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## Central Valley Regional Water Quality Control Board

21 December 2023

Brett Galyean  
U.S. Fish and Wildlife Service  
24411 Coleman Fish Hatchery Road  
Anderson, CA 96007

**CERTIFIED MAIL**  
**7020 3160 0002 1905 2154**

Elizabeth Hadley  
U.S Bureau of Reclamation  
16349 Shasta Dam Blvd  
Shasta Lake, CA 96019

**CERTIFIED MAIL**  
**7020 3160 0002 1905 2161**

**NOTICE OF APPLICABILITY; GENERAL WASTE DISCHARGE REQUIREMENTS FOR COLD WATER CONCENTRATED AQUATIC ANIMAL PRODUCTION (CAAP) FACILITY DISCHARGES TO SURFACE WATERS; ORDER R5-2019-0079 (CAAP GENERAL ORDER, NPDES NO. CAG135001); UNITED STATES DEPARTMENT OF FISH AND WILDLIFE, LIVINGSTON STONE NATIONAL FISH HATCHERY, SHASTA COUNTY**

The California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) issued a Notice of Applicability (NOA) to the United States Department of Interior's Fish and Wildlife Service and Bureau of Reclamation (Discharger) on 29 March 2016 for coverage under the CAAP General Order for the Livingston Stone National Fish Hatchery (Facility).

On 5 December 2019, the Central Valley Water Board adopted Order R5-2019-0079 renewing the CAAP General Order. The Discharger submitted a Notice of Intent on 1 November 2019 to continue coverage for the Facility under the CAAP General Order. Effective **1 January 2024**, this NOA provides continued coverage for the Facility under the CAAP General Order to discharge to the Sacramento River, superseding the previous NOA issued 26 March 2016. CAAP General Order R5-2019-0079-021 and National Pollutant Discharge Elimination System (NPDES) Permit No. CAG135001 are assigned for this Facility. Please reference your CAAP General Order number **R5-2019-0079-021** in all correspondence and submitted documents. The following enclosure are included as part of this NOA:

1. Enclosure A - Administrative Information
2. Enclosure B - Location Map
3. Enclosure C - Flow Schematic

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

- 4. Enclosure D - Monitoring and Reporting Program
- 5. Enclosure E - Approved Aquaculture Drugs and Chemicals Use

The enclosed [CAAP General Order](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders) ([http://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders)) is also available online. You are urged to familiarize yourself with the entire contents of the enclosed document. The Facility operations and discharges shall be managed in accordance with the requirements contained in the CAAP General Order, this NOA, and with the information submitted by the Discharger.

**I. FACILITY INFORMATION/DISCHARGE DESCRIPTION**

The Facility is at 16349 Shasta Dam Blvd in Shasta Lake, in Shasta County (Section 15, T33N, R5W, MDB&M), as shown in Enclosure B of this NOA. The Facility is operated by the U.S. Department of Interior, Fish and Wildlife Service, on land owned by the U.S. Department of Interior, Bureau of Reclamation. The Facility is a salmon spawning/rearing operation that raises endangered Winter-Run Chinook Salmon for release to the Sacramento River. The Facility has also maintained a backup Delta Smelt rearing and storage population since 2007.

Between January 2020 and December 2023, the Facility released an estimated annual harvestable weight of Winter-Run Chinook Salmon of 3,863 pounds (lbs), 6,488 lbs, 9,150 lbs, and 9,813 lbs, respectively. The increased Winter-Run Chinook Salmon production has been in response to drought and ocean food web issues. The predicted 5-year maximum annual harvestable fish production of approximately 12,000 lbs of Sacramento River Winter-Run Chinook Salmon and 200 lbs Delta Smelt (Table 1) with a maximum monthly feed use of 4,263.28 lbs at the Facility. This Facility does not meet the 20,000 lbs harvest weight or 5,000 lbs food criteria for a flow through point source CAAP facility requiring an NPDES permit; however, the Central Valley Water Board has designated the Facility as a CAAP facility requiring an NPDES permit because of the chemical additives (Enclosure E of this NOA) that are introduced into the Facility’s waste stream (Attachment D Section 1.A of the CAAP General Order).

**Table 1. 5-Year Maximum Aquatic Animal Production**

<b>Species</b>	<b>5-Year Maximum Annual Harvestable Maximum Hatchery Aquatic Animal Production (lbs)</b>
Sacramento River Winter Run Chinook Salmon	12,000
Delta Smelt	200

Facility components for Winter-Run Chinook Salmon rearing consist of two 20-foot diameter circular tanks used for wild salmon broodstock holding tanks, a salmon hatchery building (containing twenty-three full stack Heath trays with 15 trays per stack, sixty 30-inch diameter tanks for early rearing of salmon fry, a walk in freezer, and two

120 gallon per minute maximum chiller systems used to maintain appropriate temperatures for incubated salmon), thirty 3-ft by 16-ft rectangular tanks used for early-rearing of salmon, and fourteen 12-ft diameter tanks used for juvenile salmon rearing as well as holding and five 12-ft diameter tanks used for rearing of captive salmon broodstock. Winter-run Chinook salmon juveniles are released into the Sacramento River at Caldwell Park in Redding, CA, when they reach a size of about 85 mm fork length.

Malachite green is used as a fungicide treatment for adult salmon in the wild broodstock holding tanks. Eggs are extracted from a selectively mature female Winter-Run Chinook Salmon, split into two groups, and fertilized separately with milt from two male salmon. Winter-Run Chinook Salmon eggs are placed in incubator trays and are treated with Formalin to control: (1) external protozoan parasites, (2) monogenetic trematodes, and (3) fungi of the family *Saprolegniaceae*. During drug treatments the wastewater is routed through two 2,000 lbs granular activated carbon filters (GAC filters) operated in series to remove Malachite green and/or Formalin prior to GAC filter effluent discharge (Discharge Point 001).

