29 March 2016

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NOTICE OF APPLICABILITY; GENERAL WASTE DISCHARGE REQUIREMENTS FOR COLD WATER CONCENTRATED AQUATIC ANIMAL PRODUCTION FACILITY DISCHARGES TO SURFACE WATERS (CAAP GENERAL ORDER); ORDER R5-2014-0161; UNITED STATES DEPARTMENT OF INTERIOR, FISH AND WILDLIFE SERVICE AND BUREAU OF RECLAMATION; 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 (hereinafter Discharger) on 31 August 2010 for coverage under Order R5-2010-0018, for the Livingston Stone National Fish Hatchery (hereinafter Facility).

On 5 December 2014 the Central Valley Water Board adopted Order R5-2014-0161, which renewed the CAAP General Order. The Discharger submitted a notice of intent for the Facility on 15 July 2014 to continue coverage under the CAAP General Order. Effective **29 March 2016**, this NOA provides the Facility with continued coverage under the CAAP General Order for the discharge of hatchery wastewater to the Sacramento River, superseding a previous NOA issued on 31 August 2010. This Facility is assigned Order R5-2014-0161-031 and National Pollutant Discharge Elimination System (NPDES) permit No. CAG135001. Please reference CAAP General Order **R5-2014-0161-031** in all correspondence and submitted documents. The following enclosures are included as part of this NOA:

1) Enclosure A - Administrative Information
2) Enclosure B - Location Map
3) Enclosure C - Flow Schematic
4) Enclosure D - Monitoring and Reporting Program
5) Enclosure E - Approved Aquaculture Drugs and Chemicals

The CAAP General Order is enclosed and may also be viewed at the following web address: http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/. The Central Valley Water Board advises the Discharger to become familiar with the entire CAAP General Order. Facility operations and discharges shall be managed in accordance with requirements contained in the CAAP General Order and this NOA.

FACILITY INFORMATION/DISCHARGE DESCRIPTION

The Facility is located 0.5 miles downstream of the Shasta Dam powerhouse and approximately three miles northwest of the City of Shasta Lake on property owned by the United States Department of Interior's Bureau of Reclamation in Shasta Lake City, CA, Shasta County (near 40˚42'59.64" N latitude and 122˚25'33.15" W longitude), as shown in Enclosure B, a part of this NOA.

The Discharger nurtures winter-run Chinook salmon from egg to juvenile stages of the salmonid life cycle, manages a captive broodstock program, and operates storage/handling facilities for delta smelt. Winter-run Chinook salmon are raised in order to establish a demographic improvement in natural populations and aid in native population growth of the species. Adult fish are collected from a fish ladder in the Sacramento River at the base of the Keswick Dam in Redding, CA. The fish ladder is approximately 170 feet (ft) long by 38 ft wide and includes weirs to facilitate hydrologic pooling. Taken fish are identified by phenotypic and genetic characteristics. In addition, only 10 % of the adult fish can be from hatchery origin the remaining 90% are natural-origin in order to: (1) maintain the fitness of hatchery fish, (2) reduce the risk of domestication, and (3) decrease genetic divergence between hatchery and natural fish stocks. All hatchery-origin winter-run Chinook salmon and any natural-origin fish in excess of necessary broodstock needs are returned to the Sacramento River.

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* (Katz 1995). 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.

A delta smelt rearing/storage facility was added to the hatchery in 2007. 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.

Facility components for winter-run Chinook salmon rearing consist of two 20-foot diameter circular tanks, a salmon hatchery building (containing sixty 30-inch diameter tanks for early rearing of salmon fry, a walk in freezer, and a 120 gallon per minute chiller used to maintain appropriate temperatures for incubated salmon), thirty 3-ft by 16-ft rectangular tanks used for early-rearing of salmon, and ten 12-ft diameter tanks used for juvenile rearing as well as holding and rearing of captive broodstock. Nine additional 12-ft diameter tanks were placed into

Katz, S.E. (1995). "Environmental Impact Assessment for the Use of Formalin in the Control of External Parasites on Fish." Department of Biochemistry and Microbiology, Rutgers University, New Jersey Agricultural Experiment Station.

temporary operation to increase the production of winter-run Chinook salmon due to the effects of drought conditions on the population growth of winter-run Chinook salmon.

