting with Stantec on January 4, 2021 to discuss the draft UWMP Chapters 1 and 2 prepared by Stantec.

16. Other Topics, Meetings and Training
    - December 2, 2020 - Maryam Bral, Brian Collins, and Ambry Tibay attended a kickoff meeting with CalOES regarding the Hazard Mitigation Grant Program for the OH Backup Generator at the El Rio Booster Plant Project.
    - December 3, 2020 – Staff participated in a Pothole Trailhead Coordination meeting with the United States Forest Service.
    - December 4, 2020 – Staff presented at the Monthly Safety & Security Meeting
    - December 7, 2020 – Engineering met with FERC for the OIF Inspection
    - December 10, 2020 – Maryam Bral met with Melanie Downing of Magellan Advisors, LLC
    - December 14, 2020 – Staff met with Ian Prichard and Jared Bouchard regarding the Conejo Creek Expansion
    - December 15, 2020 – Maryam Bral and Dan Detmer participated in the final core stakeholders group meeting
    - December 15, 2020 – Staff participated in an ASDSO Webinar – Responding to Dam Emergencies
    - December 16, 2020 – Staff held the 2020 Santa Felicia Dam EAP Seminar
    - December 17, 2020 – Craig Morgan and Robert Richardson participated in the City of Oxnard's Utility Coordination Meeting
    - December 17, 2020 – Staff participated in the OPV Core Stakeholders Group Projects Committee meeting.

- December 17, 2020 – Staff visited the Naval Base of Ventura County for the Coastal Brackish Groundwater Treatment Plant Project
- December 18, 2020 – Maryam Bral and Operations met for a job walk of where the OH Backup generator will be installed
- December 22, 2020 – Maryam Bral, Murray McEachron and Bram Sercu attended the Castaic Winter Operations Meeting with the Department of Water Resources Southern Field Division Staff.

Figure 1 – SFD Intake Tower Dive Inspection on December 21, 2020

Figure 2 – Pothole Trailhead Aggregate Base Surfacing and Perimeter Boulders

Figure 3 – Pothole Trailhead Aggregate Base Surfacing and Perimeter Boulders

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager
Anthony Emmert, Assistant General Manager

From: Linda Purpus, Environmental Services Manager

Date: **January 4, 2021 (January 13, 2021 Meeting)**

Agenda Item: **5.3 Monthly Environmental Services Report**
Information Item

Staff Recommendation:
The Board will receive and file this staff report from the Environmental Services Department regarding its activities for the month of December 2020 as well as receive the presentation to the Board supporting this report.

Discussion:

1. Santa Felicia Project Operations and Federal Energy Regulatory Commission (FERC) License Support
   - Water Release Plan
     - Under the Water Release Plan and FERC license for the Santa Felicia Project, United is required to conduct certain water releases from Santa Felicia Dam for steelhead habitat and migration, when specific triggers are met. Triggers for enhanced habitat water releases are based on cumulative rainfall within the water year as recorded at Ventura County Watershed Protection District's rainfall station No. 160, located at Lake Piru. October 1 initiated a new water year, and the minimum required habitat water release through January 1, 2021, is 7 cubic feet per second (cfs).
   - Dissolved Oxygen Monitoring Report
     - On December 17, 2020, United received a letter from the State Water Resource Control Board (State Water Board), approving United's March 31, 2020, proposed measures regarding the Dissolved Oxygen Monitoring Plan for the Santa Felicia Project. Specifically, the State Water Board approved United's proposed focused monitoring protocol, the previously installed modifications to the tailrace, and the use of fountain aerators (if needed) to enhance and monitor the concentration of dissolved oxygen in water released from the Santa Felicia outlet works.

- Santa Felicia Facility and Lake Piru Recreation Area General Maintenance Lake and Streambed Alteration Agreement (LSAA)
  - On December 21, 2020, staff submitted an annual report to the California Department of Fish and Wildlife (CDFW) documenting activities conducted during 2020 under the Santa Felicia Facility and Lake Piru Recreation Area General Maintenance Lake and Streambed Alteration Agreement. These activities included:
    - Vegetation management, hazardous fuels treatment, and noxious weed management
    - Repair and maintenance of roads, parking areas, and launch ramps
    - Culvert and drainage channel maintenance
    - Floating dock maintenance at the Lake Piru Marina
    - Removal of hazardous vegetation and debris from the surface of Lake Piru
- Arroyo Toad Protection Plan and Herpetological Monitoring Plan
  - On December 21, 2020, staff submitted an annual report to FERC, CDFW, National Marine Fisheries Service (NMFS), US Fish and Wildlife Service (USFWS), and the US Forest Service outlining implementation activities conducted between January and December 2020, in accordance with the "Arroyo Toad Protection Plan" and the "Revised Lower Piru Creek Herpetological Monitoring Plan" (Revised Monitoring Plan). United suspended aquatic exotic species management activities in 2020 due to the COVID-19 pandemic and associated State of California Executive Order N-33-20 and County of Ventura Stay Well at Home Order issued on March 19 and 20, 2020, respectively. The report presented information related to ongoing consultation with regulatory agencies related to proposed amendments to the Revised Monitoring Plan.

    With submittal of the annual report, United invited participating regulatory agencies to a follow-up consultation meeting scheduled for early 2021. United intends to discuss previously proposed adaptive management strategies at the meeting, with the goal to maintain focus on the effective elements of the control activities and reduce the level of resources and efforts for elements that have been identified to be less effective at meeting project objectives.
- DWR and LADWP FERC License (No. 2426) - South State Water Hydropower Project (Pyramid Lake)
  - On November 19, 2020, the California Department of Water Resources (DWR) and Los Angeles Department of Water and Power's (LADWP) filed a water quality certification (under section 401 of the Clean Water Act) amendment application for the South State Water Hydropower Project with the State Water Board. The requested amendment would remove monitoring and reporting requirements for two federally listed amphibian species in middle Piru Creek below Pyramid Dam. United is considering assuming the monitoring and reporting activities to support future increases in State Water Project deliveries. Following discussions held in December with USFWS, staff reached out to the US Geological Survey (USGS) Western Ecological Research Center (WERC) in an effort to explore contracting for their services to continue these monitoring and reporting activities.

2. Freeman Diversion Facility Operations
   - In December, staff continued with preparations regarding Freeman operations and monitoring for the upcoming winter season. Staff was successful in identifying and repairing several issues (failed cabling, faulty action rule, database structure/backup errors, faulty network storage drive) with the Freeman video surveillance system. On December 3, Environmental Services hosted an interdepartmental coordination meeting with Hydrology and Operations and Maintenance staffs to review notification, operations, and record keeping protocols.
   - On December 16, 2020, Environmental Services held a department orientation meeting. The purpose of this meeting was to orient recently hired staff (and provide a refresher for existing staff) on Freeman facility operations and monitoring systems with specific focus on the responsibilities of conducting daily facility checks.
   - On December 18, 2020, United executed a contract with Rincon Consultants Inc., for support in pursuing permits and authorizations to facilitate development and implementation of a programmatic approach for sediment management at the Freeman Diversion. Specifically, the applicable laws and regulations that will be addressed in this effort include the California Environmental Quality Act, Clean Water Act, Endangered Species Act (state and federal), and the California Fish and Game Code.
   - On December 18, 2020, staff submitted an annual report to CDFW documenting activities conducted during 2020 under the Freeman Diversion Routine Maintenance Streambed Alteration Agreement. These activities included:
     - Vegetation Control at the Roller Compacted Concrete Dam (RCCD)
     - Vegetation Control Along Rip Rap and Access Areas

3. Multiple Species Habitat Conservation Plan (MSHCP)
   - Staff continued to coordinate with NMFS and CDFW to schedule the first in a series of technical working group meetings to resolve outstanding issues and comments on the MSHCP. To date, NMFS and CDFW have not committed to the first meeting, with both agencies citing the need to coordinate internally prior to committing to the meetings. NMFS issued a letter to United on December 19, 2020, addressing some of the outstanding questions posed by United regarding the legal basis under which the MSHCP will be evaluated. Further coordination with both agencies will be necessary.
   - On December 2, 2020, United executed a contract with GEI Consultants Inc. (GEI) to complete CEQA and permitting services in support of the geotechnical investigations for the fish passage facility engineering design. GEI is also developing the geotechnical investigation workplan, which will facilitate a streamlined design, permitting, and implementation process. A project kick-off meeting was held on December 10, 2020, and GEI is currently preparing the overall project description for the workplan and CEQA analysis.
   - On December 21, 2020, United executed a contract with Rincon Consultants for continued support on the development and refinement of the MSHCP through the end of the 20-21 fiscal year. Services anticipated to be necessary include the updates to the MSHCP following ongoing coordination and meetings with NMFS and CDFW.

