



Central Valley Regional Water Quality Control Board

28 March 2023

Thomas Butler
Senior Hydrogeologist/Geochemist
Stantec
1340 Treat Blvd #300
Walnut Creek, CA 94597

VIA EMAIL
thomas.butler@stantec.com

NOTICE OF APPLICABILITY (NOA); GENERAL WASTE DISCHARGE REQUIREMENTS ORDER R5-2022-0006 FOR LIMITED THREAT DISCHARGES TO SURFACE WATER; U.S. FISH AND WILDLIFE SERVICE, DELTA RESEARCH STATION WELL PUMP TEST PROJECT, SOLANO COUNTY

Our office received a Notice of Intent dated 17 October 2022 from US Fish and Wildlife Service (hereinafter Discharger), for discharge of groundwater from well pump testing to surface water. Based on the application packet and subsequent information submitted by the Discharger, staff has determined that the project meets the required conditions for approval under the General Order for Limited Threat Discharges to Surface Water (Limited Threat General Order), as a pump/well testing discharge. This project is hereby assigned Limited Threat General Order R5-2022-0006-010 and National Pollutant Discharge Elimination System (NPDES) Permit No. CAG995002. Please reference your Limited Threat General Order number, **R5-2022-0006-010**, in your correspondence and submitted documents.

The project activities shall be operated in accordance with the requirements contained in the Limited Threat General Order and as specified in this NOA. You are urged to familiarize yourself with the entire contents of the enclosed [Limited Threat General Order](#) (https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf).

CALIFORNIA TOXICS RULE / STATE IMPLEMENTATION POLICY MONITORING

The Limited Threat General Order incorporates the requirements of the California Toxics Rule (CTR) and the State Water Resources Control Board's (State Water Board), *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, 2005, also known as the State Implementation Policy (SIP). Screening levels for CTR constituents and other constituents of concern are found in Attachment I of the Limited Threat General Order. Review of your water quality data in comparison to the screening values, showed reasonable potential for the discharge to cause or contribute to an exceedance of

MARK BRADFORD, CHAIR | PATRICK PULUPA, ESQ., EXECUTIVE OFFICER

copper water quality objectives in the Sacramento River in the Delta Waterways (western portion), which is a water of the United States. Copper effluent limitations are included in this order and based on the short duration of discharge the Discharger should be able to comply with these effluent limits without treatment.

PROJECT DESCRIPTION

The US Fish and Wildlife Service (USFWS) proposes to construct a Fish Technology Center (FTC) to study Delta Smelt and other imperiled species located at the site of the former Army Reserve Base near Rio Vista, California. Attachment B provides a map of the area around the Facility. The FTC is envisioned to operate as a stand-alone facility for maintaining a refuge population of Delta Smelt and for propagation research, conservation, and study of Delta Smelt and other imperiled fishes.

USFWS submitted an NOI for the discharge of pumping test water from a groundwater well, as the pumping test is currently a critical path action item to inform the 30 percent FTC facility design. The FTC site is located at 900 Beach Drive in the southern part of the City of Rio Vista in Solano County.

Groundwater would serve as the primary source of water for the DRS and will be used for the experimental scale-up of propagation and other research projects. The pumping test will verify capacity and flow of an existing capped groundwater well, which will inform the final design of the facility.

The well pumping test would occur over two consecutive days and is planned to begin March/April 2023. The pumping test will consist of equipping the existing capped groundwater well with a temporary pump capable of providing up to approximately 1.5 MGD. The first day of testing will consist of conducting a step discharge test (step test). The step test will consist of pumping the well at rates of approximately 250, 500, 750, and 1,000 gpm, each for a duration of approximately 1 to 2 hours. Following the completion of the step test, the well will be allowed to recover for approximately 12 hours, after which the 24-hour constant rate test will begin. The flow rate of the constant rate test will be determined based on the step test. Water from the pumping tests will need to be conveyed to the Sacramento River in the Delta Waterways (Western Portion) via a pipeline immediately south of the well location.