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-two 106-gallon tanks. There are five 265-gallon adult holding tanks for delta smelt outside of the delta smelt rearing building.

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.

The Facility does not meet the 20,000 lb harvest weight of aquatic animals per year or 5,000 lb food criteria (amount of food used during the calendar month of maximum feeding) for flow-through CAAP facilities requiring an NPDES permit. However, the Central Valley Water Board has designated the Facility as a CAAP facility requiring an NPDES permit because of chemical additives introduced into the Facility's waste stream. Taken broodstock are placed in holding tanks at the Facility, which are hydraulically connected to two 2,000 lb granular activated carbon (GAC) filters. The GAC filters are used for the removal of malachite green and formalin.

AQUATIC ANIMAL PRODUCTION AND OUTFALL DESCRIPTIONS

The Discharger reported, in a notice of intent, the estimated maximum five-year annual harvestable fish produced and estimated maximum monthly feed use (Table 1):

Table 1. Estimated Aquatic Animal Production and Feed Use

Maximum Annual Harvestable Aquatic Animal Production (lbs)	Maximum Monthly Feed Use (lbs)
Winter-run Chinook Salmon – 12,000	3,000
Delta Smelt – 200	

Hatchery wastewater is discharged from the Facility to the Sacramento River through three outfalls (Outfall 001, Outfall 002, and Outfall 003) as shown in Enclosure C, a part of this NOA, and as described below:

Outfall 001– Wastewater from the salmon hatchery building and broodstock holding tanks is discharged to the Sacramento River at Outfall 001. Approximately 0.7 mgd is released to the Sacramento River at Outfall 001.

Outfall 002– Wastewater from three sources is combined at Outfall 002 before entering the Sacramento River. The three source include: (1) 30 rectangular salmon rearing tanks

(monitoring location name EFF-002A), (2) ten circular tanks used for juvenile salmon rearing and hatchery wastewater from delta smelt rearing operations (monitoring location name EFF-002B), and (3) four temporary 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 Outfall 002.

Outfall 003 – Overflow water from the supply water head tank combined with hatchery wastewater from five temporary circular tanks is discharged to the Sacramento River at Outfall 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.

The Facility discharges domestic wastewater to an onsite septic tank/leachfield system.

EFFLUENT LIMITATIONS

Effluent limitations are specified in Section V., Effluent Limitations and Discharge Specifications, of the CAAP General Order. 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. The following effluent limitations (Table 2) are applicable to this discharge and are contained in Sections V.A of the CAAP General Order:

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

Table 2. Effluent Limitations

Parameter	Units	Average Monthly Effluent Limitation	Maximum Daily Effluent Limitation
Formaldehyde	mg/L	0.65[1]	1.3[1]
Chlorine	mg/L	--	0.018

[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 the CAAP General Order (Section IX.A of Attachment C, Monitoring and Reporting Program).

b. The Discharger shall minimize the discharge of total suspended solids through the implementation of the best management practices established in Special Provision VII.C.3 of the CAAP General Order.

RECEIVING WATER LIMITATIONS

Discharge from the Facility to the Sacramento River is within the Sacramento and San Joaquin River Basins, therefore, the receiving water limits contained in the CAAP General Order for the Sacramento and San Joaquin River Basins are applicable to this discharge.

OTHER REQUIREMENTS

1. The United States Department of the 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 the Interior's

Fish and Wildlife Service retains primary responsibility for compliance with the CAAP General Order, including 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.