4. Quagga Mussel Management
   - Monitoring
     - Environmental Services staff continues to conduct routine monitoring under the Quagga Mussel Monitoring and Control Plan (Plan) comprising: monthly water quality sampling; monthly veliger (microscopic planktonic larvae) sampling; monthly artificial substrate sampling in Lake Piru (plate sampling); and natural substrate sampling in Piru Creek (surface surveys). Surface surveys were also performed at locations accessed through Rancho Temescal property.
     - Staff continues to implement the Lower System Quagga Mussel Veliger Monitoring Program. Specifically, staff conducts monitoring activities in the lower water delivery system, including the Pleasant Valley (PV) and Pumping Trough Pipeline (PTP) reservoirs. All data collected under the quagga mussel monitoring program are being compiled and evaluated and will be summarized in the 2020 annual report.
     - As outlined in the Plan, United contracts scientific divers to mechanically scrape adult quagga mussels from infrastructure in Lake Piru. In June 2020, staff (Environmental Services and Recreation) collaborated with the scientific divers to establish supplemental veliger monitoring activities in Lake Piru. Starting June 2020 and extending throughout the conservation release, the scientific divers conducted horizontal veliger tows at three depths in Lake Piru and collected additional water quality data. This analysis is intended to evaluate impacts on veliger populations within the lake associated with changes in water surface elevation. Results will be evaluated and presented in the 2020 annual report.

5. Miscellaneous
   - On December 8, 2020, staff consulted with a representative from the U.S. Army Corps of Engineers to discuss the presence of least Bell's vireo in the vicinity of Lake Piru and the Santa Felicia facilities. In spring of 2020, individuals of this species were observed in areas where United conducts maintenance activities and provides recreational activities. The purpose of the consultation was to discuss the mechanism for initiating consultation under section 7 of the Endangered Species Act for the purpose of obtaining incidental take coverage for future activities.
   - On December 17, 2020, Tessa Lenz accompanied Maryam Bral and Engineering staff on a site visit to Ventura Point Mugu Naval Base to support design and environmental assessment of the Coastal Brackish Groundwater Treatment Plant Project.

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager
Brian Collins, Operations and Maintenance Manager

From: John Carman, Programs Supervisor

Date: **December 23, 2020 (January 13, 2020 Meeting)**

Agenda Item: **5.4 Monthly Operations and Maintenance Department Report**
Information Item

Staff Recommendation:
The Board will receive and file this staff report from the Operations and Maintenance department regarding its activities for the month of December.

1. Water Releases, Diversions and Deliveries
   - Lake Piru dropped 0.07 feet in December to 15,043 acre-feet (AF) of storage.
   - 1477 AF of water was diverted by the Freeman Diversion facility in December.
   - 0 AF of water was diverted to the Saticoy recharge basins in December.
   - 435 AF of surface water was delivered to the El Rio recharge basins in December.
   - 483 AF of surface water was delivered to the PTP system in December.
   - 0 AF of surface water was delivered to Pleasant Valley County Water District in December.

2. Major Facilities Update
   - **Santa Felicia Dam**
     - Lake Piru dropped 0.07 feet December 1, 2020 through January 1, 2021, to 15,043 AF of storage.
     - On January 1, 2020 the lake level was 77.1 feet below the spillway lip.
     - On January 1, 2021, the cumulative rainfall measured at rain station 160 was 1.57 inches which does not exceed the 4.8 inch trigger; habitat water releases from Santa Felicia Dam (SFD) were maintained at 7.5 cubic feet per second (cfs), for the month of December, as per the Water Release and Ramping Rate Implementation Plan for lower Piru Creek.
     - On December 7, 2020, Staff conducted a Federal Energy Regulatory Commission (F.E.R.C.) Owner inspection Form (OIF) inspection, which was performed virtually.
     - On December 21, 2020 staff assisted contractor Dive/Corr with an intake tower sediment inspection.

- **Freeman Diversion, Saticoy, and El Rio Recharge Facilities**
  - Flows at the Freeman Diversion averaged 24 cfs for the month of December, with 39 cfs of surface water being diverted on January 1, 2021.
  - During the month of December, 0 AF of surface water deliveries were made to the Saticoy Recharge Facility.
  - During the month of December, 435 AF of surface water deliveries were made to the El Rio Recharge Facility.
  - On December 21, 2020, a Ventura County Conditional Use Permit inspection was performed at Saticoy Shop.
  - A 6900 gallon poly tank was received and installed at Freeman Diversion for the auxiliary screen fresh water supply which will be utilized during winter storms.
  - In response to recent trespassing and trash dumping concerns, staff installed No Trespassing signs along Saticoy Avenue.
  - Static water levels (distance of water from the well pad to the water table):

	2020	2019	2018
Saticoy	115.2'	123.4'	149.2'
El Rio	119.8'	127.16'	153.81'
PTP	110' - 149'	118' - 153'	125' - 169'

- **Noble/Rose/Ferro Basins**
  - 0 AF of surface water was delivered to the Noble & Rose basins during December.

- **Oxnard-Hueneme (OH) Delivery System**
  - Staff installed a temporary aqueous ammonia feed line from Disinfection Facility to injection vault and performed flow and pressure tests.
  - District staff performed backflow device testing for Vineyard Avenue Acres Mutual.
  - El Rio staff changed oil filters on all emergency booster pump natural gas engines.

- **Pleasant Valley County Water District (PVCWD)**
  - During the month of December PVCWD received 0 AF of surface water from United and PVCWD continued to receive surface water from the Conejo Creek Project and also received some highly treated recycled water from the City of Oxnard's Advanced Water Purification Facility (AWPF).
  - District staff shipped the PV flow meter to the manufacturer to be rebuilt, flow tested and calibrated.

- **Pumping Trough Pipeline (PTP)**
  - During the month of December, the majority of the PTP system demand was met with surface water deliveries from the Freeman Diversion facility and was supplemented with PTP wells, as needed during peak demands.
  - Staff installed new speed control solenoid for the PTP reservoir booster pump Cla-Valve.

- Staff shipped PTP vertical up flow meters to the manufacturer to be rebuilt, flow tested and calibrated.

- **Instrumentation**
  - Instrumentation staff and contractor Diener Electric are working together to install security intrusion alarm switches for new PTP well site emergency generators.
  - On December 9, 2020 District staff replaced OH 17 soft start drive.
  - Staff diagnosed and repaired Piru Water Treatment Plant, second stage backwash valve.
  - Instrumentation staff installed level transducers at the PV reservoir and Freeman auxiliary water tank.

- **Lake Piru Water System**
  - All chlorine residuals and turbidity readings for the drinking water system were within proper ranges for the month of December.
  - Monthly pH, turbidity and coliform samples were obtained for Lake Piru, as part of the Long Term 2 Enhanced Surface Water Treatment Rule compliance monitoring.

3. Operations and Maintenance Projects Update
   - Engineering and Operations staff continue with the planning, design, permitting and purchase of the FEMA OES grant funded El Rio Facility Wellfield emergency generator.