DISCHARGE PROHIBITIONS

Discharge prohibitions are specified in Section IV Discharge Prohibitions of the Limited Threat General Order. Based on the information provided in the NOI, the following discharge prohibitions are applicable to this discharge:

- Prohibition IV.A
- Prohibition IV.B
- Prohibition IV.C
- Prohibition IV.D. The flow rate shall not exceed 1.5 MGD.

EFFLUENT LIMITATIONS

Effluent limitations are specified in Section V. Effluent Limitations and Discharge Specifications of the Limited Threat General Order. Based on the information provided in the NOI, effluent limitations are only required for the parameter identified in items 1-6, below:

1. **pH (Section V.A.1.b.i).** The pH of all limited threat discharges within the Sacramento and San Joaquin River Basins (except Goose Lake in Modoc County) shall at all times be within the range of 6.5 and 8.5.
2. **Whole Effluent Toxicity, Chronic (Section V.A.2.a).** There shall be no chronic toxicity in the discharge.
3. **Salinity (Section V.A.1.d.i).** For a calendar year, the annual average effluent electrical conductivity shall not exceed 700 $\mu\text{mhos/cm}$.
4. **Temperature.** For discharges within the legal boundaries of the Sacramento-San Joaquin Delta, the maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 4°Fahrenheit (°F).
5. **Diazinon and Chlorpyrifos.** For water bodies as specified in Table 3-4 of the Basin Plan for the Sacramento and San Joaquin River Basin, effluent diazinon and chlorpyrifos concentrations shall not exceed the sum of one (1.0) as identified below:
 - i. Average Monthly Effluent Limitation (AMEL)
 $\text{SAMEL} = \text{CD M-avg}/0.079 + \text{CC M-avg}/0.012 \leq 1.0$
CD M-AVG = average monthly diazinon effluent concentration in $\mu\text{g/L}$
CC M-AVG = average monthly chlorpyrifos effluent concentration in $\mu\text{g/L}$
 - ii. Maximum Daily Effluent Limitation (MDEL)
 $\text{SAWEL} = \text{CD W-avg}/0.16 + \text{CC W-avg}/0.025 \leq 1.0$
CD W-AVG = average weekly diazinon effluent concentration in $\mu\text{g/L}$
CC W-AVG = average weekly chlorpyrifos effluent concentration in $\mu\text{g/L}$
6. **Constituents and Parameters of Concern (Section V.A.1.e).** The following constituents and parameters in Table 1 below have been identified as having reasonable potential to cause or contribute to an in-stream excursion from water quality objectives and shall not exceed the effluent limitations as listed.

Table 1. Effluent Limitations for Constituents and Parameters of Concern

Parameter	Units	Average Monthly Effluent Limitations	Maximum Daily Effluent Limitations	Parameters
Copper, Total	µg/L	2.4	4.9	V.A.1.f

The Sacramento River in the Delta Waterways (western portion) is listed for Tributyltin TBT (Tributylstanne), Nitrogen, ammonia (Total Ammonia), Zinc, Cadmium, Copper, Endrin, Heptachlor epoxide, Lindane, Mirex, Nitrate/Nitrite (Nitrite + Nitrate as N), Nitrogen, Nitrate, Selenium, Endosulfan, and Hexachlorobenzene on the Clean Water Act 303(d) List of impaired water bodies. A Total Maximum Daily Load (TMDL) has not yet been established for Receiving Water. Therefore, no additional 303(d) based effluent limitations or monitoring requirements are included in this NOA (R5-2022-0006-010).

RECEIVING WATER LIMITATIONS

The Limited Threat General Order includes receiving surface water limitations in Section VIII.A. Based on the information provided in the NOI, only the following receiving surface water limitations are applicable to this discharge:

- Bacteria (VIII.A.2);
- Biostimulatory substances (VIII.A.3);
- Chemical constituents (VIII.A.4);
- Color (VIII.A.5);
- Dissolved oxygen (VIII.A.6.b.iii);
- Floating material (VIII.A.7);
- Oil and grease (VIII.A.8);
- pH (VIII.A.9.a);
- Pesticides ((VIII.A.10);
- Radioactivity (VIII.A.11);
- Suspended sediments (VIII.A.12);
- Settleable substances (VIII.A.13);
- Suspended material (VIII.A.14);
- Taste and odors (VIII.A.15);
- Temperature (VIII.A.16,b);
- Toxicity (VIII.A.17); and
- Turbidity (VIII.A.18.a).

