

Response to Written Comments

In Consideration of Waste Discharge Requirements Order No. R1-2015-0009 New General National Pollutant Discharge Elimination System (NPDES) Permit for Cold Water Concentrated Aquatic Animal Production Facility Discharges to Surface Waters

**Regional Water Quality Control Board, North Coast Region
November 19, 2015**

Comment Letters Received

The initial deadline for submission of public comments regarding the draft General Waste Discharge Requirements for Cold Water Concentrated Aquatic Animal Production Facility Discharges to Surface Waters (Draft General Permit) was June 26, 2015. The deadline was subsequently extended to July 17, 2015. PacifiCorp and the California Department of Fish and Wildlife (DFW) provided timely comment letters, as listed below. Some comments resulted in clerical edits or clarification. Significant comments and clarifications received are summarized and followed by staff response in this document. Where appropriate, staff modified the draft in response to comment (Proposed General Permit). Several comments were duplicative or addressed common issues. Therefore, where applicable, duplicative or related comments were grouped together and a single response provided. The comment letters received are attached as appendices:

- Appendix A. PacifiCorp – Response to Comments on the Draft General National Pollutant Discharge Elimination System Permit for Concentrated Aquatic Animal Production Facilities in the North Coast Region, dated June 25, 2015.
- Appendix B. DFW – Draft General NPDES Permit for Concentrated Aquatic Animal Production Facilities, dated June 22, 2015.
- Appendix C. DFW – Preliminary Comments on Draft General NPDES Permit, dated June 26, 2015.
- Appendix C-1. DFW – *Hatchery Policy comments 6-26-15.docx*.
- Appendix D. DFW – NC Draft General NPDES Permit Preliminary Comments, dated July 17, 2015.
- Appendix D-1. DFW – *NC draft General Comments July 17 2015.xlsx*.

The correspondence from DFW identified as Appendix C included a document titled *Hatchery Policy comments 6-26-15.docx*, which is attached to this response as Appendix C-1. The correspondence from DFW identified as Appendix D included a spreadsheet titled *NC draft General Comments July 17 2015.xlsx* containing detailed comments, which is

attached to this response as Appendix D-1. Regional Water Board staff has assigned a number to each comment in Appendix D-1 in order to identify specific comments when grouping and summarizing duplicative or related comments.

PacifiCorp Comments

Comment 1 – Removal of Iron Gate Hatchery (Appendix A): PacifiCorp agreed with the Regional Water Board's staff letter dated June 25, 2015 indicating that Iron Gate Hatchery would be removed from the Draft General Permit and instead covered by an individual NPDES permit due to the complexities associated with discharge compliance in that specific location. PacifiCorp indicated that they do not plan to submit further comments on the Draft General Permit.

Response 1: Regional Water Board staff removed Iron Gate Hatchery from the Proposed General Permit. Regional Water Board staff plans to develop an individual NPDES permit for Iron Gate Hatchery. Once drafted, the Iron Gate Hatchery NPDES permit will be made available for public comment as required by statute prior to future Board consideration for adoption. Staff anticipates bringing this action to the Board sometime in 2016.

DFW Comments

Comment 2 – General Permit Versus Individual Permit (Appendix B; Appendix C; Appendix D; and Appendix D-1, Comment Nos. 3 and 5): DFW comments that the Draft General Permit is not a "general" permit and instead contains four individual permits in one complex document. DFW comments that the only general provisions are for total suspended solids (TSS), settleable solids, and the prohibition of detectable levels of drugs or chemicals for treating fish for diseases.

Response 2: Regional Water Board staff amended the applicable portions of the Proposed General Permit to remove Iron Gate Hatchery due to the complexities associated with discharge compliance at that facility, and is planning to develop an individual permit for Iron Gate Hatchery.

With the removal of Iron Gate Hatchery, the only requirements in the Proposed General Permit that do not apply to all of the covered facilities are 1) the TSS and settleable solids effluent limitations for the Mad River Fish Hatchery, 2) the pH effluent limitations, and 3) the effluent monitoring requirements for three priority pollutants. These requirements were established based on site-specific considerations, as described below:

- 1) The pH effluent limitations are based on waterbody-specific water quality objectives contained in the Basin Plan, which vary by receiving waterbody (7.0 to 8.5 for the Trinity River and 6.5 to 8.5 for the Mad River and Russian River).
- 2) The effluent limitations for TSS and settleable solids for the Mad River Fish Hatchery apply to the total concentration in the effluent as required by the U.S. Environmental Protection Agency's (U.S. EPA) December 2007 *Mad River Total Maximum Daily Loads for Sediment and Toxicity*, whereas the limitations for the remaining facilities represent

an allowable incremental increase above that concentration present in the influent water.

- 3) The effluent monitoring requirements for the three priority pollutants (chromium VI at the Coyote Valley Fishery Mitigation Facility, cyanide at the Trinity River Salmon and Steelhead Hatchery, and bis (2-ethylhexyl) phthalate at the Warm Springs Fish Hatchery) are necessary to collect site-specific information for the applicable facilities because monitoring data for these pollutants at the respective facilities were insufficient to determine reasonable potential to cause or contribute to an exceedance of water quality criteria.

In lieu of applying the most stringent effluent limitations and monitoring requirements for all of the covered facilities, Regional Water Board staff chose to implement the applicable site-specific requirements in the Proposed General Permit. The discharge prohibitions, receiving water limitations, special provisions, remaining monitoring and reporting program (MRP) requirements, and application requirements of the Proposed General Permit are uniformly applicable to all Permittees. Therefore, the Proposed General Permit is consistent with the conditions required by 40 C.F.R. section 122.28 for issuance of general permits to regulate a point source category.

Comment 3 – Prohibition of Detectable Levels of Chemicals Used for the Treatment and Control of Disease (Appendix B; Appendix C; Appendix C-1; Appendix D; and Appendix D-1, Comment Nos. 1, 6, 11, 33, 37, 38, 39, 40, and 51): DFW does not agree with the prohibition of detectable levels of chemicals used for the treatment and control of disease contained in section IV.G of the Draft General Permit which implements the Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture Operations (Hatchery Policy) contained in the North Coast Region Water Quality Control Plan (Basin Plan). DFW indicates that a specific challenge with the "Hatchery Policy" regarding the prohibition of detectable discharge of drugs and chemicals used to treat fish is that laboratory and field technology continues to improve, and thus detection limits have decreased. DFW states that, even the 1974 detection limits for most drugs and chemicals is below scientifically validated concentrations for adversely affecting beneficial uses and requests chemical-specific water quality-based effluent limitations (WQBELs) and receiving water limitations in lieu of the prohibition.

Response 3:

Incorporation of chemical-specific water quality-based effluent limitations (WQBELs) and receiving water limitations in lieu of the prohibition would require changes to existing regulations and go beyond the scope of this permit action. As written, the Proposed General Permit has been developed to be consistent with both the Basin Plan Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture Operations (Hatchery Policy) and the U.S. EPA national effluent guidelines (ELGs). It is important to remember that the Hatchery Policy was in effect and incorporated into requirements of the existing individual permits for the covered facilities.