2. Collected screenings and other solids, including fish carcasses, shall be disposed of in a manner approved by the Executive Officer, and consistent with the *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, California Code of Regulations, Division 2, Subdivision 1, Section 2005, et seq.

3. Circumvention 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 for 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 limitations, the formalin and/or malachite green laden wastewater cannot be discharged until verification that malachite green is not present in the discharge and the formaldehyde concentration meets permitted effluent limitations.

4. The Discharger shall continue to electronically submit Self-Monitoring Reports (SMRs) using the State Water Resources Control Board's California Integrated Water Quality System (CIWQS) program website (http://www.waterboards.ca.gov/ciwqs/index.html). Directions for SMR submittal are provided on the CIWQS website in the event of a service interruption during electronic submittal.

5. Aquaculture activities defined in the Code of Federal Regulations (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, as described in Title 23 of the California Code of Regulations, Division 3, Chapter 9, Article 1, Section 2200(b)(9) for Category 3 discharges.

6. The CAAP General Order expires on **31 December 2019**. Only those CAAP facilities authorized to discharge and who submit a notice of intent **at least 180 days** prior to the expiration date of Order R5-2014-0161 will remain authorized to discharge under administratively continued permit conditions.

7. 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 27 June 2016**. 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 a salinity evaluation and minimization plan to address salt treatments, if any, at the Facility. 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.

ENFORCEMENT

Failure to comply with the CAAP General Order may result in enforcement actions, which could include civil liability. Effluent limitation violations can be subject to a mandatory minimum penalty of $3,000 per violation. In addition, late monitoring reports can be subject to penalties. When discharges do not occur during a monitoring period, the Discharger must still submit monitoring reports indicating that no discharge occurred to avoid being subject to enforcement actions.

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 the Central Valley Water Board's NPDES unit at (530) 224-4845.

Please note that we are transitioning to a paperless office. Therefore, all documents other than monitoring reports shall be converted to a searchable portable document format (i.e., a document with a "pdf" extension) and submitted by email to centralvalleyredding@waterboards.ca.gov. Documents that are 50 MB or larger should be transferred to a CD, DVD, or flash drive and mailed to our office, attention "ECM Mailroom."

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 et seq. 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.

Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

Original Signed by Clint Snyder

(for) Pamela C. Creedon
Executive Officer

ZC:sjs

Enclosure and cc list on next page:

Enclosures (6):
1) Enclosure A – Administrative Information
2) Enclosure B – Location Map
3) Enclosure C – Flow Schematic
4) Enclosure D – Monitoring and Reporting Program
5) Enclosure E – Approved Aquaculture Drugs and Chemicals Use
6) CAAP General Order R5-2014-0161 (Discharger only)