4. Other Operations and Maintenance Activities
   - The Santa Felicia Dam Emergency Action Plan sirens located in Piru were exercised on December 4, 2020.
   - On December 16, 2020 staff attended the Santa Paula Chamber of Commerce board meeting remotely.
   - The monthly inspection of Santa Felicia Dam was performed.
   - Monthly bacteria samples were obtained for the PTP system.
   - Freeman storage garage siding repairs were performed.
   - Monthly meter readings were obtained for the OH, PTP, and PV Pipelines.
   - Completed and electronically transmitted the monthly OH Pipeline report to the State Water Resources Control Board Division of Drinking Water.
   - Static water levels were obtained for all El Rio, Saticoy, and PTP wells.
   - Weed abatement continued throughout the District.
   - Action priority update biweekly meetings for operations staff were continued.

5. Safety and Training
   - During the month of December approximately 3,100 hours of work, within the O & M department, were performed with no reportable accidents. The YTD safety record is 1 recordable injury.
   - Two separate safety meetings were conducted on December 17th & 18th, utilizing the Microsoft Teams application, to maintain social distancing practices and to accommodate the separately scheduled teams. Two videos were provided to staff entitled *Atlantic*

Physical Therapy Center: "Proper Lifting Techniques & ASC Process Systems" and "Workplace Ergonomics." An AWWA safety handout entitled "*Be Kind to Your Body: Stretch before Working"* was also briefed to staff. The primary objective was to provide awareness and share ergonomic best practices with staff, with the emphasis on prevention to minimize the likelihood of acute and chronic injuries.

- Tailgate safety meetings were conducted at all individual O&M field locations and the topics included refresher training on equipment used at the various O&M locations. The online Target Safety assignment for December was "*Water Industry: Industrial Ergonomics".*
- On December 15, 2020, staff attended ASDSO webinar "*Responding to Dam Emergencies."*
- On December 16, 2020, staff participated in Santa Felicia Dam EAP annual seminar.

Attachments: A - Operations Log for December

OPERATIONS LOG

DATE	SANTA FELICIA DAM								FREEMAN DIVERSION**					RECHARGE					IRRIGATION						O-H	
	SFD El.	Stor.	Surface	Evap.	Inflow Balance	Outflow USGS	Hydro	Rain 106E	River	Diverted	Fish*** Facility	Bypass Channel	Crest	El Rio	Saticoy Facility		Noble/ Rose	Piru	T.I.D.	P.T.P.	PVCWD		L.P.	Saticoy Wells	Total	Cl2
	Ft.	A/F	Acres	Inches	Av. CFS	Av. CFS	Kw	Inches	Av. CFS	Av. CFS	Av. CFS	Av. CFS	Av. CFS	Av. CFS	Misc CFS†	Weir CFS	Av. CFS	Av. CFS	A/F	A/F	A/F	%	A/F	A/F	A/F	Lbs.
A/F*		15072			1,625	11,232		0.16	7,902	7,721	0	181		4,521	977		0	0.0	2,223	1,231	1,004		0.0	0	2,799	21,916
12/1/20	977.99	15077	487.80	0.138	11	7.5	0	0.00	22	22	0	0	0	10.57	-1	0	0	0.0	23.6	24.8	0.0	0.00	0.0	0.0	47.9	372
12/2/20	978.01	15087	488.00	0.124	14	7.53	0	0.00	21	21	0	0	0	7.83	4	0	0	0.0	17.5	20.1	0.0	0.00	0.0	0.0	45.8	366
12/3/20	978.01	15087	488.00	0.207	10	7.56	0	0.00	18	18	0	0	0	9.16	0	0	0	0.0	18.5	20.7	0.0	0.00	0.0	0.0	47.1	385
12/4/20	977.82	14994	486.60	0.188	-37	7.55	0	0.00	21	21	0	0	0	0	10	0	0	0.0	21.2	24.2	0.0	0.00	0.0	0.0	41.6	362
12/5/20	977.99	15077	487.80	0.131	51	7.55	0	0.00	20	20	0	0	0	8.76	3	0	0	0.0	17.1	19.5	0.0	0.00	0.0	0.0	37.8	296
12/6/20	977.98	15072	487.70	0.112	6	7.53	0	0.00	20	20	0	0	0	11.81	6	0	0	0.0	4.2	4.7	0.0	0.00	0.0	0.0	31.2	250
12/7/20	977.96	15062	487.60	0.108	4	7.53	0	0.00	22	22	0	0	0	10.39	3	0	0	0.0	17.1	20.0	0.0	0.00	0.0	0.0	36.5	295
12/8/20	977.97	15067	487.70	0.186	12	7.53	0	0.00	21	21	0	0	0	8.97	1	0	0	0.0	22.9	25.6	0.0	0.00	0.0	0.0	40.3	326
12/9/20	977.96	15062	487.60	0.157	7	7.53	0	0.00	20	20	0	0	0	9.42	2	0	0	0.0	15.6	16.7	0.0	0.00	0.0	0.0	36.9	304
12/10/20	977.95	15057	487.50	0.133	6	7.53	0	0.00	20	20	0	0	0	11.91	1	0	0	0.0	14.2	14.2	0.0	0.00	0.0	0.0	34.8	299
12/11/20	977.94	15053	487.50	0.068	6	7.53	0	0.00	18	18	0	0	0	9.02	0	0	0	0.0	19.1	20.4	0.0	0.00	0.0	0.0	35.7	282
12/12/20	977.89	15028	487.10	0.078	-4	7.51	0	0.00	18	18	0	0	0	1.12	9	0	0	0.0	15.6	17.5	0.0	0.00	0.0	0.0	32.1	255
12/13/20	977.93	15048	487.40	0.104	19	7.5	0	0.00	19	19	0	0	0	12.56	6	0	0	0.0	1.5	1.7	0.0	0.00	0.0	0.0	29.8	226
12/14/20	977.93	15048	487.40	0.095	9	7.56	0	0.00	21	21	0	0	0	12.35	0	0	0	0.0	17.9	19.1	0.0	0.00	0.0	0.0	34.5	263
12/15/20	977.91	15038	487.20	0.162	4	7.54	0	0.00	19	19	0	0	0	11.13	0	0	0	0.0	15.5	17.0	0.0	0.00	0.0	0.0	34.1	286
12/16/20	977.89	15028	487.10	0.118	4	7.53	0	0.00	19	19	0	0	0	0	8	0	0	0.0	22.0	23.4	0.0	0.00	0.0	0.0	39.2	304
12/17/20	977.90	15033	487.20	0.091	11	7.54	0	0.00	19	19	0	0	0	5.12	4	0	0	0.0	18.5	21.0	0.0	0.00	0.0	0.0	31.8	255
12/18/20	977.89	15028	487.10	0.107	6	7.52	0	0.00	17	17	0	0	0	5.97	3	0	0	0.0	15.6	18.3	0.0	0.00	0.0	0.0	35.7	269
12/19/20	977.88	15023	487.00	0.122	6	7.52	0	0.00	16	16	0	0	0	1.9	6	0	0	0.0	15.6	18.0	0.0	0.00	0.0	0.0	35.2	282
12/20/20	977.87	15018	486.90	0.116	6	7.52	0	0.00	18	18	0	0	0	11.49	4	0	0	0.0	6.2	7.5	0.0	0.00	0.0	0.0	29.0	235
12/21/20	977.86	15014	486.90	0.116	7	7.57	0	0.00	21	21	0	0	0	10.85	-2	0	0	0.0	23.0	24.9	0.0	0.00	0.0	0.0	35.0	286
12/22/20	977.79	14980	486.40	0.109	-8	7.61	0	0.00	19	19	0	0	0	1.36	6	0	0	0.0	21.5	21.8	0.0	0.00	0.0	0.0	33.3	277
12/23/20	977.79	14980	486.40	0.084	8	7.55	0	0.00	18	18	0	0	0	0	9	0	0	0.0	18.4	22.0	0.0	0.00	0.0	0.0	34.3	268
12/24/20	977.77	14970	486.20	0.199	5	7.54	0	0.00	18	18	0	0	0	0.01	8	0	0	0.0	18.5	19.0	0.0	0.00	0.0	0.0	32.8	273
12/25/20	977.76	14965	486.10	0.100	6	7.54	0	0.00	20	20	0	0	0	13.23	6	0	0	0.0	1.0	1.2	0.0	0.00	0.0	0.0	27.0	214
12/26/20	977.75	14960	486.10	0.081	6	7.53	0	0.00	24	24	0	0	0	12.53	3	0	0	0.0	16.3	17.8	0.0	0.00	0.0	0.0	31.6	243
12/27/20	977.74	14955	486.00	0.080	6	7.52	0	0.00	26	26	0	0	0	15.15	6	0	0	0.0	9.1	10.3	0.0	0.00	0.0	0.0	27.5	217
12/28/20	977.80	14984	486.40	0.080	23	7.58	0	0.65	54	54	0.2	0	0	26.58	27	0	0	0.0	1.4	1.5	0.0	0.00	0.0	0.0	26.4	199
12/29/20	977.90	15033	487.20	0.051	33	7.6	0	0.92	64	61	2.6	0	0	16.36	44	0	0	0.0	2.1	2.5	0.0	0.00	0.0	0.0	24.7	218
12/30/20	977.91	15038	487.20	0.069	11	7.58	0	0.00	51	51	0	0	0	29.76	17	0	0	0.0	7.0	7.7	0.0	0.00	0.0	0.0	25.2	217
12/31/20	977.92	15043	487.30	0.110	11	7.57	0	0.00	46	46	0	0	0	34.64	8	0	0	0.0	7.6	8.6	0.0	0.00	0.0	0.0	27.8	229
TOTAL CFS					256	234		1.57	749	746	3	0	0	320	201	0	0	0.0								
AVERAGE CFS					8	8			24	24	0	0	0	10	6	0	0	0.0								
TOTAL A/F					507	463			1483	1477	6	0	0	634	398	0	0	0.0	445	492	0		0	0.0	1063	8553
MONTHLY REVENUE TO DATE (approx.)							$0	K																		
AVERAGE A/F					16	15			48	48	0	0	0	20	13	0	0	0.0	14	16	0	0%	0	0.0	34	276
WATER YEAR TOTALS A/F					2,132	11,695		1.73	9,385	9,198	6	181	0	5,155	1,375		0	0.0	2,668	1,723	1,004		0	0	3,862	30,469