MONITORING AND REPORTING

Monitoring and reporting requirements are contained in Attachment C of the Limited Threat General Order. The Discharger is required to comply with the following specific monitoring and reporting requirements for the effluent and receiving water in accordance with Attachment C of the Limited Threat General Order.

Monitoring Locations – The Discharger shall monitor the effluent and receiving water at the specified location as follows:

Table 2. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	A location where a representative sample of the effluent can be collected prior to discharging to Sacramento River.
--	RSW-001	Sacramento, approximately 200 feet upstream from the point of discharge.
--	RSW-002	Sacramento River, approximately 200 feet downstream from the point of discharge.

Effluent Monitoring – When discharging to surface water, the Discharger shall monitor the effluent at EFF-001 in accordance with Table C-3 of the Limited Threat General Order and this NOA. The applicable monitoring requirements are as follows in Table 3 and subsequent Table 3 Notes:

Table 3. Effluent Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Flow	MGD	Calculated	1/Project Term
Electrical Conductivity @ 25 °C	µmhos/cm	Grab	1/Project Term
pH	standard units	Grab	1/Project Term
Turbidity	NTU	Grab	1/Project Term
Temperature	°F	Grab	1/Project Term
Dissolved Oxygen (DO)	mg/L	Grab	1/Project Term
Hardness, Total (as CaCO ₃)	mg/L	Grab	1/Project Term
Copper	µg/L	Grab	1/Project Term
Chronic Toxicity	--	Grab	1/Project Term

Table 3 Notes

- Electrical conductivity, pH, turbidity, temperature, and DO.** A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
- All parameters, except flow.** Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
- For hardness, cadmium, chromium (III), copper, lead, nickel, silver, and zinc.**

Monitoring for hardness shall be performed concurrently with effluent sampling for cadmium, chromium (III), copper, lead, nickel, silver, and/or zinc if effluent sampling for any of these pollutants is required.

4. **Chronic toxicity.** See the Monitoring and Reporting Program (Attachment C of the Limited Threat General Order) for toxicity monitoring requirements.

Receiving Water Monitoring - When discharging to surface water, the Discharger shall monitor the receiving water at RSW-001 and RSW-002, in accordance with Table C-5 of the Limited Threat General Order and this NOA. The applicable monitoring requirements are as follows in Table 4 and subsequent Table 4 Notes:

Table 4. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Monitoring Frequency
Copper	µg/L	Grab	1/Project Term
Dissolved Oxygen	mg/L	Grab	1/Project Term
Electrical Conductivity @ 25 °C	µmhos/cm	Grab	1/Project Term
Hardness, Total (as CaCO ₃)	mg/L	Grab	1/Project Term
pH	standard units	Grab	1/Project Term
Temperature	°F	Grab	1/Project Term
Turbidity	NTU	Grab	1/Project Term

Table 4 Notes

1. **All parameters.** Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
2. **All parameters except for hardness.** A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained by the Discharger.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-002. Attention shall be given to the presence or absence of:

- a. Floating or suspended matter
- b. Discoloration
- c. Bottom deposits
- d. Aquatic life
- e. Visible films, sheens, or coatings
- f. Fungi, slimes, or objectionable growths
- g. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the Monitoring Report.

Monitoring Report Submittals - Monitoring in accordance with the Limited Threat General Order shall begin upon initiation of discharge. Monitoring Reports shall be submitted to the Central Valley Water Board on a quarterly basis, beginning with the **Second Quarter 2023**. This report shall be submitted on **1 August 2023**. All Monitoring Reports shall specify the dates during the monitoring period the discharge did or did not occur. If monitoring samples were not obtained within 24 hours of initiation of the discharge, the Discharger must document the reasons in the corresponding Monitoring Report. If discharge has not begun there is no need to monitor. However, a certified Monitoring Report must be submitted stating that there has been no discharge. Table 5, below, summarizes the Monitoring Report due dates required under the Limited Threat General Order. Quarterly Monitoring Reports must be submitted until your coverage is formally terminated in accordance with the Limited Threat General Order, even if there is no discharge during the reporting quarter.