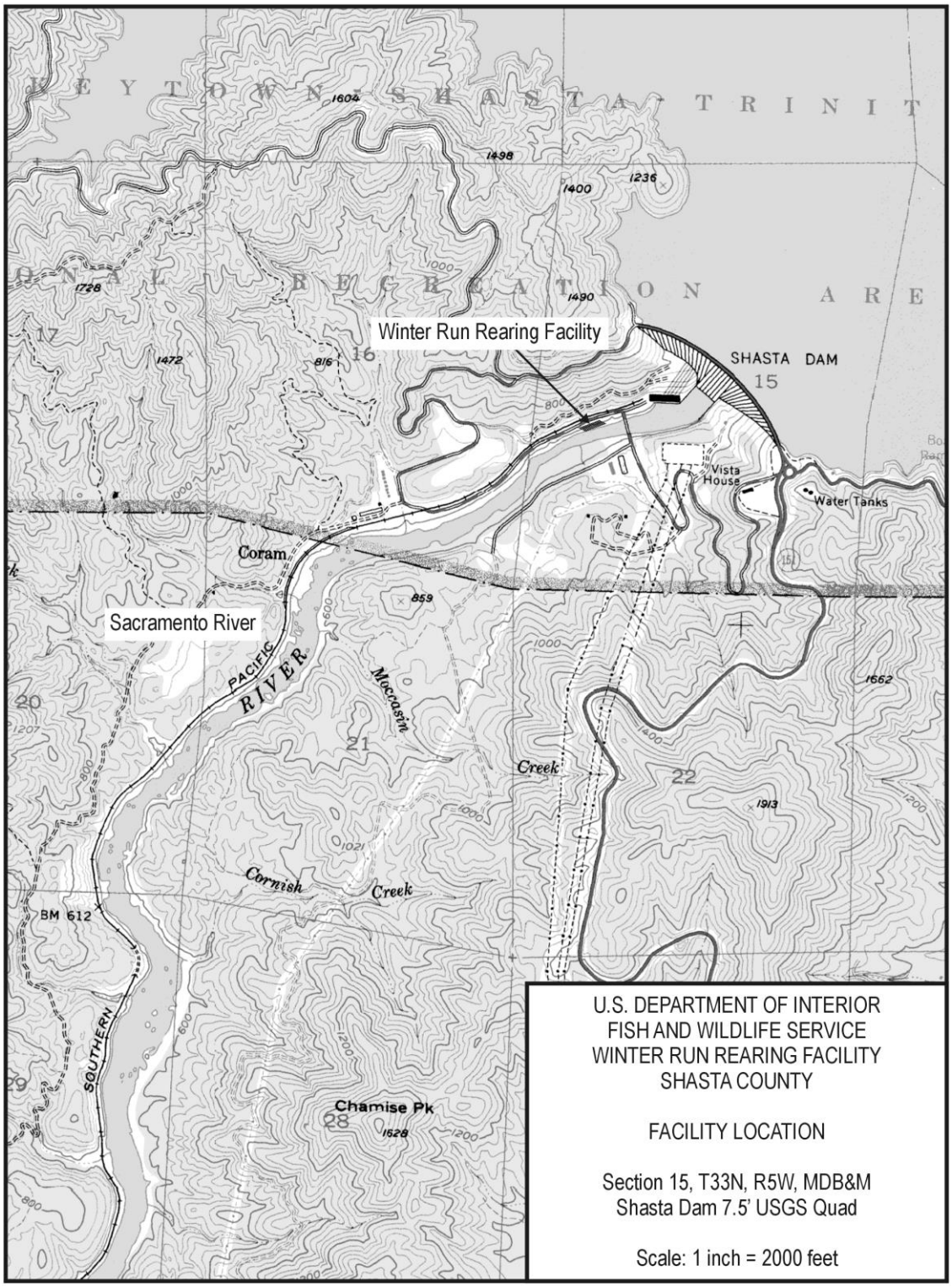
cc via email: John Rueth, U.S. Fish and Wildlife Service, City of Shasta Lake
David Smith, U.S. EPA, Region IX, San Francisco
Phil Isorena, State Water Resources Control Board, Sacramento