In developing the Proposed General Permit Regional Water Board staff has considered information derived by U.S. EPA during development of the ELGs for cold water aquatic

animal production (CAAP) facilities. U.S. EPA found that metals may be present in trace amounts as feed additives, in sanitation products, or as a result of deterioration of machinery and equipment but that treatment systems (sediment basins) used within the industry provide substantial reductions of most metals. Because most metals can be adequately controlled by controlling solids, and because U.S. EPA was proposing control of total suspended solids (TSS) with best management practice (BMP) requirements, U.S. EPA did not propose to regulate metals directly. (67 FR 57891) U.S. EPA also acknowledged that residuals from federally registered pesticides (including pesticides used for controlling animal parasites and aquatic plants) may also be present in CAAP wastewater. Some pesticides are bioaccumulative and retain their toxicity once they are discharged into receiving waters. U.S. EPA observed, similar to metals, that many of the treatment systems used within the industry provide adequate reductions of pesticides. Although most treatment systems within the industry were not specifically designed and operated to remove pesticide residuals, U.S. EPA noted that pesticide residuals rapidly bind to sediment particles and that pollution control technologies or management practices that control TSS are also expected to control most pesticide residuals. U.S. EPA therefore did not propose to regulate pesticide discharges directly from CAAP facilities. (67 FR 57891)

The Technical Development Document for the Final ELGs and New Source Performance Standards for the CAAP Point Source Category, EPA-821-R-040-12 (Revised August 2004) addresses the environmental impacts of drugs and chemicals in the aquaculture industry. Section 9.5 of the Technical Development Document, states that antibiotics are typically incorporated into feed, and can ultimately be released into the environment. The most widely used antibiotic medication at aquaculture facilities in the U.S. is oxytetracycline. The literature indicates that most forms of oxytetracycline are not readily assimilated by fish, and therefore much of the medication in the feed eaten by the fish passes through unmetabolized. U.S. EPA observed that in flow-through and recirculating systems, much of the unmetabolized drug can be bound to feces and other solids in the effluent. The discharge of solids, therefore, results in the discharge of some of the drug to the surrounding receiving water, in addition to drugs present in the discharge in the dissolved form. Again, treatment systems (settling basins) that remove suspended solids therefore also remove drugs bound to fish feces, such as oxytetracycline and other similar disease treatment substances.

For drugs or chemicals used in an immersion bath, “drip” treatment, or in other direct application to waters at the Facility, use of the following formula has, and could continue to provide assurance that concentrations of treatment chemicals would be below detection at the point of discharge from settling basins.

To calculate concentration (C) at the point of discharge:

C = concentration of chemical or drug at the point of discharge

$C = (\text{treatment concentration}) \times (\text{flow in treatment area}) \div (\text{flow at point of discharge})$

Example: Potassium permanganate (KMnO₄) concentration

$C = 2.0 \text{ mg/L (KMNO}_4) \times \frac{0.45 \text{ mgd (flow through treatment area)}}{5.0 \text{ mgd (flow at point of discharge)}}$

$C = 2.0 \text{ mg/L} \times 0.09 = 0.18 \text{ mg/L}$ potassium permanganate at the point of discharge.

In lieu of establishing numeric effluent limitations or detection levels, to ensure compliance with the ELGs and demonstrate that discharges are protective of aquatic life and other beneficial uses, section X.C.2.a of the Proposed General Permit and section VIII of the Notice of Intent for coverage (NOI, Attachment B) require chronic toxicity test information and calculation of effluent concentrations for all chemicals and drugs applied in solution for immersive treatment. These requirements are consistent with the Hatchery Policy, Final ELGs, and ongoing practices at existing CAAP facilities.

The Hatchery Policy defines the conditions under which point source discharges of waste from fish hatcheries, fish rearing facilities, and aquaculture operations (“hatcheries”) can be allowed into waterbodies and during times of year where and when such discharges are otherwise prohibited. As with the ELGs, the Hatchery Policy specifically contemplates the necessity and ability for hatcheries to treat fish for disease. This is evidenced by criterion no. 3 from the Hatchery Policy which states, “The discharge of detectable levels of chemicals *used for the treatment and control of disease*, other than salt (NaCl) shall be prohibited.” The Hatchery Policy is designed to ensure that treatment for disease is conducted in a manner that assures protection of water quality. We agree that methodologies for detection have improved dramatically since the Hatchery Policy was first adopted in 1989; and in some cases a literal interpretation and implementation of this provision could frustrate the Hatchery Policy’s general purpose. With respect to the Proposed General Permit, we think it is reasonable to conclude that the Hatchery Policy, including the provision on treatment of disease, is best applied in a manner to prevent discharge of chemicals at levels that (a) would cause toxicity, (b) exceed water quality objectives, and (c) otherwise impair beneficial uses. Staff has incorporated a footnote in section IV.G. and amended section IV.E.2 of the Fact Sheet to clarify the Regional Water Board’s interpretation of the Hatchery Policy in the Proposed General Permit. Even without this clarification, however, based upon monitoring data submitted by DFW and other information available to Regional Water Board staff, the existing facilities intended for coverage under the Proposed General Permit have routinely met the requirements of the Hatchery Policy.

Never-the-less, despite routine monitoring data which indicates that hatcheries are able to meet TSS and effluent calculation requirements, staff understands that DFW remains concerned with the ability of the CAAP facilities to comply with requirements of the Hatchery Policy. In order to better assess toxicity, compare chemical concentrations to water quality objectives, and evaluate potential impacts to beneficial uses, the Proposed General Permit requires a Chemical Controls, Verification Monitoring and Reporting Plan (Reduction and Verification MRP (Special Provision X.C.3.c)) and routine submission of Quarterly Drug and Chemical Use Reports (Attachment E section IX.A). Together the Reduction and Verification MRP and Attachment E requirements will be used to confirm that effluent from each CAAP facility does not contain chemicals or drugs which cause whole effluent toxicity, exceed water quality objectives, nor otherwise impair beneficial uses.

Data generated during this permit term associated with these chemical controls and monitoring efforts may also be used to re-evaluate criterion no. 3 of the Hatchery Policy and consider revision in accordance with the Basin Plan triennial review process. Without this data and other technical information, revision to the existing Hatchery Policy is not supported. In any case, Regional Water Board permitting staff is obliged to develop permit requirements which implement existing regulation.

Comment 4 – pH Effluent and Receiving Water Limitations (Appendix C and Appendix D-1, Comment Nos. 8, 9, 10, and 41): DFW requests that the effluent limitation for pH for the Trinity River Salmon and Steelhead Hatchery be revised from 7.0 to 8.5 to 6.5 to 8.5 to be consistent with the effluent limitation for the other facilities. DFW also comments that influent monitoring data at the Trinity River Salmon and Steelhead Hatchery, Coyote Valley Fishery Mitigation Facility, and Warm Springs Fish Hatchery indicate occasional exceedances of the Basin Plan objective of 8.5, and requested clarification of compliance determination for effluent limitations and receiving water limitations in instances of exceedances when the intake water and/or upstream receiving water exceed 8.5.

Response 4: The Basin Plan contains waterbody-specific water quality objectives for pH (i.e., 7.0 to 8.5 for the Trinity River and 6.5 to 8.5 for the Mad River and Russian River). As noted in DFW’s comments, monitoring data from the facilities indicates that effluent pH occasionally exceeds the Basin Plan objectives. Clean Water Act (CWA) section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. Therefore, effluent limitations for pH are required. As discussed in Response 1, in lieu of applying the most stringent effluent limitations (i.e., 7.0 to 8.5 based on the objective for the Trinity River) at all of the covered facilities, Regional Water Board staff chose to apply effluent limitations for pH based on the respective waterbody-specific water quality objectives established in Chapter 3 of the Basin Plan.