Delta Smelt are held at the Facility as a secondary refugial population for instances of catastrophic population loss in the parent Delta Smelt population, which are reared by the University of California, Davis, Fish Conservation and Culture Laboratory in Byron, CA. Delta smelt are currently reared at the Facility for experimental use only and not released into the natural environment.

The Delta Smelt rearing facility consists of a food preparation building and a rearing building. The food preparation building contains a production area for marine rotifers and brine shrimp, which are eaten by delta smelt at various life stages; marine rotifers and brine shrimp require saline environments to survive and would be extirpated if any organisms entered the Sacramento River. The Delta Smelt rearing building contains thirty 29-gallon tanks and twenty-one 106-gallon tanks. There are five 265-gallon adult holding tanks for delta smelt outside of the delta smelt rearing building. The wastewater from the Delta Smelt rearing facility combines with the wastewater from the rectangular and circular juvenile salmon rearing tanks and is discharged to the Sacramento River (Discharge Point 002).

Water is supplied to the Facility from a pipe tapped into the penstocks of the Shasta Dam powerhouse. This intake pipe is plumbed into three of the four penstocks in order to provide a fail-safe water supply for Facility operations. Between September 2020 and September 2023, the Facility flow ranged from 0.78 to 3.4 million gallons per day (mgd) with an average flow of 1.9 mgd. The design flow for the Facility is 7.2 mgd. Supply water is aerated by packed towers and routed to a head tank for distribution to the Facility. Overflow water from the supply water head tank is discharged to the Sacramento River (Discharge Point 003).

Hatchery wastewater is discharged from the facility to the Sacramento River at Discharge Point 001, Discharge Point 002, and Discharge Point 003 as shown in Enclosure C, a part of this NOA, and as described below:

**Discharge Point 001** – Wastewater from the salmon hatchery building, wild salmon broodstock holding tanks, and GAC filters is discharged to the Sacramento River at Discharge Point 001. Between September 2020 and September 2023, the daily flow from this discharge location was between 0.010 and 0.66 mgd, with an average of 0.29 mgd. Latitude: 40° 42' 59.48" N; and Longitude: 122° 25' 31.97" W

**Discharge Point 002** – Wastewater from three sources is combined at Discharge Point 002 before entering the Sacramento River. The three sources include: (1) 30 rectangular salmon rearing tanks (monitoring location name EFF-002A), (2) fourteen circular tanks used for juvenile salmon rearing and hatchery wastewater from Delta Smelt rearing operations (monitoring location name EFF-002B), and (3) four circular tanks for salmon rearing (monitoring location name EFF-002C). Hatchery wastewater from two circular tanks and several Delta Smelt tanks can be directed through a series of ultraviolet sterilizers before exiting the Facility at Discharge Point 002. Between September 2020 and September 2023, the daily flow from this discharge location was between 0.30 and 2.9 mgd, with an average of 1.2 mgd. Latitude: 40° 42' 58.91" N; and Longitude: 122° 25' 33.93" W.

**Discharge Point 003** – Overflow water from the supply water head tank combined with hatchery wastewater from five circular salmon broodstock rearing tanks is discharged to the Sacramento River at Discharge Point 003. The Facility does not add pollutants to overflow water which, if not diverted, would normally have passed through the Shasta Dam powerhouse's penstocks before entering the Sacramento River. Between September 2020 and September 2023, the daily flow from this discharge location was between 0.14 and 0.55 mgd, with an average of 0.38 mgd. Latitude: 40° 42' 59.90" N; and Longitude: 122° 25' 31.73" W.

Domestic wastewater is discharged to an onsite septic tank/leachfield system.

## II. DISCHARGE PROHIBITIONS (CAAP GENERAL ORDER SECTION IV)

The Discharge Prohibitions contained in CAAP General Order Section IV are applicable to this Facility.

## III. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS (CAAP GENERAL ORDER SECTION V)

### A. Effluent Limitations (CAAP General Order Section V.A)

Effluent Limitations are specified in Section V of the CAAP General Order. The discharge exhibits reasonable potential for formaldehyde and chlorine. The following

effluent limitations are applicable to this discharge and are contained in Section V.A of the CAAP General Order:

1. The Discharges to surface waters shall not exceed the effluent limitations contained in Table 2 below.

**Table 2. Effluent Limitations**

<b>Parameter</b>	<b>Units</b>	<b>Average Monthly Effluent Limitation</b>	<b>Maximum Daily Effluent Limitation</b>
Formaldehyde	mg/L	0.65	1.3
Chlorine	mg/L	--	0.018

2. The Discharger shall minimize the discharge of Total Suspended Solids through the implementation of the Best Management Practices and Pollution Prevention Plan established in Special Provision VII.C.3 of the CAAP General Order.

**B. Effluent Limitations – Applicable to Discharges to Specific Water Bodies (CAAP General Order Section V.B)**

**1. Final Copper Effluent Limitations – Not Applicable**

Copper sulfate is not utilized at the Facility and there is no reasonable potential for total recoverable copper. Therefore, an effluent limitation for total recoverable copper is not imposed on the Discharger.

**C. Land Discharge Specifications (CAAP General Order Section V.C)**

The Land Discharge Specifications contained in CAAP General Order Section V.C. are applicable to this Facility.

**IV. RECEIVING WATER LIMITATIONS**

**A. Surface Water Limitations (CAAP General Order Section VI.A)**

The discharge to the Sacramento River is subject to the Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan), therefore, the receiving water limitations contained in the CAAP General Order based on the Basin Plan, as indicated below, are applicable to this discharge.