ENCLOSURE A – ADMINISTRATIVE INFORMATION

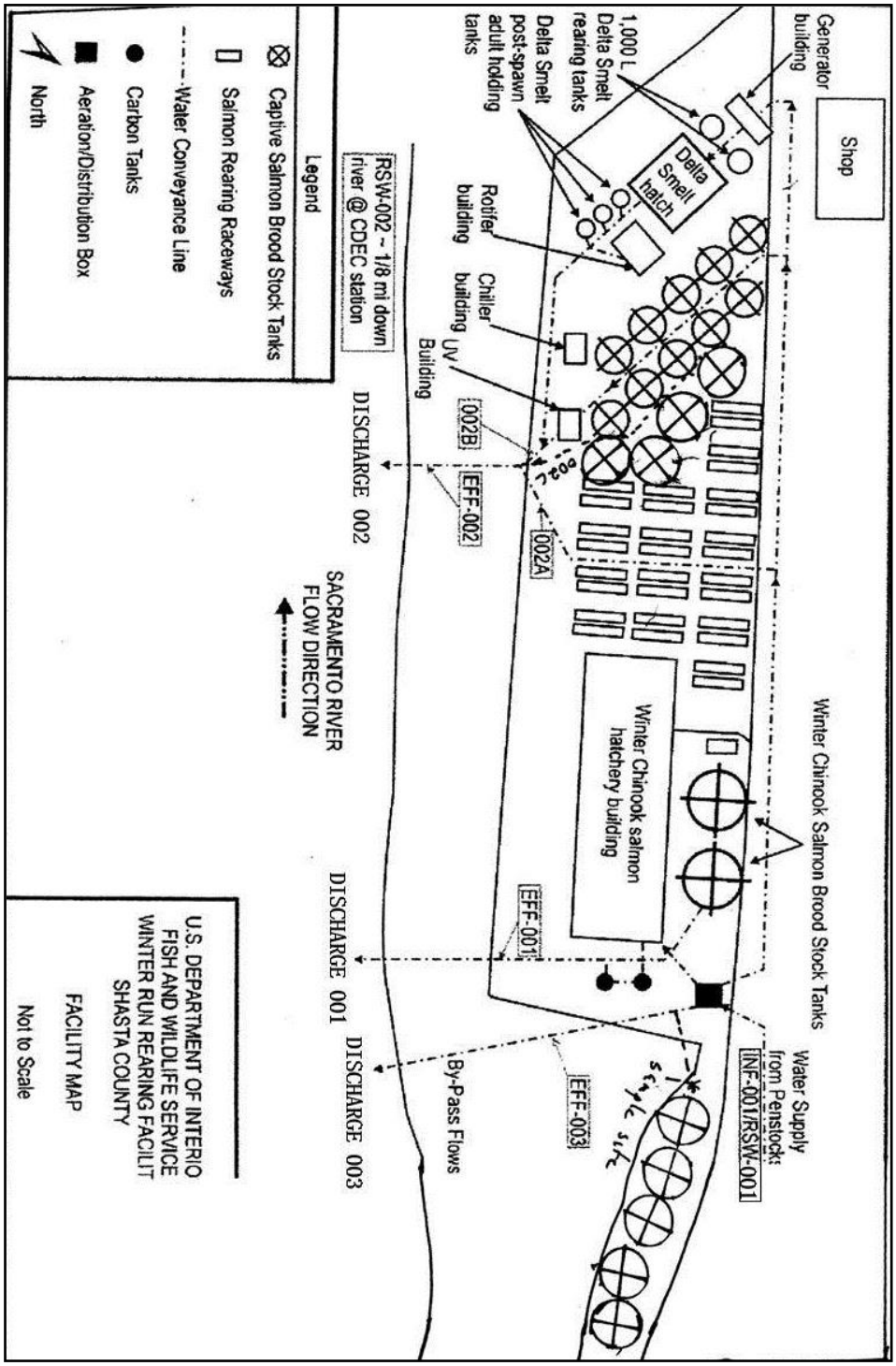
Name of Facility	Livingston Stone National Fish Hatchery
Type of Facility	Cold Water Concentrated Aquatic Animal Production Facility, SIC Code 0921
WDID	5A450704010
General Order NOA Enrollee Number	R5-2014-0161-031
Discharger	U.S. Fish and Wildlife Service (Facility owner/operator) and U.S. Bureau of Reclamation (land owner)
Facility Address	16349 Shasta Dam Blvd. Shasta Lake, CA 96019
Land Owner (Address)	U.S. Bureau of Reclamation 16349 Shasta Dam Blvd. Shasta Lake, CA 96019
Facility Contact, Title, and Phone	John Rueth, Assistant Hatchery Manager, (530) 275-0549
Authorized Person to Sign and Submit Reports	Brett Galyean, Acting Complex Project Leader, (530) 365-8622 John Rueth, Assistant Hatchery Manager, (530) 275-0549
Mailing Address	Livingston Stone National Fish Hatchery 16349 Shasta Dam Blvd. Shasta Lake, CA 96019
Billing Address	Brett Galyean, Acting Complex Project Leader U.S. Fish and Wildlife Service 24411 Coleman Fish Hatchery Road Anderson, CA 96007
Maximum Estimated Total Annual Weight of Fish Production	12,200 lbs
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Historical Combined Maximum Monthly Average Discharge from Facility[1]	8.4 cfs (or 5.4 mgd)
Watershed	Sacramento River Basin
Receiving Water	Sacramento River
Receiving Water Type	Inland surface water