As shown in the following table, based on influent data submitted during the term of the existing permits, the influent pH is occasionally at or above the maximum pH objective of 8.5 and, consequently, the effluent pH exceeded the objective due to the flow-through nature of the facilities. The influent water to the facilities is from the same waterbody as the receiving waterbody¹ and the facilities do not adjust the influent water chemically or physically with respect to pH. Therefore, for instances where the pH of the influent exceeds 8.5, the Proposed General Permit has been revised to specify that the effluent pH shall not exceed the pH of the influent, but in no case shall the effluent pH exceed 9.0.

¹ The Mad River Fish Hatchery draws intake water from a series of 18 wells at varying depths adjacent to the Mad River. Due to the proximity of the wells to the receiving water within the floodplain of the Mad River, there is a likely hydrologic connection between the intake water and the receiving water and the Regional Water Board considers the intake water to be from the same waterbody as the receiving waterbody.

Facility	Influent pH		
	Maximum (s.u.)	Number of Exceedances	Number of Samples
Coyote Valley Fishery Mitigation Facility	8.84	3	84
Mad River Fish Hatchery	Data Not Available		
Trinity River Salmon and Steelhead Hatchery	8.5	0 ¹	41
Warm Springs Fish Hatchery	12.28	8	238
Table Notes:			
1. The influent pH value was reported at 8.5 five times.			

In regards to DFW's concern regarding receiving water limitation compliance, the Proposed General Permit specifies in section IX.A that *"a receiving water condition not in conformance with the receiving water limitation is not necessarily a violation of this General Order. Compliance with receiving water limitations shall be measured at monitoring locations described in the NOA. The Regional Water Board may require an investigation to determine cause and culpability prior to asserting a violation has occurred."*

Comment 5 – Allowance of Discharges at the Mad River Fish Hatchery (Appendix C and Appendix D-1, Comment No. 7): *DFW requests that the Draft General Permit be revised to permit discharges from the Mad River Fish Hatchery at Discharge Points 003 and 004.*

Response 5: The Proposed General Permit does not identify prohibited or allowable discharge points for any of the facilities, but instead requires each facility to submit an NOI (Attachment B of the Proposed General Permit) that includes identification of each discharge point; a description of the source, frequency, duration, and volume of discharge; the results of effluent monitoring for priority pollutants; and toxicity information for chemicals or drugs applied in solution for immersive treatment. Upon review of the NOI, the Executive Officer will issue a Notice of Applicability (NOA) specifying the allowable discharge points for each CAAP facility.

Comment 6 – Effluent Monitoring for Priority Pollutants (Appendix D and Appendix D-1, Comment Nos. 21, 25, 26, 27, 28, 29, 30, 42, 43, 44, 45, 48, 49, and 53): *DFW requests that the monitoring frequency for bis (2-ethylhexyl) phthalate at Warm Springs Fish Hatchery, chromium VI at Coyote Valley Fishery Mitigation Facility, and cyanide at Trinity River Salmon and Steelhead Hatchery be reduced from quarterly to once during the permit term. DFW also requested that the Draft General Permit allow alternative test methods to be used for bis (2-ethylhexyl) phthalate at Warm Springs Fish Hatchery, allow composite sampling for cyanide at the Trinity River Salmon and Steelhead Hatchery, and provide clarification of the dates of priority pollutant sampling.*

Response 6: Section 1.2 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) states *"The RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy. Instances where such consideration is warranted include, but are not limited to the following...questionable quality control/quality assurance practices."* Regional Water Board staff agrees that the effluent sample results for bis (2-ethylhexyl) phthalate at Warm Springs Fish Hatchery from January 7, 2014, chromium VI at Coyote

Valley Fisher Mitigation Facility from January 6, 2014, and cyanide at Trinity River Salmon and Steelhead Hatchery from November 19-20, 2014, are inappropriate to use for the purposes of the reasonable potential analysis (RPA) due to sample contamination and quality assurance/quality control issues, as described in section V.C.3.c.i-iii of the Fact Sheet. Excluding these results, only two recent effluent sample results are available to determine if the discharges exhibit reasonable potential to exceed water quality criteria for bis (2-ethylhexyl) phthalate (June 27, 2013 and May 28, 2014), chromium VI (June 27, 2013 and May 28, 2014), and cyanide (March 19, 2013 and April 16, 2014). Due to the concerns with detection levels of the samples, potential sources of bis (2-ethylhexyl) phthalate (i.e., polyvinyl chloride or PVC pipes), and the limited datasets, the Regional Water Board finds that data are inappropriate and insufficient for use in implementing the SIP. Therefore, in accordance with section 1.2 of the SIP, the Proposed General Permit does not establish effluent limitations for these pollutants.

Section 1.3, Step 8 of the SIP states *“If data are unavailable or insufficient, as described in section 1.2, to conduct the above analysis for the pollutant...the Regional Water Board shall require additional monitoring for the pollutant in place of a water quality-based effluent limitation.”* In accordance with section 1.3, Step 8 of the SIP, the Proposed General Permit requires additional effluent monitoring to ensure sufficient data is available to perform an RPA during the next permit renewal.

Regional Water Board staff does not agree that monitoring once during the permit term, as recommended by DFW, will provide sufficient data for use in the RPA for chromium VI and cyanide given the concerns with the existing dataset. However, Regional Water Board staff is amenable to less frequent monitoring for these constituents than originally contemplated. Therefore, the Proposed General Permit has been revised, reducing the monitoring frequency from quarterly to twice during the permit term for chromium VI and cyanide.

DFW requested the ability to use alternative analytical test methods for bis (2-ethylhexyl) phthalate. Section 2.4.2 of the SIP states, *“When there is more than one ML value for a given substance, the RWQCB shall include as RLs, in the permit, all ML values, and their associated analytical methods, listed in Appendix 4 that are below the calculated effluent limitation. The discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the RWQCB shall select as the RL, the lowest ML value, and its associated analytical method, listed in Appendix 4 for inclusion in the permit.”* Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed. For bis (2-ethylhexyl) phthalate, Appendix 4 of the SIP specifies MLs of 10 µg/L for gas chromatography (GC) and 5 µg/L for gas chromatography/mass spectrometry (GC/MS). Since neither ML is below the applicable CTR criterion of 1.8 µg/L, Tables E-1 and E-8 of the MRP in the Proposed General Permit specify that the Permittee shall use GC/MS with a RL of 5 µg/L, in accordance with section 2.4.2 of the SIP. Section 2.4.3 of the SIP allows for deviations from the MLs listed in Appendix 4 of the SIP under certain situations, including

when the discharger and the Regional Water Board agree to include in the permit a test method that is more sensitive than those specified in 40 C.F.R. part 136 or when a discharger agrees to use an RL that is lower than the MLs listed in Appendix 4 of the SIP. Consistent with section 2.4.3 of the SIP, a footnote has been added to Tables E-6, E-7, and E-8 that states, “*The Permittee may use a different analytical method than those specified in this table if the analytical method is more sensitive than the test methods contained in 40 C.F.R. part 136 or if the reporting level is lower than the MLs listed in Appendix 4 of the SIP.*”

Bis (2-ethyl-hexyl) phthalate is used primarily as one of several plasticizers in PVC resins for fabricating flexible vinyl products. In comments provided to the Regional Water Board on July 17, 2015, DFW indicated that the January 7, 2014, detection potentially resulted from flushing of new infrastructure constructed in the round tanks, which primarily has PVC plumbing, at the time of sampling. Bis (2-ethylhexyl) phthalate is also a common contaminant of sample containers, sampling apparatus, and analytical equipment, and sources of detected bis (2-ethylhexyl) phthalate could also be from plastics used for sampling or analytical equipment. In order to ensure that sample containers, sampling apparatus, and analytical equipment are not sources of detections for bis (2-ethylhexyl) phthalate, Regional Water Board staff recommends that sampling be conducted using clean techniques. In addition, because DFW has identified the likely source of bis (2-ethylhexyl) phthalate and as a result may be able to conduct effective source control, Regional Water Board staff has reduced monitoring for bis (2-ethylhexyl) phthalate from quarterly to semi-annual frequency in the Proposed General Permit.