- Un-ionized Ammonia (VI.A.1) – Not Applicable;
- Bacteria (VI.A.2);
- Biostimulatory Substances (VI.A.3);
- Chemical Constituents (VI.A.4);

- Color (VI.A.5);
- Dissolved Oxygen (VI.A.6.a.i, ii, iii and VI.A.6.b) – Per CAAP General Order Section VI.A.6.a.iii., the dissolved oxygen concentration in Sacramento River shall not be reduced below 7.0 mg/L at any time; Per CAAP General Order Section VI.A.6.b., from 1 June to 31 August, the dissolved oxygen concentration in Sacramento River shall not be reduced below 9.0 mg/L;
- Electrical Conductivity (VI.A.7) – Per CAAP General Order Section VI.A.7, the electrical conductivity concentration in the Sacramento River shall not exceed 230 micromhos/cm (50<sup>th</sup> percentile) or 235 micromhos/cm (90<sup>th</sup> percentile) at Knights Landing above Colusa Basin Drain;
- Floating Material (VI.A.8);
- Oil and Grease (VI.A.9);
- pH (VI.A.10);
- Pesticides (VI.A.11);
- Radioactivity (VI.A.12);
- Suspended Sediments (VI.A.13);
- Settleable Substances (VI.A.14);
- Suspended Material (VI.A.15);
- Taste and Odors (VI.A.16);
- Temperature (VI.A.17);
- Total Dissolved Solids (VI.A.18) – Not Applicable;
- Toxicity (VI.A.19); and
- Turbidity (VI.A.20.a).

#### **B. Ground Water Limitations (CAAP General Order Section VI.B)**

The Groundwater Limitations contained in CAAP General Order Section VI.B are applicable to this Facility.

### **V. PROVISIONS**

Provisions are contained in Section VII of the CAAP General Order, and the applicable provisions are referenced below.

#### **A. Standard Provisions (CAAP General Order Section VII.A)**

The Standard Provisions contained in CAAP General Order Section VII.A are applicable to this Facility.

**B. Monitoring and Reporting Program Requirements (CAAP General Order Section VII.B)**

Each Discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment C, of the CAAP General Order and as specified in Enclosure D of this NOA.

**C. Special Provisions (CAAP General Order Section VII.C)**

Special Provisions are contained in Section VII.C of the CAAP General Order. Only the following Special Provision sections from the CAAP General Order specified in Table 3 below apply to this Facility:

**Table 3. Summary of Applicable Special Provisions**

<b>Special Provision</b>	<b>CAAP General Order Section Reference</b>
Reopener Provisions	Section VII.C.1
Drug and Other Chemical Use Reporting	Section VII.C.2
Best Management Practices and Pollution Prevention	Section VII.C.3
Waste Disposal	Section VII.C.4
Special Provisions for Municipal Facilities (POTWs Only)	Section VII.C.5 – Not Applicable
Other Special Provisions	Section VII.C.6 – Not Applicable
Compliance Schedules	Section VII.C.7 – Not Applicable

**VI. COMPLIANCE DETERMINATION (CAAP GENERAL ORDER SECTION VIII.A)**

**A. Formaldehyde Effluent Limitations (CAAP General Order Section V.A.1)**

Compliance with the effluent limitations for formaldehyde may be evaluated using an estimated effluent concentration in lieu of effluent monitoring data. The estimated effluent concentration shall be calculated as described in CAAP General Order Section IX.A of Enclosure C, Monitoring and Reporting Program.

**VII. OTHER REQUIREMENTS**

- A.** The combined discharge from the Facility (Discharge Point 001 and Discharge Point 002) shall not exceed a maximum daily flow of 7.2 million gallons per day (mgd).
- B.** The by-pass of the granular activated carbon (GAC) filters is prohibited for wastewater containing malachite green or formalin. The analytical method for determining active malachite green shall be approved by the Executive Officer and the laboratory reporting level of malachite green shall have a reporting limit no

greater than 10 µg/L. Samples of GAC filter discharge shall be collected at INT-001 during malachite green treatment (INT-001 is described in Table D-1 of Enclosure D). Prior to discharging GAC filter backwash, the Discharger shall contain the wastewater and sample for malachite green and formaldehyde. If malachite green is detected or if formaldehyde exceeds effluent limits (Table 2 of this NOA, above), the malachite green and/or formalin laden wastewater cannot be discharged until verification that malachite green is not present in the discharge and the formaldehyde concentration meets permitted effluent limitations.

- C.** The CAAP General Order expires on **31 January 2025**. Only those CAAP facilities authorized to discharge under the expiring Order and who submit a Notice of Intent at least **one year** prior to the expiration date of the CAAP General Order (unless the Executive Officer grants permission for a later date) will remain authorized to discharge under administratively continued permit conditions.

The Executive Officer grants an extension to the deadline prescribed in the CAAP General Order (above); if a complete Notice of Intent is submitted **180 days** prior to the expiration date of the CAAP General Order the Facility shall remain authorized to discharge under the administratively continued permit conditions.