Table 5. Monitoring Periods and Reporting Schedule

Monitoring Period for All Sampling Frequencies	Quarterly Report Due Date
First Quarter (1 January through 31 March)	1 May
Second Quarter (1 April through 30 June)	1 August
Third Quarter (1 July through 30 September)	1 November
Fourth Quarter (1 October through 31 December)	1 February of the following year

GENERAL INFORMATION AND REQUIREMENTS

The Discharger must notify Central Valley Water Board staff within 24 hours of having knowledge of 1) the start of each new discharge, 2) noncompliance, and 3) when the discharge ceases. The Central Valley Water Board shall be notified immediately if any effluent limit violation is observed during implementation of the project.

Discharge of material other than what is described in the application is prohibited. The required annual fee (as specified in the annual invoice you will receive from the State Water Resources Control Board) shall be submitted until this NOA is officially terminated. You must notify this office in writing when the discharge regulated by the Limited Threat General Order is no longer necessary by submitting the Request for Termination of Coverage (Attachment E of the Limited Threat General Order). If a timely written request is not received, the Discharger will be required to pay additional annual fees as determined by the State Water Resources Control Board.

ENFORCEMENT

Failure to comply with the Limited Threat General Order may result in enforcement actions, which could include civil liability. Effluent limitation violations are subject to a Mandatory Minimum Penalty (MMP) of \$3,000 per violation. In addition, late Monitoring Reports may be subject to MMPs or discretionary penalties of up to \$1,000 per day late. When discharges do not occur during a quarterly monitoring period, the Discharger

must still submit a quarterly certified Monitoring Report indicating that no discharge occurred to avoid being subject to enforcement actions.

COMMUNICATION

We have transitioned to a paperless office; therefore, please convert all documents to a searchable Portable Document Format (pdf). All documents, including Monitoring Reports, written notifications, and documents submitted to comply with this NOA and the Limited Threat General Order, should be submitted to the NPDES Compliance and Enforcement Unit, Attention: Jon Rohrbough at centralvalleysacramento@waterboards.ca.gov and jon.rohrbough@waterboards.ca.gov. Mr. Rohrbough may also be reached by phone at (916) 464-4634.

Please include the following information in the body of the email:

- Attention: NPDES Compliance Unit
- Discharger: United States Fish and Wildlife Service (USFWS)
- Facility: Delta Research Station Facility
- County: Solano County
- CIWQS place ID: 886566

Documents that are 50 megabytes or larger must be transferred to a DVD, or flash drive and mailed to our office, attention "ECM Mailroom-NPDES".

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this NOA, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Links to the law and regulations applicable to filing petitions may be found on the [Petitions Home Page](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) (http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

Patrick Pulupa, Executive Officer

Enclosures (2): Attachment A - Project Location Map
Monitoring Report Transmittal Form (Discharger only)

cc: Elizabeth Sablad, U.S. EPA, Region IX, San Francisco (email only)
Peter Kozelka, U.S. EPA, Region IX, San Francisco (email only)

Thomas Butler
Senior Hydrogeologist/Geochemist
Stantec

- 9 -
Delta Research Station Well Pump Test Project
R5-2022-0006-010

28 March 2023

Prasad Gullapalli, U.S. EPA Region IX, San Francisco (email only)
Division of Water Quality, State Water Board, Sacramento (email
only)
Sarah Torres, PG Environmental, Chantilly, Virginia (via email)

ATTACHMENT A – PROJECT LOCATION MAP



TITLE DIBEST
 THIS MAP IS THE PROPERTY OF THE STATE OF CALIFORNIA AND IS LOANED TO YOU BY THE STATE OF CALIFORNIA. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE STATE OF CALIFORNIA. THE STATE OF CALIFORNIA DOES NOT WARRANT THE ACCURACY OF THE INFORMATION CONTAINED HEREIN AND IS NOT RESPONSIBLE FOR ANY DAMAGE, INCLUDING CONSEQUENTIAL DAMAGES, ARISING FROM THE USE OF THIS INFORMATION.