In response to DFW’s comments, Regional Water Board staff has also revised section V.C.3.b of the Fact Sheet to clarify the actual dates of sampling for priority pollutants and revised section IV.C of the MRP to allow for composite samples for cyanide from discharges at the Trinity River Salmon and Steelhead Hatchery.

Comment 7 – Description of Drugs and Chemicals Used At DFW Facilities (Appendix D-1, Comment Nos. 4, 13, and 38): DFW requests that the description of chemicals and aquaculture drugs used for the treatment and control of disease in Special Provision X.C.2.a of the Draft General Permit and section V.A.7 of the Fact Sheet be revised to remove copper sulfate and add SLICE and ivermectin.

Response 7: Regional Water Board staff has revised the description of chemicals and aquaculture drugs used for the treatment and control of disease in Special Provision X.C.2.a of the Proposed General Permit and section V.A.7 of the Fact Sheet to remove copper sulfate and add SLICE and ivermectin. Regional Water Board staff notes that section VIII of the NOI (Attachment B) requires applicants to provide toxicity information for existing use of chemicals or drugs applied in solution for immersive treatment, and Special Provision X.C.2.a includes additional reporting requirements, including toxicity information, for authorization to use any new chemicals or aquaculture drugs not identified in the NOI.

Comment 8 – Pollutant Minimization Plan (Appendix D-1, Comment No. 12): DFW comments that Special Provision X.C.3.a requiring a Pollutant Minimization Plan (PMP) is excessive.

Response 8: Regional Water Board staff has retained the PMP requirement in the Proposed General Permit. As discussed in section VII.B.3.a of the Fact Sheet, this provision is included in all NPDES Permits as required by section 2.4.5 of the SIP. The provision requires development of a PMP only when there is evidence that a toxic pollutant is present in the effluent at a concentration greater than an applicable effluent limitation. If this situation were to be identified during the term of the General Permit, a written request for development of a PMP would be transmitted to the Permittee from the Executive Officer.

Comment 9 – New Chemical and Aquaculture Drug Use Reporting (Appendix D-1, Comment No. 14): DFW requests that Special Provision X.C.2.a requiring New Chemical and Aquaculture Drug Use Reporting be revised to clarify that previously conducted chronic toxicity test results may be submitted to satisfy the permit requirement.

Response 9: Regional Water Board staff has clarified in Special Provision X.C.2.a of the Proposed General Permit and section VIII of the NOI (Attachment B) that submission of previous, valid toxicity test results in conjunction with the NOI will satisfy the permit requirements for chemical specific toxicity sampling. These results shall not be considered a substitute for facility specific whole effluent toxicity verification monitoring required in conjunction with the Reduction and Verification MRP under Special Provision X.C.3.c. of the Proposed General Permit.

Comment 10 – Best Management Practices (BMP) Plan Structural Maintenance Requirements (Appendix D-1, Comment No. 15): DFW requests clarification if settling and percolation ponds constitute wastewater treatment systems for the purposes of Special Provision X.C.3.b.iii, which requires BMP Plan requirements for structural maintenance.

Response 10: Regional Water Board staff has retained the BMP Plan requirements for structural maintenance in Special Provision X.C.3.b.iii of the Proposed General Permit, which requires inspection of the wastewater treatment system to identify and promptly repair any damage and regular maintenance of the wastewater treatment system to ensure it is properly functioning. The BMP Plan requirements included in this provision are based on requirements in the applicable ELGs for the CAAP point source category at 40 C.F.R. part 451. The settling and percolation ponds at the existing CAAP facilities are part of the wastewater treatment systems to remove solids (primarily fish feces and uneaten feed) from the effluent prior to discharges. Therefore, Regional Water Board staff conclude that the requirements in Special Provision X.C.3.b.iii are appropriate and applicable to the biological filter beds, settling and percolation ponds, and associated appurtenances.

Comment 11 – Chemical Controls Verification Monitoring and Reporting Plan (Appendix D-1, Comment Nos. 16 and 52): DFW comments that the Chemical Controls Verification Monitoring and Reporting Plan in Special Provision X.C.3.c of the Draft General Permit is excessive and cost prohibitive, and requests that the Draft General Permit require reporting of drug and chemical use only.

Response 11: Regional Water Board staff has retained the requirement to submit a Chemical Controls, Verification Monitoring and Reporting Plan in Special Provision X.C.3.c of the Proposed General Permit. As discussed in response number three above, and section

VII.B.3.c of the Fact Sheet, this provision is necessary to determine the effectiveness of the BMP Plan required in accordance with Special Provision X.C.3.b, as well as consistency with the prohibition of detectable levels of chemicals used for the treatment and control of disease established by the Hatchery Policy. Chemical controls and monitoring are necessary to demonstrate protection of receiving water beneficial uses, in light of periodic disease control activities. Because the antibiotics and other disease control chemicals may vary in application at each CAAP facility and analytical methods for detecting these chemicals may be unique, the requirement for a plan to control and monitor these chemicals is required as a special provision of the Proposed General Permit. Permittees may include rationale for their proposed Chemical Controls, Monitoring and Reporting Plan with their submittal (e.g., existing data, cost of sampling, issues associated with analytical methods), which Regional Water Board staff will take into consideration when reviewing the plan for Executive Officer concurrence.

Comment 12 – Operation and Maintenance Manual (Appendix D-1, Comment No. 17): DFW comments that the requirement to maintain an updated Operation and Maintenance Manual in Special Provision X.C.4.b of the Draft General Permit is too intensive and is duplicative of other existing operations manuals and plans. DFW also comments that the requirements to include a description of the organizational structure and documentation that personnel are knowledgeable and qualified to operate the treatment Facility are excessive.

Response 12: Regional Water Board staff has retained the requirement to maintain an updated Operation and Maintenance Manual in Special Provision X.C.4.b of the Proposed General Permit. As discussed in section VII.B.4.a of the Fact Sheet, 40 C.F.R. section 122.41(e) requires proper operation and maintenance of permitted wastewater systems and related facilities to achieve compliance with permit conditions. An up-to-date operation and maintenance manual, as required by Provision X.C.4.b of the Proposed General Permit, is an integral part of a well-operated and maintained facility. If a facility's existing operations and/or best management practices (BMP) manual meets all of the requirements contained in Special Provision X.C.4.b.i-vi, it shall satisfy the permit provision. Regional Water Board staff revised the Proposed General Permit to allow the Discharger to use existing manual(s) to satisfy the requirements in Special Provision X.C.4.b.