* Input total A/F previous month

** Daily averages imported from Ranch Systems

*** Fish facility flows include Denil fishladder, aux pipe and smolt bypass pipe

† Includes Ponds A, C, E, and I overflows, temporary storage in the desilting basin and Pond B, JLB diversions, losses between meters. Negatives mean prior storage from pond B or desilting basin is discharging to other metered sources.

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager

From: Clayton W. Strahan, Chief Park Ranger

Date: **December 27, 2020 (January 13, 2021 Meeting)**

Agenda Item: **5.5 Monthly Park and Recreation Department Report**
Information item

Staff Recommendation:
The Board will receive and file this summary report from the Recreation Department regarding its activities for the month of December.

Discussion:
If there was one consistent factor throughout 2020 at the Lake Piru Recreation Area, it would be the near-constant changes that occurred in our operations of the Recreation Area throughout the COVID-19 pandemic period. December brought new challenges related to state guidance on campground closures and resulted in a continued high workload throughout the month. On December 6, a regional stay-at-home order went into effect, shuttering some aspects of operations in the Recreation Area. Fortunately, day use could continue, but the campground and store were forced to close under the new order. Despite the order, visitation remained higher than normal for this period of year and guests seemed eager and excited to have the opportunity to be out at the lake.

During December, the staff handled various projects outside their typical duties, including assisting in several IT-related projects for the District assigned by the Human Resources and Risk Manager as well as installing multiple "No Trespassing" signs on District property in Saticoy. Additionally, a significant amount of staff time was spent on a full day trash clearing project on District property in Saticoy. This effort resulted in us filling up a 25-yard dumpster with couches, drainpipes, mattresses, tires, and household trash. As December concluded, significant time planning for the upcoming year ahead which will bring about significant changes. For the past several months, staff engaged in negotiations with Parks Management Company regarding an updated concessionaire agreement. Unfortunately, we ultimately could not reach an agreement beneficial to both sides and a decision was made to staff the campground operations and handle maintenance issues directly moving forward while making provisions to find a concessionaire interested in our Marina operations and the storefront operations. In our estimation, this provides the District with new opportunities to maximize efficiencies, revisit Recreation Area standard operations and staffing levels, and dramatically enhance technology use to improve operations in coming year through smart and practical technology enhancements.

1. Tasks and Activities
   - December 1, 2: Staff completed monthly meter readings, bacteria sampling, and water system reporting.
   - December 2, 3: Staff removed, and stored signage related to the Splash Dash 5K Run.
   - December 3, 10: Staff arranged for repair of IT infrastructure at the Santa Felicia Dam.
   - December 5: Staff facilitated repair of one of the patrol boats to ensure continued readiness for emergencies and maintenance needs.
   - December 5, 6: Staff completed preparatory activities related to ongoing maintenance and security efforts on District property in the Saticoy area.
   - December 6: Staff assisted ranchers in the capture of several cows and bulls, which had made their way onto District property from the east side of the lake.
   - December 9: Staff completed research for an IT project at the main office to assist IT staff.
   - December 9, 10: Staff removed dead trees from the Group 2 campground.
   - December 10: Staff worked together with Engineering in an ongoing effort to repair broken timbers in the roof of the Dog Park restroom.
   - December 11: Staff worked in partnership with Saticoy O&M staff to install 9 "No Trespassing" signs at District property in Saticoy west of the Freeman Diversion.
   - December 13, 20, 22: Staff completed repairs and maintenance at the water treatment plant in partnership with Santa Felicia Dam Operations and Maintenance staff.
   - December 17: Staff spent a full day on District property in Saticoy cleaning up large quantities of trash to reduce the attraction of the area for illegal camping and reduce the environmental impact resulting from trash runoff into the Santa Clara River.
   - December 20: Staff worked to remove a large quantity of trash which had been left along the shoreline in the Bobcat Cove area of the lake.
   - December 21: Staff transported contract divers and conducted safety patrols while the divers were inspecting portions of the intake tower of the Santa Felicia Dam.
   - December 1-27: Staff completed significant research, planning and administrative work related to ongoing organizational changes at the Recreation Area. This included evaluating landscaping needs, researching point of sale and reservation software, evaluating staffing needs, seeking equipment proposals and discussing alternative operational plans.

2. Training/Meetings/Events
   - December 2: Staff participated in the monthly District-wide safety meeting.
   - December 3: Recreation Staff participated in a meeting with staff from the Engineering and Environmental Services departments as well as members of the U.S. Forest Service regarding the ongoing installation of a parking lot and restroom at the Pothole Trailhead.
   - December 4: Recreation staff met with Engineering staff to coordinate possible replacement of the irrigation system in the Day Use area.
   - December 8: Staff completed mandatory respirator fit testing.
   - December 9: Staff completed regular policy training and daily training bulletins.
   - December 10, 16, 29: Staff participated in regular staff meetings to plan for future changes at the Recreation Area and share information.
   - December 16: Staff participated in Emergency Action Plan training for the Santa Felicia Dam hosted by the Engineering team, with many participants from other federal, state, and local partners.

- December 23: Staff completed pesticide spraying & safety training from a District contractor to enable safe and effective weed control in the coming months.
- December: During the month of December staff attended and or hosted approximately eight (8) meetings with PMC and or other District personnel to advance the ongoing operating agreement negotiations with the District's onsite concessions service, PMC.