- D.** Aquaculture activities defined in 40 C.F.R. 122.25(b) will be subject to the annual fee for general NPDES permits and *de minimus* discharges that are regulated by individual or general NPDES permits (California Code of Regulations Section 2200(b)(9) for Category 3 discharges).
- E.** In accordance with section VII.C.3.a of the CAAP General Order, the Discharger shall certify within **90 days** from the issuance of this NOA that a Best Management Practices (BMP) Plan has been developed and is being implemented. To satisfy this requirement the Discharger shall submit a letter to the Central Valley Water Board certifying compliance with the BMP Plan requirements by **20 March 2024**. The Discharger can develop a new BMP Plan, or an existing BMP Plan may be modified for use under this requirement. The Discharger shall develop and implement the BMP Plan to prevent or minimize the generation and discharge of wastes and pollutants to waters of the United States and waters of the State and ensure disposal or land application of wastes is in compliance with applicable solid waste disposal regulations. The BMP Plan shall include practices used during salt treatments at the Facility to minimize salinity discharges to the receiving water. The Discharger shall review the BMP Plan annually and must amend the BMP Plan whenever there is a change in the Facility or in the operation of the Facility which materially increases the generation of pollutants or their release or potential release to surface waters.
- F.** The United States Department of Interior's Bureau of Reclamation, as owner of the property at which a surface water discharge occurs, is responsible for guaranteeing compliance with the CAAP General Order. The United States Department of



Interior's Fish and Wildlife Service retains primary responsibility for compliance with the CAAP General Order, including the day-to-day operations and monitoring. Enforcement actions will be taken against the Bureau of Reclamation only in an event that enforcement actions against the Fish and Wildlife Service are ineffective.

## VIII. ENFORCEMENT

Failure to comply with the CAAP 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, as well as discretionary penalties. In addition, late monitoring reports are subject to discretionary penalties and MMPs. When discharges do not occur during a quarterly monitoring report period, the Discharger must still submit a quarterly monitoring report indicating that no discharge occurred to avoid being subject to enforcement actions.

## IX. COMMUNICATION

All monitoring report submittals, notification of the beginning and end of discharge, questions regarding compliance and enforcement, and questions regarding permitting aspects shall be directed to Erin Jonasson of the Central Valley Water Board's NPDES Unit. Erin Jonasson can be reached at (530) 224-6128 or by email at [Erin.Jonasson@waterboards.ca.gov](mailto:Erin.Jonasson@waterboards.ca.gov).

The Central Valley Water Board is implementing a Paperless Office system to reduce our paper use, increase efficiency, and provide a more effective way for our staff, the public, and interested parties to view documents in electronic form. Therefore, the Discharger is required to submit all self-monitoring, technical, and progress reports required by this NOA using the State Water Resources Control Board's [California Integrated Water Quality System](http://www.waterboards.ca.gov/ciwqs/index.html) program website (<http://www.waterboards.ca.gov/ciwqs/index.html>). In general, if any monitoring data for a monitoring location can be submitted using a computable document format (CDF) file upload, then it should be submitted as a CDF file upload. However, certain parameters that cannot be uploaded to the CIWQS data tables, such as the BMP Plan, should be uploaded as a Portable Document Format (PDF), Microsoft Word, or Microsoft Excel file attachment. Also, please upload or enter a cover letter summarizing the content of the report to the submittal tab of the CIWQS module for each submittal.

All other documents not required to be submitted via CIWQS shall be converted to a searchable PDF and submitted by email to the [Central Valley Water Board](mailto:centralvalleyredding@waterboards.ca.gov) email ([centralvalleyredding@waterboards.ca.gov](mailto:centralvalleyredding@waterboards.ca.gov)) with the following information:

Attention: NPDES Compliance and Enforcement Section  
Discharger: U.S. Department of Fish and Wildlife  
Facility: Livingston Stone National Fish Hatchery

County: Shasta County  
CIWQS Place ID: 272829

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 Resources Control Board (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 NOA 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 [laws and regulations applicable to filling petitions](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) ([http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)) may be found on the internet or will be provided upon request.

(for) Patrick Pulupa  
Executive Officer

EJ: vt

Enclosures:      Enclosure A – Administrative Information  
                         Enclosure B – Location Map  
                         Enclosure C – Flow Schematic  
                         Enclosure D – Monitoring and Reporting Program  
                         Enclosure E – Approved Aquaculture Drug and Chemical Use  
                         CAAP General Order R5-2019-0079 (Discharger only)

cc electronically:

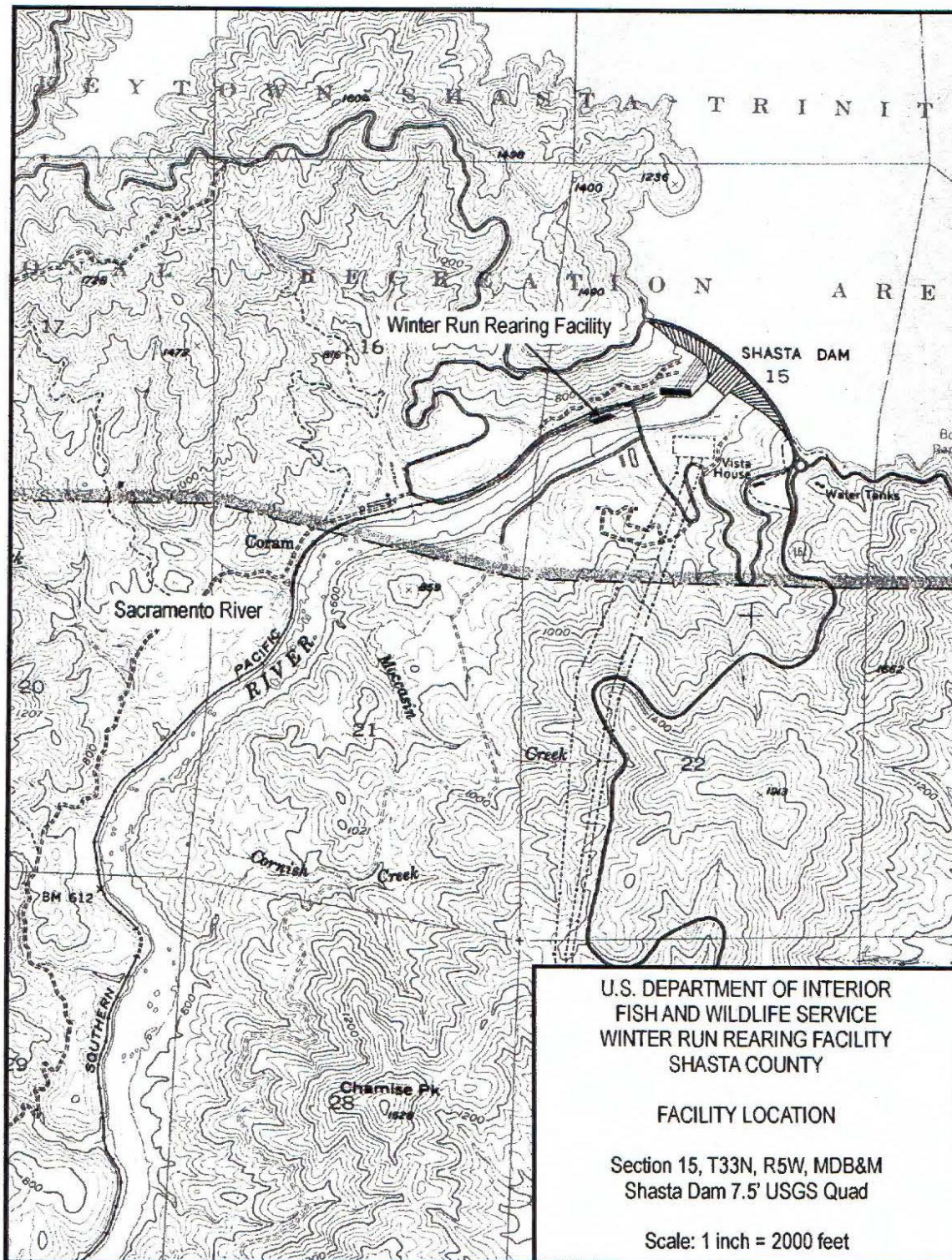
Elizabeth Sablad, USEPA, Region IX, San Francisco  
Prasad Gullapalli, U.S. EPA Region IX, San Francisco  
Division of Water Quality, State Water Board, Sacramento  
Shasta County Department of Resource Management, Division of  
Environmental Health, Redding