Regional Water Board staff does not agree that the requirements to include a description of the organizational structure and documentation that personnel are knowledgeable and qualified to operate the treatment facility are excessive. This requirement is consistent with all other NPDES permits and is included to provide assurance that the facilities achieve the required level of treatment at all times, as required by 40 C.F.R. section 122.41(e).

Comment 13 – Solids Disposal (Appendix D-1, Comment No. 18): DFW comments that the requirement to submit a report describing solids handling, disposal method, and final disposition of solids and/or fish carcasses in Special Provision X.C.6.a of the Draft General Permit is duplicative of the BMP Plan requirements and is unnecessary.

Response 13: Regional Water Board staff has retained the requirement to submit a report describing solids handling, disposal method, and final disposition of solids and/or fish carcasses in Special Provision X.C.6.a of the Proposed General Permit. This requirement is necessary to ensure that solids disposal is consistent with the requirements of title 27 of the California Code of Regulations and prevent unauthorized discharges of solid wastes into waters of the United States or waters of the state. Regional Water Board staff has revised Special Provision X.C.6.a to specify that the report may be submitted in conjunction with the Permittee's BMP Plan.

Comment 14 – Standard Provisions for Records (Appendix D-1, Comment No. 19): DFW requests clarification of the recordkeeping requirements contained in Standard Provision IV.A of Attachment D since the facilities do not use sewage sludge or dispose of it.

Response 14: Regional Water Board staff has retained Standard Provision IV.A. The Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The Permittee must comply with all standard provisions and with those additional conditions that are applicable under 40 C.F.R. section 122.42. Standard Provision IV.A of Attachment D specifies that records of monitoring information related to sewage sludge use and disposal activities shall be retained for at least 5 years and records of all other monitoring information shall be retained for at least 3 years. Regional Water Board staff recognizes that the facilities to be covered by the Proposed General Permit do not use or dispose of sewage sludge; therefore, the requirement to retain records for 5 years is not applicable and Permittees must only retain records of all monitoring information for at least 3 years in accordance with Standard Provision IV.A.

Comment 15 – Standard Provisions for Signatory Requirements (Appendix D-1, Comment No. 20): DFW requests clarification of who is the appropriate person (e.g., the Director, Regional Manager, or Senior Hatchery Supervisor) to sign permit applications pursuant to Standard Provision V.B.2.c of Attachment D.

Response 15: The signatory requirements for permit applications in Standard Provision V.B.2.c of Attachment D are based on 40 C.F.R. section 122.22(a)(3). As indicated in the provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency. If the Regional Manager is the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency, the Regional Manager may sign the permit applications. The Senior Hatchery Supervisor does not meet the criteria specified by Standard Provision V.B.2.c and thus is not authorized to submit permit applications.

Pursuant to Standard Provision V.B.3, all required reports and other requested information may be signed by a duly authorized representative of the person described in Standard Provision V.B.2.c if the authorization is made in writing by the person described in Standard Provision V.B.2.c. Assuming the Regional Manager meets the criteria specified by Standard Provision V.B.2.c, the Regional Manager can assign the Senior Hatchery

Supervisor as their duly authorized representative by submitting written authorization to the Regional Water Board per Standard Provision V.B.3.

Comment 16 – Influent Monitoring Requirements for Mad River Fish Hatchery (Appendix D-1, Comment No. 22): *DFW requests that Table E-3 of the MRP of the Draft General Permit be revised to remove influent monitoring requirements for TSS and settleable solids for the Mad River Fish Hatchery.*

Response 16: Regional Water Board staff agrees that influent monitoring of TSS and settleable solids is not necessary to determine compliance with permit requirements for the Mad River Fish Hatchery since effluent limitations are applied to the total effluent and the source water is from on-site groundwater wells. Therefore, Table E-3 of the Proposed General Permit has been revised to specify that the Mad River Fish Hatchery is not required to conduct routine influent monitoring for TSS or settleable solids.

Comment 17 – Influent Versus Receiving Water Monitoring (Appendix D-1, Comment Nos. 23 and 32): *DFW comments that receiving water monitoring will not provide the necessary information for evaluating if the facilities contribute to exceedances of water quality criteria for priority pollutants and requests that the Draft General Permit require hardness and priority pollutant monitoring of the influent instead of the upstream receiving water.*

Response 17: Regional Water Board staff does not agree that receiving water monitoring will not provide the necessary information for evaluating if the facilities contribute to exceedances of water quality criteria for priority pollutants. Section 1.3 of the SIP states, “*It is the discharger’s responsibility to provide all information requested by the RWQCB for use in this analysis.*” Section 1.3, step 5 requires a determination of the observed maximum ambient background concentration for use in determining the need for WQBELs. Section 1.3 of the SIP also states, “*The RWQCB shall require periodic monitoring (at least once prior to the issuance and reissuance of a permit) for pollutants for which criteria or objectives apply and for which no effluent limitations have been established...*” In accordance with section 1.3 of the SIP, the Proposed General Permit requires monitoring of the upstream receiving water once during the permit term to provide the necessary information to conduct an RPA for the next permit renewal.

Regional Water Board staff does not agree that monitoring for hardness and priority pollutants should be conducted in the influent instead of the upstream receiving water. The purpose of conducting upstream receiving water monitoring for these pollutants is to provide information necessary to determine if the discharge contributes to an exceedance of water quality criteria in the receiving water. As DFW indicated, three of the facilities are located below reservoirs and the inflow to the facilities differs from the discharge from the dam to the river. For example, at the Trinity River Salmon and Steelhead Hatchery, the intake draws water from the surface and a depth of 25 feet. The discharge of flows originating from a different location than the discharge from the dam has the potential to impact downstream water quality. Therefore, it is necessary to collect upstream receiving water data at a location that represents the receiving water that will receive the effluent.

Comment 18 – Monitoring Frequency for Hardness (Appendix D-1, Comment Nos. 24, 31, 46, and 47): DFW comments that annual sampling of hardness in the effluent or upstream receiving water is excessive and requests that the monitoring frequency be reduced to once per permit term.

Response 18: Regional Water Board staff does not agree with sampling of hardness in the effluent or upstream receiving water once per permit term. The CTR and the NTR contain water quality criteria for seven metals that vary as a function of hardness. Effluent and receiving water data for hardness was not available for the four existing facilities to be covered by the Proposed General Permit, and thus water quality criteria for use in the RPA had to be calculated using hardness data collected by the Iron Gate Hatchery. As the facilities are located in different watersheds and hardness can vary seasonally, site-specific hardness data is necessary to provide sufficient information to properly adjust water quality criteria for the hardness-based metals to conduct the RPA during the next permit renewal. Therefore, Regional Water Board staff modified the Proposed General Permit annual monitoring requirement for hardness to reflect that a total of four samples collected for hardness shall be taken during the permit term in a manner representing seasonal variations. One of the four hardness samples shall be collected in concert with CTR priority pollutant sample collection in the upstream receiving water. Sampling for hardness shall be required only in receiving water, is relatively inexpensive, and a minimum of four samples across seasonal variations is not expected to be overly burdensome to the Permittees.

Comment 19 – Year-Round Discharges (Appendix D-1, Comment No. 35): DFW requests that section IV.C.1 of the Fact Sheet be revised to clarify that the Draft General Permit authorizes discharges to the Trinity River year-round.