[1]Based on self-monitoring data submitted by the Discharger between October 2012 and October 2015 for monitoring locations EFF-001, EFF-002A, EFF-002B, and EFF-003.

ENCLOSURE B – LOCATION MAP



ENCLOSURE C – FLOW SCHEMATIC



ENCLOSURE D – MONITORING AND REPORTING PROGRAM

The Discharger is obligated to comply with the monitoring and reporting requirements contained in the CAAP General Order, Attachment C ─ Monitoring and Reporting Program. To the extent of the CAAP General Order, Attachment C provides conditions that the NOA specify certain requirements and Enclosure D provides such specificity. Enclosure D also provides a summary of other requirements described in Attachment C of the CAAP General Order.

This Facility produces less than 100,000 pounds of aquatic animals per year. Tables D-2, D-3, and D-4 are based on the monitoring and reporting program shown in Attachment C of the CAAP General Order for facilities producing less than 100,000 pounds of aquatic animals per year (CAAP General Order, Attachment C ─ Sections III.B, IV.A.2, and VIII.D).

A. Monitoring Locations. Monitoring locations are defined as follows in Table D-1 and a flow schematic showing site-specific monitoring locations is provided in Enclosure C, a part of this NOA.

Table D-1. Monitoring Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	Influent shall be collected at a location where a representative sample can be obtained, prior to source water entering the Facility.
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.
Outfall 001	EFF-001	Hatchery wastewater from the salmon hatchery building and broodstock holding tanks are discharged to the Sacramento River at Outfall 001 and 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].
Outfall 002	EFF-002	Hatchery wastewater at Outfall 002 shall be a field or laboratory <u>composite</u> from three discharge sources: 1. Discharge from the 30 rectangular salmon rearing tanks. Hatchery wastewater at this location shall be collected and sampled after the last point at which wastes are introduced, prior to effluent entering the Sacramento River. To address safety concerns, the Discharger may sample directly from the rectangular rearing tanks [Approximate location: 40°42'58.91" N latitude and 122°25'33.93" W longitude]. 2. Discharge from the ten circular tanks used for juvenile salmon rearing combined with hatchery wastewater from the delta smelt rearing/storage operations. Hatchery wastewater at this location shall be collected after the last point at which wastes are introduced, prior to effluent entering the Sacramento River. To address safety concerns, the Discharger may directly sample from the circular rearing tanks or adult delta smelt holding tanks [Approximate location: 40°42'58.91" N latitude and 122°25'33.93" W longitude]. 3. Discharge from the four temporary circular tanks used for salmon rearing; tanks were placed in operation in September 2014. Hatchery

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
		wastewater at this location shall be collected and sampled after the last point at which wastes are introduced, prior to effluent entering the Sacramento River. To address safety concerns, the Discharger may directly sample from the temporary circular tanks, designated EFF-002C, to characterize hatchery wastewater at this location [Approximate location: 40°42'58.91" N latitude and 122°25'33.93" W longitude].
Outfall 003	EFF-003	Overflow water from the supply water head tank and hatchery wastewater from five temporary circular 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 Outfall 002 flows into the Sacramento River.