**ENCLOSURE A - ADMINISTRATIVE INFORMATION**

<b>Waste Discharge ID:</b>	5A450704010
<b>CIWQS Facility Place ID:</b>	272829
<b>General Order NOA Enrollee Number:</b>	R5-2019-0079-021
<b>Discharger:</b>	U.S. Department of Interior, Fish and Wildlife Service (Facility Operator) and Bureau of Reclamation (Land Owner)
<b>Name of Facility:</b>	Livingston Stone National Fish Hatchery
<b>Facility Address:</b>	16349 Shasta Dam Blvd
<b>Facility City, State Zip:</b>	Shasta Lake, CA 96019
<b>Facility County:</b>	Shasta County
<b>Facility Contact, Title and Phone Number:</b>	Brett Galyean Deputy Complex Manager (530) 365-8622
<b>Landowner:</b>	U.S. Department of Interior, Bureau of Reclamation
<b>Landowner Address:</b>	16349 Shasta Dam Blvd
<b>Landowner City, State Zip:</b>	Shasta Lake, CA 96019
<b>Landowner Contact and Phone Number:</b>	Elizabeth Hadley, (530) 247-8502
<b>Authorized Person to Sign and Submit Reports:</b>	Brett Galyean
<b>Mailing Address:</b>	24411 Coleman Fish Hatchery Road Anderson, CA 96007
<b>Billing Address:</b>	Same as Mailing Address
<b>Estimated Annual Total Weight Produced:</b>	12,200 pounds/year
<b>Type of Facility:</b>	CAAP Facility, SIC Code 9512
<b>Major or Minor Facility:</b>	Minor
<b>Threat to Water Quality:</b>	2
<b>Complexity:</b>	B
<b>Pretreatment Program:</b>	No
<b>Recycling Requirements:</b>	No
<b>Facility Permitted Flow:</b>	7.2 million gallons per day (mgd)
<b>Watershed:</b>	Sacramento River Basin
<b>Receiving Water:</b>	Sacramento River
<b>Receiving Water Type:</b>	Inland surface water