Response 19: Regional Water Board staff agrees that the Trinity River should be added in the description of the Basin Plan’s discharge prohibition of point source discharges and has revised section IV.C.1 of the Proposed General Permit accordingly. The Basin Plan includes a waste discharge prohibition which prohibits point source discharges to the Klamath River and its tributaries, including the Trinity River, year-round. This prohibition is applicable except as stipulated in action plans and policies contained in the Point Source Measures section of the Basin Plan. The discharges authorized by the Proposed General Permit are consistent with the Basin Plan’s Hatchery Policy. Therefore, the Proposed General Permit authorizes year-round discharges to the Klamath River and the Trinity River.

151027_LMB_ef_CAAP_General_Order_Response_To_Comments



Pacific Power |
Rocky Mountain Power
825 NE Multnomah
Portland, OR 97232

June 25, 2015

Mr. Matt St. John
Executive Officer
North Coast Regional Water Quality Control Board
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403-1072

Subject: ***Response to Comments on the Draft General National Pollutant Discharge Elimination System Permit for Concentrated Aquatic Animal Production Facilities in the North Coast Region***

Dear Mr. St. John:

Thank you for your letter of June 25, 2015 stating that 1) Iron Gate Hatchery will be removed from the draft General National Pollutant Discharge Elimination System (“NPDES”) Permit for Concentrated Aquatic Animal Production (“CAAP”) Facilities (“Draft General Permit”), and 2) the North Coast Regional Water Quality Control Board (“Regional Board”) plans to develop an individual NPDES permit for Iron Gate Hatchery that will be made available for public comment at a later date prior to its consideration by the Regional Board for adoption.

With the removal of Iron Gate Hatchery from the Draft General Permit and the future development of an individual NPDES permit for Iron Gate Hatchery, PacifiCorp does not plan to submit further comments on the Draft General Permit at this time. PacifiCorp looks forward to working with the Regional Board staff, the California Department of Fish and Wildlife, and the National Marine Fisheries Service to provide information relevant to the development of an individual NPDES permit for the hatchery. PacifiCorp will submit further comments on NPDES permit requirements for Iron Gate Hatchery during the future public comment process for the individual NPDES permit.

Thank you again for your response to PacifiCorp’s comments on the Draft General Permit. Please contact me at (503) 813-6170 if you have any questions regarding this subject.

Best regards,

A handwritten signature in blue ink, appearing to read "Tim Hemstreet".

Tim Hemstreet
Klamath Program Manager



June 22, 2015

Mr. Matthias St. John, Executive Officer
North Coast Regional Water Quality Control Board
5550 Skyline Blvd, Suite A
Santa Rosa, California 95403

Re: DRAFT GENERAL NPDES PERMIT FOR CONCENTRATED AQUATIC
ANIMAL PRODUCTION FACILITIES

Dear Mr. St. John:

The California Department of Fish and Wildlife (Department) appreciates the North Coast Regional Water Quality Control Board (NC Board) extracting the Iron Gate Hatchery (IGH) from the draft General NPDES Permit for Concentrated Aquatic Animal Production Facilities (draft General Permit). Although removing IGH from the draft General Permit is appreciated, there are four additional facilities interwoven within the draft General Permit that require further analysis. Due to the complexity and scope of the issues for the four facilities the Department has not had sufficient time to complete necessary reviews and prepare comments by the current deadline for comments of June 26, and as a result is not prepared to agree to the terms of the draft General Permit by August 13, 2015. Therefore, we are requesting an extension for the comment period in order to conduct all the necessary data analyses for each aspect of the remaining four facilities.

The Department recognizes that the NC Board has limited staff, resources and time, thus opted for a general permit for the five facilities rather than five individual NPDES permits. However, this complex document is actually five permits encompassed in the one draft General Permit. Unlike the Central Valley, where a General Permit encompasses several facilities in one watershed, in the North Coast region there are several different watersheds with a Department hatchery facility located in individual watersheds.

There are multiple technical and operational challenges for our facilities within the draft General Permit. In particular, the Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture Operations within the Basin Plans apparently was not modified. As a result, the draft General Permit prohibits discharge of detectable levels of chemicals used for the treatment and control of disease. Additionally, IGH is interwoven throughout the draft General Permit and extracting IGH from the permit will change the content. The Department will need to review the revised draft General Permit and we believe that there will be insufficient time to properly evaluate the modified permit prior to the August NC Board meeting.

Mr. Matthias St. John, Executive Officer
North Coast Regional Water Quality Control Board
June 22, 2015
Page 2 of 2

Thus to ensure that both the NC Board and the Department produce a permit with terms that are both science based and attainable, we respectfully request that you and NC Board consider holding an adoption hearing in either October or November. This will allow our staffs to collaborate to achieve the desired goals.

If you have any questions, or require any additional information, please contact Mr. Terry Jackson, Senior Environmental Scientist, email terry.jackson@wildlife.ca.gov or phone at 916-464-6352.

Sincerely,



Stafford Lehr, Chief

Cc: California Department of Fish and Wildlife:
Nancee Murray
Senior Staff Counsel California Department of Fish and Wildlife
General Counsel

William T. Cox, Ph.D.
Environmental Program Manager
Fisheries Branch

Terry Jackson
Senior Environmental Scientist: Hatchery NPDES & Homeland Security
Coordinator
Fisheries Branch

Neil Manji
Regional Manager
Northern Region

Curtis Milliron
Environmental Program Manager
Northern Region

Mona Dougherty,
Clayton Creager,
Lisa Bernard
North Coast Regional Water Quality Control Board
5550 Skyline Blvd, Suite A
Santa Rosa, California 95403

APPENDIX C

From: Jackson, Terry@Wildlife

Sent: Friday, June 26, 2015 3:27 PM

To: NorthCoast; St.John, Matt@Waterboards; Lee, Shin-Roei@Waterboards

Cc: Bernard, Lisa@Waterboards; Cox, William@Wildlife; Manji, Neil@Wildlife; Wilson, Brett@Wildlife; Radford, Linda@Wildlife; Murray, Nancee@Wildlife

Subject: Preliminary Comments on Draft General NPDES Permit

Dear Mr. Matthias St. John, Ms. Shin-Roei Lee, and North Coast Regional Water Quality Control Board (NC Board) staff,

The California Department of Fish and Wildlife (CDFW) greatly appreciates your June 26, 2015 response letter extending the public comment period for the draft CAAP General Permit until July 17, 2015. As requested, no comments regarding Iron Gate Hatchery will be included.

Today I am submitting a couple of preliminary comments, specifically on three significant matters (Trinity River pH, Mad River Hatchery discharge allowance, and the discharge prohibition of detectable levels of chemicals used for the treatment and control of disease), in an effort to provide the NC Board advanced opportunity to address CDFW's concerns. CDFW will indeed provide complete comments on the overall draft General Permit by July 17, 2015.

The draft permit, primarily because of Iron Gate Hatchery, is not written in a general manner. The only general provisions are for TSS, SS and no detectible concentration allowance of drugs or chemicals for treating fish for diseases. With the extraction of Iron Gate Hatchery from this draft General Permit, CDFW is hopeful the subsequent draft permit will be more general.