B. Influent Monitoring Requirements. The Discharger shall monitor influent to the Facility at monitoring location INF-001, for the frequencies shown in Table D-2, when the Facility is in operation and there is a discharge at Outfall 001, Outfall 002, and/or Outfall 003. Samples shall be collected at approximately the same time as effluent samples.

Table D-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	S.U.	Grab	1/quarter[2]	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/quarter[2]	[1]
Copper (Total Recoverable)	µg/L	Grab	1/quarter during $CuSO_4$ use[2,3]	[1]
Hardness (as $CaCO_3$)	mg/L	Grab	1/quarter during $CuSO_4$ use[2]	[1]
Total Suspended Solids	mg/L	Grab	1/year[2]	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. Part 136.

[2] Samples shall be collected approximately at the same time as effluent samples.

[3] The maximum reporting level required for total recoverable copper is 0.5 µg/L, in accordance with Section 2.4.2 and Appendix 4 of the SIP.

C. Effluent Monitoring Requirements. The Discharger shall monitor effluent for the frequencies/parameters shown in Table D-3, when the Facility is in operation and there is a discharge at Outfall 001, Outfall 002, and/or Outfall 003. Samples shall be collected at approximately the same time as influent samples.

Table D-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	cfs	Flow Measurement Device[1]	1/month	[1]
Turbidity	NTU	Grab	1/quarter	[1]
pH	S.U.	Grab	1/quarter[3]	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/quarter [2,7]	[1]
Copper (Total Recoverable)	µg/L	Grab	1/quarter during $CuSO_4$ use[3,6]	[1]
Hardness (as $CaCO_3$)	mg/L	Grab	1/quarter during $CuSO_4$ use[3]	[1]
Formaldehyde	mg/L	Grab	1/day during Formalin use[4,7]	[1]
Chlorine	mg/L	Grab	1/quarter during chlorine use[5,7]	[1]
Total Suspended Solids (TSS)	mg/L	Grab	1/year[6]	[1]
Net TSS (effluent minus influent)	mg/L	Net Calculation	1/year	--

[1] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. Part 136.

[2] Samples shall be collected quarterly. If sodium chloride is used, the quarterly monitoring of EC shall be conducted during treatment.

[3] The maximum reporting level required for total recoverable copper is 0.5 µg/L, in accordance with Section 2.4.2 and Appendix 4 of the SIP. The monthly sample shall be collected during the time of peak discharge of copper, at least one hour after start of treatment. Effluent hardness and pH shall be measured at the same time as total recoverable copper.

[4] Estimated concentrations of formaldehyde may be reported in lieu of analytical monitoring during Formalin use. See Section IX.A of the CAAP General Order for calculation procedures. If analytical monitoring is conducted, when Formalin is added to the waters of the Facility, formaldehyde concentration shall be measured during time of peak discharge of Formalin, at least one hour after start of treatment.

[5] Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.018 mg/L.

[6] Samples shall be collected during the expected month of highest feeding.

[7] Per Section IX.A of the CAAP General Order, 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.

D. Receiving Water Monitoring Requirements. Receiving water samples shall be collected from monitoring locations RSW-001 and RSW-002, for the frequencies/parameters shown in Table D-4, when the Facility is in operation and there is a discharge at Outfall 001, Outfall 002, and/or Outfall 003. Samples shall be collected at approximately the same time as effluent samples.

Table D-4. Receiving Water Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	1/quarter	[1]
Temperature	°C	Grab	1/quarter	[1]
Turbidity	NTU	Grab	1/quarter	[1]
pH	S.U.	Grab	1/quarter	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/quarter	[1]
Hardness (as $CaCO_3$)	mg/L	Grab	1/quarter during $CuSO_4$ use[2]	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. Part 136.

[2] When copper sulfate is added to waters of the facility, hardness (as $CaCO_3$) shall be measured quarterly during treatment.

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 monitoring report.