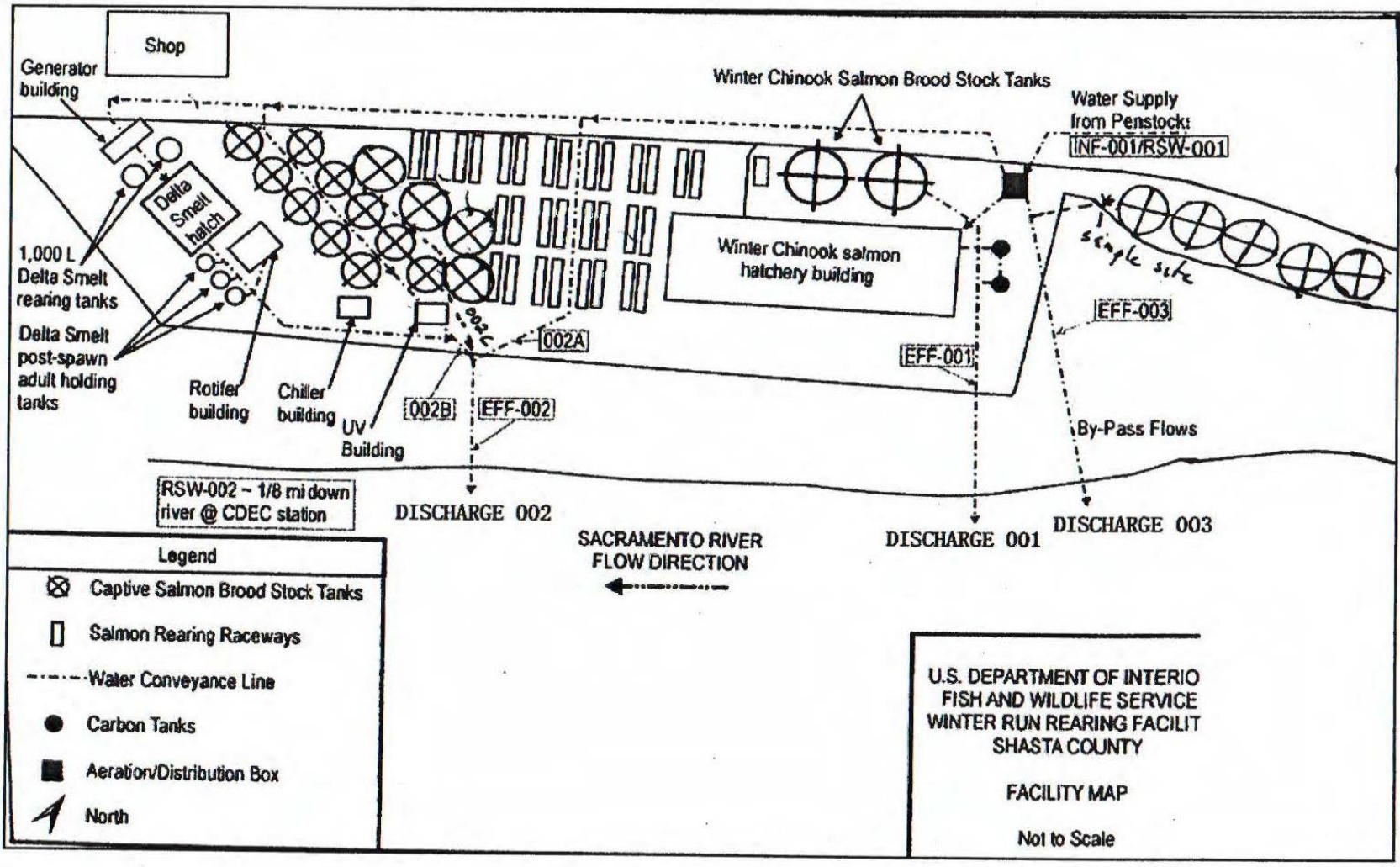


**ENCLOSURE B – LOCATION MAP**





**ENCLOSURE C – FLOW SCHEMATIC**



## ENCLOSURE D – MONITORING AND REPORTING PROGRAM

The Discharger is required to comply with all the Monitoring and Reporting Requirements contained in Attachment C of the CAAP General Order, as specified in this NOA Enclosure D.

This Facility is the category of production of less than 100,000 pounds of aquatic animals produced per year. Tables D-2, D-3, and D-4 below are based on the monitoring in the CAAP General Order, Attachment C for facilities producing less than 100,000 pounds of aquatic animals produced per year (CAAP General Order, Attachment C, Sections III.B, IV.A.2, and VIII.D, respectively).

### I. GENERAL MONITORING PROVISIONS

The Discharger shall comply with the General Monitoring Provisions specified in the CAAP General Order, Attachment C, Section I.

### II. MONITORING LOCATIONS

The monitoring locations are defined as follows in Table D-1 below, and a flow schematic showing the site-specific monitoring locations is provided in Enclosure C to this NOA.

**Table D-1. Monitoring Locations**

<b>Discharge Point Name</b>	<b>Monitoring Location Name</b>	<b>Monitoring Location Description</b>
	INF-001	Influent shall be collected at a location where a representative sample can be obtained, prior to source water entering the Facility [Approximate location: 40°43'0.27" N latitude and 122°25'31.29" W longitude].
GAC Filter Effluent	INT-001	Filtrate/backwash water from the GAC filters. Filtrate/backwash water shall be sampled prior to the point where filtrate/backwash water enters the EFF-001 waste stream.
001	EFF-001	Hatchery wastewater downstream of the salmon hatchery building, wild salmon broodstock holding tanks, and GAC filters shall be collected after the last point at which wastes are introduced and prior to hatchery wastewater entering the Sacramento River [Approximate location: 40°42'59.48" N latitude and 122°25'31.97" W longitude].

Enclosure D – Monitoring and Reporting Program  
 U.S. Department of Interior, Fish and Wildlife Service, & Bureau of Reclamation  
 Livingston Stone National Fish Hatchery

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
002	EFF-002	Hatchery wastewater at Discharge Point 002 shall be sampled from the larger combined discharge pipe after the last point at which wastes are introduced from the 30 rectangular salmon rearing tanks (EFF-002A), the ten circular tanks used for juvenile salmon rearing that combined with hatchery wastewater from the delta smelt rearing/storage operations (EFF-002B), and the four circular tanks used for salmon rearing (EFF-002C); and prior to effluent entering the Sacramento River. [Approximate location: 40°42'58.91" N latitude and 122°25'33.93" W longitude].
003	EFF-003	Overflow water from the supply water head tank and hatchery wastewater from five circular broodstock tanks located near the Facility's entrance. Hatchery wastewater at this location shall be collected after the last point at which wastes are introduced and prior to hatchery wastewater entering the Sacramento River [Approximate location: 40°42'59.90" N latitude and 122°25'31.73" W longitude].
	RSW-001	To address safety concerns, the upstream receiving water samples shall be collected from the influent water supply at INF-001 [Approximate location: 40°43'0.27" N latitude and 122°25'31.29" W longitude].
	RSW-002	To address safety concerns, the downstream receiving water samples shall be collected at a safe location approximately 0.2 miles downstream from the point where hatchery wastewater from Discharge Point 002 flows into the Sacramento River. [Approximate location: 40°42'53.74" N latitude and 122°25'45.67" W longitude].