3. Revenue & Visitation Recap

2020 Revenue Recap & Comparison	
2019 Calendar Year (Jan.-Oct.)	$1,021,413.07
2020 Calendar Year (Jan.-Oct.)	$ 390,983.84
Total Revenue Increase/Decrease from Prior Year	**-$630,429.23**

Revenue has been impacted by the park closure order due to COVID-19

2020 Total Visitation Figures				
Month	**# Nights/Sites**	**# People**	**# Vehicles**	**# Vessels**
January	127	739	339	26
February	197	1253	556	130
March	117	893	387	68
April	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	720	4307	1688	243
August	171	3478	1421	415
September	686	7781	3109	760
October	618	6474	2591	635
November	626	4700	1866	273
December				
TOTAL	**3262**	**30713**	**11957**	**2550**

**** Revenue figures for the month of December will not be provided to the District until January 20. Both visitation and financial reporting are typically 30 days in arears. Staff will report this data at the time of the next regularly scheduled board meeting in February. Additionally, revenue figures for the month of November have not yet been delivered by PMC staff, and therefore there is no update available. ****

4. Incidents/Arrests/Medicals

- There were 3 incidents of note during the month of December. They are listed as follows:
  - On December 2, 2020, Rangers responded to a report of a suspicious vehicle abandoned on the East Road east of the Santa Felicia Dam. Ultimately, Rangers determined that the vehicle belonged to an employee of Rancho Temescal, who was in the area working.
  - On December 15, 2020, Rangers met with Officers from the Ventura Police Department and conducted a foot patrol of District property in the Saticoy area. During the

patrol, Rangers and Officers contacted one individual who was illegally camping on District property, advised him of the violation, and offered him services to assist him in improving his living situation and vacating the property.

- On December 20, 2020, Rangers were completing a vehicle patrol of the Recreation Area after hours when they observed a vehicle with a day use permit left in the marina parking lot. Rangers searched the area on foot and by boat to locate the overdue party. Rangers ultimately located the party on the shoreline approximately 0.6 miles south of the parking area and assisted them in their return to the vehicle. It was the guest's first time to the lake and they had difficulty navigating the shoreline in the dark.

5. Citations/Enforcement Summary
   - On December 20, 2020, Rangers contacted numerous individuals who were fishing on the western shoreline of the lake in the area of Bobcat Cove and had not paid the entry fee. In total, Rangers issued 16 warnings to these individuals in an ongoing effort to better enforce District ordinances in this area.

6. Grants
   - Staff is continuing to actively monitor and evaluate all available grant opportunities.

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager

From: Maryam Bral, Chief Engineer
Dan Detmer, Supervising Hydrogeologist

Date: **January 5, 2021 (January 13, 2021, meeting)**

Agenda Item: **5.6 Monthly Water Resources Department Report**
Information Item

Staff Recommendation:
The Board will receive and file this summary report from the Water Resources Department regarding activities for the month of December 2020.

Discussion:

As noted in our previous staff reports, the majority of staff continue to work from home and communicate via teleconferencing during the Covid-19 pandemic.

Staff Activities

In addition to the Department's routine, ongoing groundwater monitoring and reporting program and its support of Groundwater Sustainability Agencies (summarized in a separate staff report), notable efforts and activities conducted by staff during the past month included the following:

- Groundwater modeling:
  - Staff has expanded the active domain of United's numerical groundwater flow model to incorporate the Piru, Fillmore and Santa Paula basins. The model was calibrated through 2015 and validated through the 2016-2019 period. Now that the expanded model has been validated, staff are preparing model documentation and applying the model for a number of urgent tasks, as described below and in the SGMA update staff report.
  - Staff has worked with Ventura County Watershed Protection District staff to use their existing HSPF surface water flow model to simulate runoff from the upper Santa Clara River watershed for future model runs in support of area Groundwater Sustainability Agencies.

  - Staff has completed the work required to apply climate change factors to historical streamflow records, as required to simulated future hydrology for the local GSAs.

- Staff continue to help the Environmental Services Department (ESD) evaluate effects of existing and potential future surface-water flow conditions at the Freeman Diversion.
  - Staff are assisting ESD in evaluating fish passage modifications under consideration for United's Habitat Conservation Plan (HCP).
- Staff continue to assist with planning and coordination for release of Table A water and supplemental State Water Project water acquired from the Santa Clarita Valley Water Agency and the City of San Buenaventura.
- Staff has entered available lithologic information from wells in the Mugu area into a RockWorks database and has constructed cross-sections in order to map the continuity of confining units in the vicinity of the proposed Coastal Brackish Treatment Project. Staff participated in a site visit on December 17.
- Staff are analyzing sediment load at the Freeman Diversion and removal options for accumulated sediment from the desilting basin.
- Staff continue to support the Engineering Department with development and design of water-supply projects within the District's service area. This month, United staff (together with staff from the Pleasant Valley Water Conservation District, Camrosa Water District, and City of Camarillo) began considering a potential new water-supply project proposed by Camrosa Water District for maximizing use of Conejo Creek water (potentially yielding 2,500 acre-feet per year).
- Field staff completed the monthly monitoring run for groundwater elevations and sampling of the coastal monitoring wells.
- Staff led or participated in the following public outreach activities:
  - A presentation of the history of steelhead and related impacts on water resources management activities to the Ventura County Special Districts Association
- Staff participated in the Castaic Winter Operations meeting on December 22, 2020. The Department of Water Resources Southern Field Division Staff discussed the Castaic Reservoir operations mode and the current field investigations at Castaic.

United Water CONSERVATION DISTRICT

Staff Report

To: **UWCD Board of Directors**

Through: Mauricio E. Guardado, Jr., General Manager

From: Maryam Bral, Chief Engineer
Dan Detmer, Supervising Hydrogeologist

Date: **January 5, 2021 (January 13, 2021, meeting)**

Agenda Item: **5.7 Update on Groundwater Sustainability Agencies (GSAs) and Sustainable Groundwater Management Act (SGMA)**
Information Item

Staff Recommendation:
The Board will receive and file this summary report from the Water Resources Department regarding GSA activities for the month of December 2020.

Discussion:

Fox Canyon Groundwater Management Agency (FCGMA)
Staff continue to monitor and, where appropriate, participate in the FCGMA's groundwater sustainability planning and implementation efforts in the Oxnard, Pleasant Valley, and Las Posas Valley (western management area) basins, as follows:

Board of Directors meetings – The FCGMA Board held a regular meeting online on December 2. Notable topics included:

- The Board considered executing a contract modification with consultant Jarvis Fay & Gibson to provide legal and consulting services related to development and implementation of groundwater augmentation fees. Following discussion, the Board asked staff for more information regarding the scope of services under consideration and their cost.
- The Board adopted the staff-proposed 2021 schedule for regular meetings and committee meetings. However, they postponed a decision on the 2021 schedule for special meetings until a future meeting.
- The Board ratified a contract with consultant CBI to continue supporting the Oxnard and Pleasant Valley (OPV) facilitation process through December 2020 for future groundwater pumping from the basins.

- The Board adopted Resolution 2020-07, increasing the tiered groundwater extraction surcharge rates for pumping in excess of allocations to align with new Calleguas Municipal Water District rate increases.