E. Land Discharge Monitoring Requirements. The Discharger shall conduct septic tank and leachfield inspections annually and report the findings in the annual self-monitoring reports (**due 1 February, annually**) in accordance with Section VI.A of the CAAP General Order.

F. Monthly Drug and Chemical Use Report. The Discharger shall develop a monthly drug and chemical use report describing all aquaculture drugs or chemicals used at the Facility in accordance with Section IX.A of the CAAP General Order. The report shall be submitted with the quarterly self-monitoring reports.

G. Annual Feeding and Production Report. The Discharger shall develop an annual feeding and production report in accordance with the CAAP General Order, Attachment C, Section IX.C. The report shall be submitted **28 February, annually,** and include 1) monthly food usage in pounds for each calendar month of the previous year, and 2) annual production of aquatic animals in pounds per year for the previous year.

H. Priority Pollutant Metals Monitoring. In accordance with the CAAP General Order, Attachment C, Section IX.B., the Discharger shall monitor the effluent (at monitoring locations EFF-001, EFF-002 and EFF-003) and the upstream receiving water (RSW-001) for the metals listed in Table G-1 of the CAAP General Order once during the term of Order R5-2014-0161. **The monitoring shall occur after 1 January 2018, but no later than 1 July 2019.** The discharger shall electronically submit the priority pollutants metals monitoring results using the State Water Board's California Integrated Water Quality System program website (http://www.waterboards.ca.gov/ciwqs/index.html), **within 60 days of the final sampling event**. Refer to CAAP General Order, Attachment G, for the specific monitoring requirements.

REPORTING REQUIREMENTS

Self-monitoring reports (SMRs) are required to be submitted quarterly and annually. Table D-5, below, summarizes SMR due dates required under the CAAP General Order. Quarterly monitoring reports must be submitted until coverage is formally terminated in accordance with the CAAP General Order, even if there is no discharge during a reporting quarter.

Table D-5. SMRs required in the Monitoring and Reporting Program (Attachment C, CAAP General Order)

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
1/month	1 January	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 February of following year (1 Oct – 31 Dec)
1/quarter	1 January	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 February of following year
1/year	1 January	January 1 through December 31	1 February of following year

In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition and/or limitation of the CAAP General Order, the Discharger shall notify the Central Valley Water Board by telephone at (530) 224-4845 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation. Written notification shall state the nature, time,

duration, and cause of noncompliance, and shall describe measures being taken to remedy current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal self-monitoring report.

ENCLOSURE E – APPROVED AQUACULTURE DRUGS AND CHEMICALS USE

The following drugs and chemicals are used at the Facility to prevent/medicate fish for any potential contamination by bacteria, fungi, viruses and pathogens, and to reduce the spread of disease among the confined fish population. Some chemicals may be used to clean Facility treatment/operation components.

Drug or Chemical	Estimated Maximum Daily Amount Used	Method of Application	Estimated Maximum Concentration in Effluent
Malachite Green	50 grams	Bath	<10 µg/L
Formalin	400 mL	Flow Through	< 0.005 mg/L
Tricaine Methanesulfonate (MS-222)	200 grams	Bath	Estimated from 0.05-20 mg/L
Povidone-iodine (PVP-I)	1,000 mL	Flow Through (disinfection to ground)	Estimated at 1.71 mg/L
Chloramine-T	100 grams	Bath	Estimated at <1 mg/L
Pond PolyAqua	100 mL	Bath	Estimated at <100 mg/L
Luteinizing-Hormone-Releasing Hormone (LHRH)	1,500 micrograms	Injected into adult salmon	Unknown
Draxxin	20 mL	Injected into adult salmon	Unknown
Bio-Mycin®200 (oxytetracycline)	20 mL	Injected into adult salmon	Unknown
Vibrio Vaccine	1 L	Bath	Zero (discharged to land)
Terramycin 200D	100 grams	Feed additive	Unknown