**III. INFLUENT MONITORING REQUIREMENTS (CAAP GENERAL ORDER, ATTACHMENT C, SECTION III.B)**

- A. The Discharger shall monitor the source water supply to the Facility at Monitoring Location INF-001, for the frequencies/parameters specified below in Table D-2. Influent samples shall be collected at approximately the same time as effluent and receiving water samples.

**Table D-2. Influent Monitoring**

<b>Parameter</b>	<b>Units</b>	<b>Sample Type</b>	<b>Minimum Sampling Frequency</b>
pH	S.U.	Grab	1/quarter
Electrical Conductivity @ 25 degrees Celsius	µmhos/cm	Grab	1/quarter
Total Suspended Solids	mg/L	Grab	1/quarter

**Table D-2 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table D-2.

1. Parameters 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. Constituents shall be monitored using analytical methods with sufficiently sensitive reporting levels consistent with the SSM Rule specified in 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv).

**B. Influent Monitoring for Facilities with Intake Water Credits – Not Applicable**

**IV. EFFLUENT MONITORING REQUIREMENTS (CAAP GENERAL ORDER, ATTACHMENT C, SECTION IV.A.2)**

- A.** When the Facility is in operation and there is a discharge at Discharge Point-001, Discharge Point-002, and/or Discharge Point-003, the Discharger shall monitor the effluent at Monitoring Location EFF-001, EFF-002, and EFF-003, respectively, for the frequencies/parameters specified below in Table D-3. Effluent samples shall be collected during or immediately following raceway cleaning or administration of drug or chemical treatments and must be representative of the volume and quality of the discharge at the time when representative levels of solids, drugs, chemicals, or other pollutants are present in the discharge. Time of collection of samples shall be recorded.



**Table D-3. Effluent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	cfs	Meter	1/month
Total Suspended Solids (TSS)	mg/L	Grab	1/year
Net TSS (effluent minus influent)	mg/L	Net Calculation	1/year
Turbidity	NTU	Grab	1/quarter
pH	S.U.	Grab	1/quarter
Electrical Conductivity @ 25 degrees Celsius	µmhos/cm	Grab	1/quarter
Formaldehyde	mg/L	Grab	1/day during Formaldehyde use
Chlorine	mg/L	Grab	1/quarter during chlorine use

**Table D-3 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table D-3.

- Parameters 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.
- Electrical conductivity samples shall be collected quarterly. If sodium chloride is used, the quarterly monitoring of electrical conductivity shall be conducted during treatment.
- Constituents shall be monitored using analytical methods with sufficiently sensitive reporting levels consistent with the SSM Rule specified in 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv).
- Estimated concentrations of formaldehyde may be reported in lieu of analytical monitoring during formaldehyde use. If calculations are reported, then formaldehyde concentrations should be reported daily to match the concentrations reported in the Monthly Chemical Use Report (CAAP General Order, Attachment F). See CAAP General Order, Attachment C, Section IX.A for calculation procedures. If analytical monitoring is conducted, when Formaldehyde is added to the waters of the Facility, formaldehyde concentration shall be measured during time of peak discharge of Formaldehyde, at least one hour after start of treatment.
- Per CAAP General Order, Attachment C, Section IX.A, the discharger shall report all aquaculture drug and chemical use as part of the Monthly Drug and Chemical Use Report that is submitted on a quarterly basis.

6. Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.018 mg/L.
7. Total Suspended Solids (TSS) samples shall be collected during the month of highest feeding.

**B. Effluent Monitoring for Facilities with Intake Water Credits – Not Applicable**

**V. LAND DISCHARGE MONITORING REQUIREMENTS (CAAP GENERAL ORDER, ATTACHMENT C, SECTION VI)**

**A. Septic Tank/Leachfields.** The monitoring requirements contained in CAAP General Order, Attachment C, Section VI.A are applicable to this Facility.

**B. Sewage Lagoons – Not Applicable**

**VI. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER (CAAP General Order, Attachment C, Section VIII)**

**A. Sampling Locations.** When the Facility is in operation and there is a discharge from Discharge Point-001, Discharge Point-002, and/or Discharge Point-003, receiving water samples shall be collected from Monitoring Locations RSW-001 and RSW-002 for the frequencies/parameters specified below in Table D-4.

**B. Receiving Water Observations.** In conducting the receiving water sampling, a log shall be kept of the receiving water conditions. 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 quarterly self-monitoring report.

**C. Receiving Water Monitoring.** The Discharger shall monitor the receiving water at Monitoring Locations RSW-001 and RSW-002 as follows:

**Table D-4. Receiving Water Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Dissolved Oxygen	mg/L	Grab	1/quarter
Temperature	Degrees C	Grab	1/quarter
Turbidity	NTU	Grab	1/quarter
pH	S.U.	Grab	1/quarter
Electrical Conductivity @ 25 degrees Celsius	µmhos/cm	Grab	1/quarter

**Table D-4 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table D-4.

- Parameters 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.

## VII. OTHER MONITORING REQUIREMENTS

- A. Monthly Drug and Chemical Use Report.** The Discharger shall develop a monthly drug and chemical use report in accordance with CAAP General Order, Attachment C, Section IX.A describing all aquaculture drugs or chemicals used at the Facility. The report shall be submitted with the quarterly self-monitoring reports.
- B. Priority Pollutant Metals Monitoring.** In accordance with CAAP General Order, Attachment C, Section IX.B, the Discharger shall monitor the effluent (Monitoring Location EFF-001, EFF-002, and EFF-003) and the upstream receiving water (Monitoring Location RSW-001) for the metals listed in Table G-1 of the CAAP General Order once during the term of the CAAP General Order. **The monitoring shall occur beginning on or after 1 January 2021, but no later than 1 January 2023.** The Discharger shall electronically submit the priority pollutants metals monitoring results using the State Water Board's [California Integrated Water Quality System](http://www.waterboards.ca.gov/water_issues/programs/ciwqs) (CIWQS) Program Web site ([http://www.waterboards.ca.gov/water\\_issues/programs/ciwqs](http://www.waterboards.ca.gov/water_issues/programs/ciwqs)) **within 60 days of the final sampling event.** Refer to CAAP General Order, Attachment G for the specific monitoring requirements. Constituents shall be monitored using analytical methods with sufficiently sensitive reporting levels consistent with the SSM Rule specified in 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv).