The FCGMA held a special Board meeting on December 14. Notable topics included:

- The Board adopted a revised schedule proposed by staff for holding 2021's special meetings on the second Monday of each month (in the afternoon).
- The Board again considered executing a contract modification with consultant Jarvis Fay & Gibson to provide legal and consulting services related to development and implementation of groundwater augmentation fees and the required rate studies to satisfy Prop 26 and Prop 218 requirements. Following discussion, the Board directed staff to return this item at a later date with more detail regarding phases of work and options for Board review following each phase.
- The Board authorized the Executive Officer to execute a contract with a consultant (Farallon Geographics, Inc.) to analyze the FCGMA's existing data management system and provide recommendations for solutions capable of supporting the FCGMA's automated metering infrastructure (AMI), water-market allocations, monthly extraction data, and intent to transition to land-based allocations.
- The Board held a public hearing and adopted an ordinance to establish a new pumping allocation for the Las Posas Valley Basin.
- The Board determined that an ordinance to adjust extraction allocations for agricultural operators in the Las Posas Valley Basin to facilitate a transition from calendar year to water year reporting was no longer relevant, given changes to the allocation ordinance for Las Posas Valley Basin adopted earlier in this meeting. Therefore, a public hearing for this proposed ordinance was not held.
- The Board directed staff to continue discussions with the OPV Core Stakeholder Group after the FCGMA's contract with facilitation consultant CBI concludes (in December 2020), establish regular meetings with the stakeholder group, and allowing staff to propose contracting for administrative support services as needed.

The next regular FCGMA Board meeting is scheduled for January 27 at 1:30 pm.

OPV Core Stakeholder Group meetings –

The OPV Core Stakeholder Group held teleconferences on December 1 and 15. The main topics of discussion at the December 1 meeting were:

- Potential replenishment fee structures (for purchasing supplemental water or building new water-supply projects)
- Extraction-allocation ramp down options

- Refining the definition of the "One Water" concept for the purpose of quantifying future allocations.

The main topics of discussion at the December 15 meeting were:

- Finalizing recommendations for initial evaluation (modeling) of potential future water-supply projects that could increase sustainable yield of the OPV basins and/or provide additional supplies to the region.
- Further development of a proposal by the OPV Stakeholders for establishing replenishment fees to pay for potential supplemental water supplies and basin yield enhancements.

The Projects Committee of the OPV Core Stakeholder Group held virtual meetings on December 3 and 17. The main topics of discussion at these meetings were better defining the set of projects and optimization measures that the Committee would recommend for advancement to the main OPV Stakeholders group and considering new water-supply/optimization project proposals recently brought forward by some of the Committee members.

Selected United staff and counsel also attended the December 9 meeting of the Legal *Ad Hoc* Committee of the OPV Core Stakeholder Group. Discussions by this committee are subject to a non-disclosure agreement.

Fillmore and Piru Basins Groundwater Sustainability Agency (FPBGSA)

Staff continue to participate in FPBGSA activities supporting SGMA compliance and GSP preparation for the Fillmore and Piru basins, as follows:

Board of Directors meetings – The FPBGSA held a regular Board meeting on December 17 at 5:00 pm. Notable topics included:

- A discussion about late fees for pump charges for various parties. Staff was directed to propose a policy that would allow staff some discretion to waive fees below some threshold value.
- A report from Daniel B. Stephens & Associates on development of the draft Sustainable Groundwater Management Criteria. Discussion centered on whether the potential dewatering of shallow wells in some parts of the basin might be considered "reasonable," as well as observations and simulations of surface water/groundwater interaction at the basin boundaries.
- A brief update from Daniel B. Stephens & Associates on progress related to the Monitoring Well Project.

Communication and Outreach – A third Stakeholder Workshop was held on December 9 to discuss historical and current water budgets for the basins. Dr. Jason Sun presented an update on United's groundwater model, including expert panel review, input parameters, and model validation.

GSP preparation – Consultant DBS&A have reported progress on various work products in support of GSP development and noted the availability of a web-based data management and mapping system that includes well construction information and available water level and water quality records for wells within the Piru and Fillmore basins.

Modeling – Staff have completed the hydrostratigraphic conceptual model for the Santa Paula, Fillmore, and Piru basins, and have completed calibration of the active domain of United's numerical groundwater flow model for the base period years 1985-2015. Staff has completed a model update for the years 2016-2019 and performed a model validation exercise. Staff has worked with Ventura County Watershed Protection District staff to use their existing HSPF surface water flow model to simulate runoff from the upper Santa Clara River watershed for future model runs in support of area Groundwater Sustainability Agencies. Staff has completed the work required to apply climate change factors to historical streamflow records, as required to simulated future hydrology in the study area. The initial future run applying 2070 climate change factors has been completed and the preliminary results are being evaluated by staff.

Mound Basin Groundwater Sustainability Agency (MBGSA)

Staff continue to participate in MBGSA activities supporting SGMA compliance and GSP development for the Mound basin, as follows:

Board of Directors meetings –

The MBGSA Board held a regular meeting on December 17. Notable topics of discussion included:

- The Board received a status update from Executive Director Bryan Bondy on GSP development and schedule.
- The Board discussed options for establishing sustainable management criteria (minimum thresholds and measurable objectives) for the water quality sustainability indicator.

GSP preparation – United staff continue to compile and review data to support preparation of the Mound basin GSP, in general accordance with United's agreement with the MBGSA. United is currently modeling potential future groundwater levels and flows in Mound Basin, and developing draft text, tables, and figures in support of the water-budget section of the GSP.

Santa Paula Basin Technical Advisory Committee (TAC)

Staff continue to participate in the Santa Paula basin TAC in support of the Santa Paula Basin Judgment and in conformance with SGMA reporting requirements for adjudicated basins, as follows:

- Staff are preparing a draft version of the Santa Paula Basin Annual Report for 2020.

- The TAC meeting scheduled for June 2020 has been postponed; a specific date and time have not been selected yet. It is anticipated that the Technical Working Group of the TAC will meet prior to the next TAC meeting, to discuss the current status of United's groundwater flow model expansion and how the effectiveness of the proposed yield-enhancement measures might be forecasted using the model. The Technical Working Group is also expected to discuss the "Triggers" proposal/memorandum at an upcoming meeting.

Los Angeles Times

January 3, 2021

Column: Wall Street can now bet on the price of California water. Watch out

By Michael HiltzikBusiness Columnist

Wall Street's reputation as one of America's premier innovation machines can only be enhanced by a new futures contract that began trading publicly on Dec. 7. It allows investors to bet on the price of water in California.

Those who take the gamble are effectively betting that the spot price for water will rise during the life of the contract; they'll pocket the difference. Sellers are betting that the price will fall.

People have tried to make money off the physical water market in California and lost their shirts. It's a hard market to come into from the outside and take over.

Ellen Hanak, Public Policy Institute of California

The new commodities contract has inspired not a few projections of a "Mad Max" dystopia in which precious resources become the objects of violent tribal battles.

The United Nations raised a similar concern, through Pedro Arrojo-Agudo, its expert on water and human rights.

"I am very concerned that water is now being treated as gold, oil and other commodities that are traded on Wall Street futures markets," Arrojo-Agudo said.

Let's try to put this in perspective. The futures market that opened for trading on Dec. 7 isn't a harbinger of savage bloodletting over dwindling water supplies.

In fact, there's reason to question whether the market will work anywhere on Earth outside of California, where billions of dollars' worth of agricultural production competes with burgeoning residential development, industrial demand and environmental needs for increasingly doubtful water supply.

"The hysteria is ill-founded," says Lance Coogan, CEO of Veles Water, the London financial firm that created the investment index on which the futures contract is based and designed the contract, which is traded through the Chicago-based CME Group.

“This is doing good,” Coogan told me, explaining that the contract’s purpose is to give farmers and other major users a way to limit their exposure to price increases. “If you’re an almond farmer and you’ve been ravaged by three droughts over the last decade, to be able to hedge your price is something you want.”

Coogan is right, as far as that goes. But it’s proper to observe that the contract wouldn’t be needed except for the scarcity of water in the state’s agricultural zone and the prospects that supplies will only get tighter.

“The contract is justified as an attempt to address some very fundamental problems — namely the scarcity of fresh, clean water,” says Basav Sen, an expert on climate policy at the Institute for Policy Studies, a Washington think tank. “But it doesn’t address any of the root causes of scarcity, such as climate change, polluting practices whether fracking or wasteful industrial agriculture.”