For example, CDFW encourages the NC Board to generalize pH. The previous pH limit for Trinity River Hatchery (TRH) was between 6.5 and 8.5, and CDFW recommends leaving it 6.5 to 8.5 as a General limitation. TRH has not had a pH reading below 7.5.

Analyses of the TRH pH data indicate a possible increasing pH trend in the Inflow and Receiving Water, often at 8.5. If this trend continues and the Trinity River pH is "naturally" at or above the upper limit, what solutions does the NC Board suggest? It is unlikely that a CDFW facility could possibly change the water quality of the Receiving Water for any parameter, even if effluent measurements were drastically different than the receiving water, as our facility's flow are far less than 10% of the receiving water. The challenge in the Trinity River system is that the Intake Water and Receiving Water may have notably different characteristics for pH. If, for example eventually, pH is 8.5 at R-001 and 8.7 in the Inflow and Effluent and R-002 is 8.6, will that be a violation for our facility? CDFW should not be penalized for Inflow water quality. CDFW requests discussion and agreement how to address likely exceedances if the upper Trinity River continues to increase in pH above 8.5. Attached is an Excel spreadsheet titled "TRH Water Quality 2005-2015.xlsx" for the NC Board to review.

It is essential that the Mad River Hatchery (MAD) be allowed to discharge. Possibly the draft General Permit allows MAD to discharge to the river again via 003 and 004, as they were in the 2000 permit, however that allowance is not clear to CDFW. The footnote of Table 4 on page 7 ("... except the Mad River Fish Hatchery...") is unclear. CDFW is hopeful this footnote implies that MAD is allowed to discharge and the effluent limitations are established for Total Suspended Solids and Settleable Solids as gross, rather than net. CDFW request that the NC Board clarify whether MAD is permitted to discharge. If not, CDFW requests discussion regarding this matter.

Of major concern with CDFW is the discharge prohibition of detectable levels of chemicals used for the treatment and control of disease. Although prohibition may be written in the Basin Plan, this level of stringency is over conservative, not scientific and should be changed. There are substantial data indicating that detectable levels of drugs and chemicals are not toxic. CDFW's understanding is that the

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intention of a permit is to provide permission to operate and discharge “pollutants” into the state’s waters at levels not be deleterious to downstream beneficial uses. Attached is a Word Document titled "Hatchery Policy comments 6-26-15.docx" that describes CDFW’s concerns and justification for establishing Water Quality Based Effluent Limitations (WQBEL) for drugs and chemicals. The CDFW requests opportunity to work with NC Board staff to develop WQBELs for the NC General NPDES Permit.

Thank you,
Terry

Terry A Jackson, M.S.
Statewide Hatchery National Pollutant Discharge Elimination System (NPDES)
& Homeland Security Coordinator
Senior Environmental Scientist (Specialist)/Fisheries Biologist

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SaveOurWater.com · Drought.CA.gov

June 26, 2015

CDFW comment to the North Coast Regional Water Quality Control Board regarding “The discharge of detectable levels of chemicals used for the treatment and control of disease, other than salt (NaCl) shall be prohibited.”

Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture

Operations. The Basin Plan includes the *Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture Operations*, which establishes the following criteria applicable to discharges from fish hatcheries, rearing facilities, and aquaculture operations:

- a. The discharge shall not adversely impact the recognized existing and potential beneficial uses of the receiving waters.
- b. The discharge of waste resulting from cleaning activities shall be prohibited.
- c. The discharge of detectable levels of chemicals used for the treatment and control of disease, other than salt (NaCl) shall be prohibited.
- d. The discharge will be subject to review by the Regional Water Board for possible issuance of Waste Discharge Requirements/NPDES permit.
- e. The Regional Water Board may waive WDRs for fish hatcheries, fish rearing, and aquaculture facilities, provided that the discharge complies with applicable sections of the Basin Plan and satisfies the conditions for waiver which are described in Regional Water Board Resolution No. 87-113.
- f. The public interest is served by the fish hatchery, rearing facility, or aquaculture operation.

Requirements of this General Order implement the *Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture Operations*.

Item “c”, The discharge of detectable levels of chemicals used for the treatment and control of disease, other than salt (NaCl) shall be prohibited, is of particular issue and unacceptable for CDFW. Although the NC Board through the Basin Plan has imposed this prohibition on CDFW hatcheries for decades, and because of CDFW’s tremendous efforts to manipulate operations to remain compliant with this prohibition in an effort to avoid violations, this prohibition is onerous, overly stringent, and not based on science.

CDFW should not be penalized because we have resourcefully tailored treatments and discharge techniques to maintain compliance for decades. Our pathologists and managers have been ingenious, however we have lost many fish from disease because we cannot treat properly at times because of the prohibition. The CDFW is also a Resource Agency, thus it is entrusted with managing appropriately California’s natural resources and water quality, and we strive to comply with permit conditions to not abuse tax-payer funds in violation fees. The prohibition has been a tremendous burden for CDFW, and it will be increasingly difficult to comply if drought conditions continue with decreased flows, increased water temperatures and other water quality related challenges which bring increased disease and parasites for our facilities.

The CDFW has desired and requested that the NC Board change the “Hatchery Policy”, and was under the impression we would finally see that change reflected in the draft General Permit. On Page 24 of the 2007 Triennial Review it states:

Revise the Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture Operations

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An amendment should be considered to modify sections of the existing Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities and Aquaculture Operations (Basin Plan, Chapter 4, Implementation Plans, page 4-24.00). A potential amendment to the existing Policy, should clarify that the seasonal and year-round prohibitions against point source discharges do not apply to these facilities (see Basin Plan page 4-1.00, exempting point source discharge of waste as stipulated in Basin Plan policies from the prohibitions). The Policy should also be revised to require that the *prevention and minimization* of waste discharge, a strong monitoring and reporting program and strict effluent limits would be important permit conditions. The amendment would consider modifying the existing language, particularly the following two prohibitions:

- The discharge of waste resulting from cleaning activities shall be prohibited.
- The discharge of detectable levels of chemicals used for the treatment and control of disease, other than salt (NaCl) shall be prohibited.”

Recommendation: *Prioritize this issue as part of the 2007 Triennial Review.*

In a 4/28/2009 email from NC Board Executive Officer Catherine Kuhlman (attached) to CDFW (Fish and Game previously), stated:

This is to summarize our discussion on the hatcheries policy.

1. The "Policy on the Regulation of Hatcheries, Fish Rearing Operation, and Aquaculture Operations" supersedes the prohibition language. This means discharges from fish hatcheries, fish rearing facilities, and aquaculture operations are not subject to the Basin Plan prohibitions on point source waste discharges.
2. Effective July 2009, we will have a contractor begin evaluation of hatchery regulations in other regions of the State, chemicals used for the treatment or control of disease, including antibiotics and anesthetics, and their past (1989 era) and present detection limits. This work will serve as the underpinning for the CEQA analysis that will frame the proposed change in our regulation. It would be helpful if DFG could compile a list of chemicals used in California to assist our contractor.
3. We would like to meet with DFG in June-July to discuss drafting pollution prevention and monitoring programs for the DFG hatcheries. At that meeting we would like to explore options for reissuing the permits that work for both agencies.