Due to the issuance date of the NOA being past 1 January 2023, the Priority Pollutant Metals Monitoring **shall occur no later than 6 months following the effective date of the NOA.**

**C. Annual Feeding and Production Report.** The Discharger shall develop an annual feeding and production report in accordance with CAAP General Order, Attachment C, Section IX.C. The annual report shall be submitted on **1 February, annually**, and included the following information:

1. Monthly food usage in pounds for each calendar month.
2. Annual production of aquatic animals in pounds per year.

**VIII. REPORTING REQUIREMENTS (CAAP GENERAL ORDER, ATTACHMENT C, SECTION X)**

**A. General Monitoring and Reporting Requirements.** The Discharger shall comply with the General Monitoring and Reporting Requirements specified in the CAAP General Order, Attachment C, Section X.A.

**B. Self-Monitoring Reports (SMRs).** The Discharger shall comply with the Self-Monitoring Report requirements specified in the CAAP General Order, Attachment C, Section X.B. Monitoring in accordance with the renewed CAAP General Order is required to begin on the effective date of **1 January 2024**. SMRs are required to be submitted quarterly and annually. The Discharger shall comply with the reporting requirements specified in CAAP General Order, Attachment C, Section X. The first SMR required under the renewed CAAP General Order is due **1 May 2024** and shall include monitoring conducted from 1 January through 31 March. Table D-5, below, summarizes the SMR due dates required under the CAAP General Order. Quarterly monitoring reports must be submitted until your coverage is formally terminated in accordance with the CAAP General Order, even if there is no discharge during the reporting quarter.

**Table D-5. SMRs required in the MRP (Attachment C, CAAP General Order)**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
1/month	1 January 2024	First day of calendar month through last day of calendar month	1 May (1 Jan – 31 Mar) 1 Aug (1 Apr – 30 Jun) 1 Nov (1 Jul – 30 Sep) 1 Feb of following year (1 Oct – 31 Dec)
1/quarter	1 January 2024	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 Aug 1 Nov 1 Feb of following year
1/year	1 January 2024	January 1 through December 31	1 Feb of following year

### C. Other Reports

- 1. Analytical Methods Report.** The Discharger shall complete and submit an Analytical Methods Report **19 February 2024**. The Analytical Methods Report shall include the following for each constituent to be monitored in accordance with this Order: 1) applicable water quality objective, 2) reporting level (RL), 3) method detection limit (MDL), and 4) analytical method. The analytical methods shall be sufficiently sensitive with RLs consistent with the SSM Rule per 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv), and with the Minimum Levels (MLs) in the SIP, Appendix 4. The “Reporting Level or RL” is synonymous with the “Method Minimum Level” described in the SSM Rule. If an RL is not less than or equal to the applicable objective for a constituent, the Discharger shall explain how the proposed analytical method complies with the SSM Rule. Central Valley Water Board staff will provide a tool with the NOA to assist the Discharger in completing this requirement. The tool will include the constituents and associated applicable water quality objectives to be included in the Analytical Methods Report.
- 2. Analytical Methods Report Certification.** Prior to beginning the Priority Pollutant Metals Monitoring, the Discharger shall provide a certification acknowledging the scheduled start date of the Priority Pollutant Metals Monitoring and confirming that samples will be collected and analyzed as described in the previously submitted Analytical Methods Report. If there are changes to the previously submitted Analytical Methods Report, the Discharger shall outline those changes. A one-page certification form will be provided by Central Valley Water Board staff with the NOA that the Discharger can use to satisfy this requirement. Central Valley Water Board staff will provide a tool with the NOA to assist the Discharger in completing this requirement. The tool will include the Analytical Methods Report Certification form, which will acknowledge the scheduled start date of the Effluent and Receiving Water Characterization monitoring and certifies that samples will be taken and analyzed as described in the previously submitted and approved Analytical Methods Report. If there are changes to the approved Analytical Methods Report, the Discharger shall outline those requested changes in the form and not commence characterization monitoring until the requested changes have been reviewed and approved by Central Valley Water Board staff.

**ATTACHMENT E – APPROVED AQUACULTURE DRUGS AND CHEMICALS USE**

The following drugs and chemicals are used at the Facility to treat fish for parasites, fungi, and bacteria, as well as to clean rearing raceways to reduce the spread of disease among the confined fish population.

**Table E-1. Approved Aquaculture Drugs and Chemicals Use**

<b>Drug or Chemical</b>	<b>Maximum Daily Amount Used</b>	<b>Method of Application</b>	<b>Maximum Amount in Effluent</b>
Tricaine Methanesulfonate (MS-222)	200 grams	Bath	Estimated from 0.50-20 mg/L
Malachite Green	19 grams	Bath	<10 µg/L
Formalin	5,600 mL	Flow Through	< 0.005 mg/L
PVP Iodine	2,250 mLs	Flow Through	Estimated at 1.71 mg/L
Draxxin	10 mLs	Injection	None/ND
BioMycin (oxytetracycline)	2.7 mLs	Injection	None/ND
Luteinizing-Hormone-Releasing Hormone (LHRHa)	600 µg	Injection	None/ND
Chloramine T	100 g	Bath	Estimated at <1 mg/L
Terramycin 200D	100 g	Feed additive	Unknown