OWNER
 STATE OF CALIFORNIA

LEGEND DESCRIPTION
 1. PROJECT BOUNDARY
 2. PROJECT 0819-330-06 O.R. 20030000371
 3. DISCHARGE LOCATION
 4. WELL LOCATION
 5. SACRAMENTO RIVER
 6. SACRAMENTO DELTA
 7. SACRAMENTO RIVER BRIDGE
 8. SACRAMENTO RIVER BRIDGE

DEFINITIONS
 1. PROJECT BOUNDARY: THE BOUNDARY OF THE PROJECT AS SHOWN ON THIS MAP.
 2. PROJECT 0819-330-06 O.R. 20030000371: THE PROJECT AS SHOWN ON THIS MAP.
 3. DISCHARGE LOCATION: THE LOCATION WHERE THE PROJECT DISCHARGES INTO THE SACRAMENTO RIVER.
 4. WELL LOCATION: THE LOCATION OF THE WELL AS SHOWN ON THIS MAP.
 5. SACRAMENTO RIVER: THE SACRAMENTO RIVER AS SHOWN ON THIS MAP.
 6. SACRAMENTO DELTA: THE SACRAMENTO DELTA AS SHOWN ON THIS MAP.
 7. SACRAMENTO RIVER BRIDGE: THE SACRAMENTO RIVER BRIDGE AS SHOWN ON THIS MAP.
 8. SACRAMENTO RIVER BRIDGE: THE SACRAMENTO RIVER BRIDGE AS SHOWN ON THIS MAP.

ENCUMBRANCE MAP
 RIO VISTA EXTUARINE RESEARCH STATION
 RIO VISTA, CALIFORNIA

DATE: 2-18-2011
SCALE: 1" = 50'
JOB NO.: 2014-248809
DRAWN BY: MFL
CHECKED BY: JTB
DATE: 2/18/2011

LEGENDS
 PROJECT BOUNDARY
 PROJECT 0819-330-06 O.R. 20030000371
 DISCHARGE LOCATION
 WELL LOCATION
 SACRAMENTO RIVER
 SACRAMENTO DELTA
 SACRAMENTO RIVER BRIDGE
 SACRAMENTO RIVER BRIDGE

ENCUMBRANCE MAP
 RIO VISTA EXTUARINE RESEARCH STATION
 RIO VISTA, CALIFORNIA

DATE: 2-18-2011
SCALE: 1" = 50'
JOB NO.: 2014-248809
DRAWN BY: MFL
CHECKED BY: JTB
DATE: 2/18/2011

LEGENDS
 PROJECT BOUNDARY
 PROJECT 0819-330-06 O.R. 20030000371
 DISCHARGE LOCATION
 WELL LOCATION
 SACRAMENTO RIVER
 SACRAMENTO DELTA
 SACRAMENTO RIVER BRIDGE
 SACRAMENTO RIVER BRIDGE

ENCUMBRANCE MAP
 RIO VISTA EXTUARINE RESEARCH STATION
 RIO VISTA, CALIFORNIA

DATE: 2-18-2011
SCALE: 1" = 50'
JOB NO.: 2014-248809
DRAWN BY: MFL
CHECKED BY: JTB
DATE: 2/18/2011

STATE OF CALIFORNIA
 DEPARTMENT OF GENERAL SERVICES
 SACRAMENTO, CALIFORNIA

Stantec
 735 Comingle Drive Suite 280
 San Bernardino, CA 92406
 909-335-6116 stantec.com

ENCUMBRANCE MAP
 RIO VISTA EXTUARINE RESEARCH STATION
 RIO VISTA, CALIFORNIA

DATE: 2-18-2011
SCALE: 1" = 50'
JOB NO.: 2014-248809
DRAWN BY: MFL
CHECKED BY: JTB
DATE: 2/18/2011

ENCUMBRANCE MAP
 RIO VISTA EXTUARINE RESEARCH STATION
 RIO VISTA, CALIFORNIA

DATE: 2-18-2011
SCALE: 1" = 50'
JOB NO.: 2014-248809
DRAWN BY: MFL
CHECKED BY: JTB
DATE: 2/18/2011