Indeed, Sen says, by moderating the costs of water scarcity, the futures might reduce users’ incentives to adopt more sustainable farming practices.

“This is a stopgap at best,” he says. “It’s going to help for only a few years, if at all, and then no matter how much you can hedge against rising costs, the costs are going to keep rising. It just puts off the day of reckoning.”

Here’s what the market can do — and perhaps more important, not do.

The futures contract will do nothing to increase the supply of water. Nor will it facilitate moving water from one place to another. Holders of the contract upon expiration can’t take delivery of water, and sellers of the contract won’t provide any.

That’s distinct from the terms of futures on gold, oil, wheat and other physical commodities, which can be settled by delivery of the underlying items.

“Water is a heavy commodity with a lot of restrictions on how it can be moved,” says Ellen Hanak, water policy expert at the Public Policy Institute of California. “People talk about water as ‘the new gold,’ but that’s just a metaphor.”

Rules on the movement of water are byzantine in California, where some water rights date back to the 19th century.

In regions of water abundance such as the East and Northeast, the dominant legal doctrine was based on riparian rights: Those with land adjacent to rivers had rights to the river water, as long as they didn’t interfere with the rights of downstream users. The rule served farmers growing crops along the riverbanks.

That didn’t work in arid and semi-arid regions such as California, where water users such as miners were located far from water sources. The dominant doctrine in the state became “prior

appropriation" — those who first draw water from a source for any reason can continue using it indefinitely for the same purpose.

That right is limited, theoretically, by the state constitution, which requires that the water be used "reasonably" for a "beneficial use." But those terms have never been defined or tested in court.

"There's a legal question whether these water rights are property rights rather than use rights," says Peter Gleick, co-founder and president emeritus of the Pacific Institute, a water policy organization.

"If you don't use it can you sell it or market it," rather than ceding it to the junior rights holder next in line?

"I'm not sure where the fight is going to end up between the existing water rights situation and those who want to turn it into a market," Gleick says. In California at the moment, he says, "the water rights system doesn't permit large scale trading."

Some water trading does take place, involving about 1.5 million acre-feet a year, or about 4% of water use by cities and farms, according to estimates by the Public Policy Institute of California. (One acre-foot is the equivalent of 325,851 gallons, or enough water to serve one or two average California households for a year.)

Most trades take place among agricultural users and within counties or regions. The approval process is "fragmented and inconsistent," PPIC says, often taking years.

The new water contract circumvents that complexity because it can only be settled in cash. On expiration day, money — but not water — flows from those who have made a loss on their contract to those showing a gain.

That can be useful for water users such as growers seeking to lock in a price for the water they'll need in the future.

Here's how it works: Growers who know they'll need to buy water from senior rights holders, and expect a drought lasting into the growing season to drive up the price of water, may wish to lock in a current price — say, $500 an acre-foot. So they buy futures contracts at $500.

If the price of water rises to, say, $560, so will the value of their contracts. They sell the contracts for $560, and use their $60 gain to offset their water price, effectively reducing their water cost to $500.

Of course, if the price of water falls in the meantime, say to $440, they've lost their bet. They'll have to add their loss on the futures contract to the price of water, raising their net price back to $500.

The contract price is based on the Nasdaq Veles California Water Index, which is based in turn on sale and lease contracts in the state's water markets. The index was introduced in October

2018, when it was priced at $371.11 per acre-foot. On Dec. 30, the last price-setting session of the year, it stood at $492.56.

Coogan says he expects trading activity in the futures contract to rise and fall with weather forecasts. “All eyes will be on precipitation over the next couple of months,” he says. “If there’s a lack of rain and snowpack, I expect to see a quite dramatic lift. If there’s a heavy rainfall, there won’t be hectic activity and I would imagine the price would come off.”

He says that although the contract is tailored for agricultural users, he has received expressions of interest from business users and even municipalities.

Coogan’s assurances notwithstanding, California history is rife with attempts to profit from the manipulation of water supplies. The most notable case may be that of the billionaire Bass brothers of Texas, who bought up thousands of acres of arable land in the Imperial Valley in the 1990s. Their evident intention was to fallow the land and sell its water rights to San Diego, which thirsted to use the water for its residents.

On paper, the arrangement looked like a massive windfall. As holders of farmland, the Bass brothers could purchase federally subsidized water for $12.50 an acre-foot, which they could sell to San Diego for $400. They expected $92 million in revenue in the first year alone.

But the deal was eventually blocked by the Metropolitan Water District and a public uproar. The brothers apparently ended with a profit by selling off their land, but nothing like what they expected.

Concerns about the effect that futures trading might have on price or supply resemble those heard in other commodity markets, chiefly from unhedged buyers and sellers of the commodity — farmers growing wheat or raising pigs complaining that faceless speculators are manipulating prices, for instance.

Water may not fit into this model because of the web of laws and regulations governing its usage. But the prospect of subjecting the precious resource to market trends can still be unnerving.

“Markets are a way of evening out supply and demand problems when you have shortages,” Gleick observes. “But markets are a problem for those who can’t participate in them. In water markets, that includes the environment and people who depend on water but aren’t buyers and sellers, like farmworkers. If a farmer decides not to grow a crop and sell their water, the farmworker is out of luck.”

As for investors who will be playing the other side of futures trades — necessary participants to keep the futures market, well, liquid, Hanak offers some words of warning.

“People have tried to make money off the physical water market in California and lost their shirts,” she says. “It’s a hard market to come into from the outside and take over.”

The Weekly Newspaper for California Agriculture
AgAlert
California Farm Bureau®

Ongoing litigation muddies state's water outlook

Issue Date: December 16, 2020
By Christine Souza

Amid long-term forecasts indicating California could be headed into another dry winter, discussions at the California Farm Bureau Annual Meeting focused on current and future water policy and the challenges facing short- and long-term supplies.

During a breakout session as part of the virtual Annual Meeting, Ernest Conant, U.S. Bureau of Reclamation regional director for the California-Great Basin Region, described how regulatory constraints have affected water allocations from the federal Central Valley Project.

"If you compare the early 1990s, when we were in a severe drought, we were able to make some nominal deliveries, compared to the most recent drought in 2014-15, when we were not able to make any deliveries to south of delta and north of delta" water contractors, he said.

Conant also discussed litigation brought by the state of California after federal agencies released updated biological opinions for management of water to aid protected fish in the Sacramento-San Joaquin river system. Environmental groups and the state challenged the 2019 opinions, seeking a return to previous opinions and possible reductions in water deliveries.

Describing the development of new operating rules for the project as "one of our largest accomplishments for our region in some time," Conant said the resulting management plan "brings greater efficiency to water delivery by modifying and coordinating long-term operations of the CVP and (State Water Project), and includes the newest science to ensure updated operations are achieved and to achieve a reasonable balance among competing demands for use of CVP water."

Conant said the federal agencies hope to resolve the litigation from the state and "to return to the extraordinary progress that was made in 2018 through the voluntary-agreement process in collaboratively updating the water quality control plan for the bay-delta."

Voluntary agreements would serve as an alternative to "unimpaired flows" plans by the State Water Resources Control Board. A first phase of the water board plan, adopted in 2018, would require water users in San Joaquin River tributaries to leave 30% to 50% of unimpaired flows in

the Stanislaus, Tuolumne and Merced rivers for fish populations, unless voluntary agreements on the three tributaries can be reached and adopted instead. A second phase proposes similar unimpaired-flow requirements for the Sacramento River watershed of approximately 55%.

"There can be no voluntary agreements without resolution of this litigation from the state," Conant warned.

During a separate session, California Farm Bureau Senior Counsel Chris Scheuring agreed that the state-federal delta litigation "hamstrings voluntary agreements."

Scheuring said Farm Bureau filed a lawsuit with more than a dozen other groups on the unimpaired-flows regulation, adding that Farm Bureau supports a "functional flows" approach found in the voluntary agreements.

In his presentation to the Farm Bureau meeting, Conant said Gov. Gavin Newsom's Water Resiliency Portfolio endorses voluntary agreements as the path forward.

Through the water portfolio, Conant said, the governor has shown an interest in taking a leadership role to address California's water challenges, through conservation, diversity of supplies and new storage, such as construction of Sites Reservoir.

"It is clear that California needs more storage and expanding areas where the existing storage exists. That's why we continue to explore options for funding," Conant said.

Funds from the 2014 Proposition 1 water bond will help fund several new and expanded storage facilities, including Sites, and Conant discussed planned federal projects such as expanding capacity of Shasta and San Luis reservoirs.

"The department's highest priorities in the last few years have been to invest in and modernize our water infrastructure to ensure reliable water supplies," he said, pointing out that in many cases, Bureau of Reclamation infrastructure is 60 to 100 years old.

The bureau also plans to restore stretches of the Friant-Kern Canal and Delta-Mendota Canal, which have lost capacity due to subsidence.

In the other Annual Meeting session, California Farm Bureau Federal Policy Consultant Erin Huston said water infrastructure development could be among the priorities of the incoming 117th Congress.

In addition, Huston reported speculation that the new Biden administration could "repeal and replace" the Trump administration's version of the waters of the U.S. rule under the Clean Water Act. The current rule updated a 2015 Obama administration rule that drew widespread concern from agricultural groups and others for greatly expanding federal jurisdiction over water, land and land use.

"They could do a repeal and replace of the rule or a modification in the areas in which they disagree, which, broadly speaking, seems to be around the issue of jurisdiction and includes which bodies of water are considered navigable and which bodies are not," Huston said.

During his session, Conant said there is a growing confidence that moderate to strong La Niña conditions in the Pacific Ocean substantially increase the odds of a dry winter.

"Some reservoirs are above average, some are below, but it's extremely early in the season," he said. "Reclamation is already planning for a potential dry winter by decreasing river releases and conserving storage to the greatest extent possible."

Discussions of water supply and policy inevitably led to California's groundwater law, the Sustainable Groundwater Management Act or SGMA.

If no action is taken to build new storage or update water infrastructure, Conant said, "up to a million acres of land may need to be retired in order to achieve water balance."

"If some projects are implemented that they're pursuing over the next 10 years, and if the biological opinions are upheld, that number can be cut about in half as to the number of acres that would need to be retired in order to achieve a water balance," he said. "We cannot lose sight of the profound economic and social effects that will have."

(Christine Souza is an assistant editor of Ag Alert. She may be contacted at csouza@csouza@cfbf.com.)

San Francisco Chronicle

New research explains why salmon are dying in the Pacific Northwest. The danger lurks in California, too

Kurtis Alexander Dec. 3, 2020 Updated: Dec. 3, 2020 7:26 p.m.

Scientists in the Pacific Northwest say they've solved a long-running mystery behind the region's dying salmon, a discovery that may explain what's harming fish elsewhere around the globe, including California.

In research published Thursday, a team of university and government scientists identify a toxic material derived from tire treads that is washing into rivers and creeks as the killer of as many as 90% of the coho salmon in parts of the Puget Sound.

The finding is a welcome breakthrough for Washington state after decades of losing the revered fish without a full explanation. However, it also points to a bigger problem, one that's both difficult to solve and not limited to a single part of the country, and possibly rampant in urban areas everywhere.

"Tires are obviously ubiquitous in our society," said Jenifer McIntyre, one of the senior authors of the new study published in the journal Science and an assistant professor at Washington State University's School of the Environment. "We expect to find this chemical in water bodies around the world."

As part of the study, a handful of waterways in California were tested for the fish-killing compound, called 6PPD-quinone. The scientists found the compound present at lethal levels in four of nine spots sampled along San Francisco Bay, including in Oakland, two areas in San Jose and near the Carquinez Strait.

While the bay no longer hosts migrating coho salmon, nearby rivers and creeks that flow to the ocean do. The toxic substance, the researchers say, could also be hurting other struggling fish that move through San Francisco Bay, such as chinook salmon and steelhead trout.

"There are signs that other salmonids have some sensitivity," said Rebecca Sutton, a senior scientist at the San Francisco Estuary Institute who led the toxicity tests in the Bay Area and co-authored the new paper. "There will have to be follow-up to see what species are sensitive."

Among the many future tests expected to come out of the study is looking at whether dangerous levels of the compound are present in the California rivers and streams that contain coho salmon,

which include Pescadero Creek in San Mateo and Santa Cruz counties and Lagunitas Creek in Marin County. Larger populations endure in the Klamath and Eel rivers farther north.

The state's coho salmon, once widespread in coastal waterways, have dwindled to less than 5% of their historical numbers and are now protected under the federal Endangered Species Act.

The fish generally live at sea, where they feed and grow before migrating to fresh water to spawn. The migrations, though, have faced numerous hurdles, from dams built across the rivers the fish swim up to destruction of their spawning grounds. But even as these issues have been addressed and fish habitats have been restored, the salmon continue to die in many places.

Scientists have long identified runoff from roads into rivers and creeks as a contributing problem for the coho. Recent studies have even implicated tire treads as potentially harmful. But past research hadn't isolated the material that was hurting the fish or explained how damage was occurring.

After evaluating hundreds of chemicals found in tires and measuring their presence in waterways with dying coho, the authors of the new study determined that 6PPD, an industrial substance used to prolong tire life and often added to rubbers and plastics, was the culprit.

What made the discovery especially challenging was that 6PPD itself isn't the problem but what happens to 6PPD when it encounters ozone, or smog, according to the researchers. The team found that when 6PPD reacts with the pollutant it breaks down into multiple chemicals, including the lethal 6PPD-quinone, and that's washing into local waterways.

"There are a lot of studies on tires and microplastic," said Zhenyu Tian, lead author of the new paper and research scientist at the Center for Urban Waters at the University of Washington at Tacoma. "This (new study) clearly shows the chain of evidence. We showed the connection. We showed evidence that this is harming the environment."

Tian thinks it's likely that fish other than coho and additional aquatic animals are being harmed by 6PPD-quinone and that many waterways, not just in Puget Sound, are contaminated.

"As far as we know, almost all tire manufacturers are using this in their tires," he said.

Representatives of the tire industry said Thursday, after reviewing the study, that it was premature to blame 6PPD for killing fish.

"It's important that we do additional research and look at this issue holistically," said Sarah Amick, a vice president and senior counsel for the U.S. Tire Manufacturers Association.

Tire companies, Amick said, have invested heavily in making sure their products contain the most environmentally sustainable materials, and they're continuing to improve, including adding plant-based substances like soybeans and dandelions to tires. At the same time, she said, the companies can't compromise the safety of what they sell, meaning that 6PPD, which keeps tires strong, isn't something they'll needlessly give up on.

In the short term, the authors of the new study recommend that cities and public works agencies do more to keep streets clean and filter stormwater runoff before it flows into rivers and creeks. Long term, they'd like the tire industry to revisit the composition of its products.

In California, the Department of Toxic Substances Control regulates the harmful effects of such commercial items as tires. A proposal filed with the agency two years ago to reduce the amount of zinc in tires, also believed to harm wildlife, has yet to be addressed.

"This will probably take some time to change," Tian said.

The study's authors included researchers at the National Marine Fisheries Service and the U.S. Fish and Wildlife Service.

Tires are hardly the only thing that health and environment experts have sought to regulate to help clean up what runs into waterways. Copper and heavy metals have been phased out of automobile brake pads. The manufacturing of PCBs, once common in electronics and detrimental to marine life, have long been banned. And the application of pesticides has been increasingly subject to restrictions.

Kurtis Alexander is a San Francisco Chronicle staff writer. Email: kalexander@sfchronicle.com Twitter: @kurtisalexander