CDFW is not aware of what progress was made, however the 2011 Triennial Review indicated that updating the Hatchery Policy was “underway”. On pages 18 and 19 it states:

Task 9: Update Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture Operations

Status: Underway

Background:

Regional Water Board staff began limited engagement on this task in 2008. Staff from the Department of Fish and Game was extremely interested in pursuing revisions to the Policy due to the nature of some of the existing language and permitting concerns. Of particular concern were the following two existing prohibitions:

- The discharge of waste resulting from cleaning activities shall be prohibited.
- The discharge of detectable levels of chemicals used for the treatment and control of disease, other than salt (NaCl) shall be prohibited.”

Regional Water Board staff believes this would be an appropriate opportunity to revise the Policy to require that the *prevention and minimization* of waste discharge be a fundamental value, the inclusion of a strong monitoring and reporting program and strict effluent limits as permit conditions.

To this end, Regional Water Board staff coordinated with the USEPA to begin the development of the background information needed to conduct an environmental analysis on a potential BPA. Staff is also reviewing the most

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recent monitoring and reporting programs and the associated self monitoring reports, to inform the development of a new permit. This information will be extremely useful in the development of a potential BPA.

Staff Recommendation:

Maintain on 2011 Triennial Review List. Coordinate with permitting staff to ensure permit development, including any revisions to monitoring and reporting programs, informs development of a BPA, to the extent practicable.

On August 23, 2011, CDFW/DFGs Regional Manager Neil Manji communicated through a memorandum (attached) to NC Board Executive Officer Catherine Kuhlman that "...the Department has had concerns with this policy and we appreciate the cooperative manner in which the Board and Department have approached the issue. We agree with and support the revisions and recommendations proposed in the subject Staff Report. The Department is committed to continue work with the Board on permit development, monitoring and reporting programs."

On page 20 of the 2014 Triennial Review it states:

Task 9. Update Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture Operations

Regional Water Board staff began limited engagement on this task in 2008. Staff from the Department of Fish and Wildlife was extremely interested in pursuing revisions to the Policy due to the nature of some of the existing language and permitting concerns. Of particular concern were the following two existing prohibitions:

- The discharge of waste resulting from cleaning activities shall be prohibited.
- The discharge of detectable levels of chemicals used for the treatment and control of disease, other than salt (NaCl) shall be prohibited."

Regional Water Board staff undertook research and review of the history of the Policy, with an interest in enhancing waste prevention and minimization as an important concept, as well as incorporating strong monitoring and reporting requirements and protective effluent limits as permit conditions.

Since the 2011 triennial review, legal staff has concluded that the existing Hatchery Policy does not bar staff from amending the NPDES permits for hatcheries in a manner appropriate to accomplish the goals above.

Status: NPDES permits for hatcheries are being updated and revised in the absence of any revisions to the Hatchery Policy.

Staff Recommendation: Remove from the 2014 triennial review List.

CDFW is not clear what "...the existing Hatchery Policy does not bar staff from amending the NPDES permits for hatcheries in a manner appropriate to accomplish the goals above" means, but the draft General permit does not reflect any amendment to allow discharge of drugs or chemicals used in treatment of fish. Again, CDFW was under the impression that the NC Board was updating the Hatchery Policy to allow detectable discharge of drugs and chemicals used for treating fish, and believed the contractor hired to write the draft General Permit would include Water Quality Based Effluent Limitations (WQBEL) for drugs and chemicals.

In addition to CDFW's continued concerns and desire to amend the Hatchery Policy within the Basin Plan, the excessive stringency of a prohibition of detectable levels is not based on science. No other Regional Water Board prohibits any of CDFW's additional 15 facilities requiring NPDES permits from discharging drugs and chemicals. All of our facilities have scientifically derived WQBELs for drugs and chemicals.

Below, modified from the Central Valley General NPDES Permit is a list of the WQBELs for many of the drugs/chemicals, and science behind them. The CDFW requests opportunity to work with NC Board staff to develop WQBELs for the NC General NPDES Permit. The CDFW has patiently persevered, and the NC Board has

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been aware of the challenges with the Hatchery Policy for at least 8 years, and CDFW requests the Hatchery Policy be amended and WQBELs be established for the NC General NPDES Permit.

CDFW recognizes that promulgated numeric water quality criteria or Basin Plan numeric objectives are currently not available for most of the aquaculture drugs and chemicals used by our CAAP facilities. Therefore, CDFW requests the NC Board use the narrative water quality objective for toxicity and apply the Policy for “Application of Water Quality Objectives” as a basis for determining “reasonable potential” for discharges of these drugs and chemicals. The toxicity objective states, in part: “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” Compliance with the toxicity objective is determined by several factors, including biotoxicity tests of appropriate duration, or other analytical methods. (Biotoxicity testing involves measuring the toxic effects of an effluent on specified organisms according to nationally approved protocols.) USEPA’s *Technical Support Document for Water Quality-based Toxics Control* (TSD) specifies two toxicity measurement techniques that can be employed in effluent characterization; the first is whole effluent toxicity (WET) testing, and the second is chemical-specific toxicity analyses. WET testing is used most appropriately when the toxic constituents in an effluent are not completely known; whereas chemical-specific analyses are more appropriately used when an effluent contains only one, or very few, well-known constituents. Due to the nature of operations and chemical treatments at the CDFW CAAP facilities in the NC Region, CAAP facility effluents generally contain only one or two known chemicals at any given a time. Therefore, it is reasonable to use a chemical-specific approach to determine “reasonable potential” for discharges of aquaculture drugs and chemicals from CAAP facilities.

The California Department of Fish and Game Pesticide Investigation Unit (DFG Pesticide Unit) has completed biotoxicity studies to determine the aquatic toxicity of certain aquaculture drugs and chemicals commonly used at CDFW CAAP facilities; specifically, formalin, hydrogen peroxide, potassium permanganate, MS-222, Chloramine-T, and PVP iodine. The DFG Pesticide Unit conducted chronic toxicity tests for some drugs and chemicals using *Pimephales promelas*, *Ceriodaphnia dubia*, and, in some cases, *Selenastrum capricornutum* in accordance with the analytical methods specified in the USEPA *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA 600/4-91-002). These “short-term chronic tests” measure effects such as reduced growth of the organism, reduced reproduction rates, or lethality. Results were reported as a No Observed Effect Concentration (NOEC) and a Lowest Observed Effect Concentration (LOEC). The LC₅₀ concentration (lethal concentration to 50% of the exposed organisms over the test period) is sometimes reported when lethality is measured. Since many chemical treatments are utilized as a “flush” or “batch” treatment, the DFG Pesticide Unit also conducted acute toxicity tests using *Ceriodaphnia dubia* (*C. dubia*) in accordance with methods specified in the USEPA *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA 600/4-90/027). Acute toxicity test results typically are reported as the No Observed Adverse Effect Level (NOAEL), the Lowest Observed Adverse Effect Level (LOAEL), and LC₅₀.

Oxytetracycline. Oxytetracycline, also known by the brand name Terramycin®, is an antibiotic approved through FDA’s NADA program for use in controlling ulcer disease, furunculosis, bacterial hemorrhagic septicemia, and pseudomonas disease in salmonids. CAAP facilities use the antibiotic during disease outbreaks. Oxytetracycline is most commonly used at CAAP facilities as a feed additive. However, oxytetracycline may also be used as an extra-label use under a veterinarian’s prescription in an immersion bath of approximately 6 to 8 hours in duration. Because oxytetracycline may be applied in an immersion bath for up to 8 hours at a time, the results of acute and chronic aquatic life toxicity testing conducted by the DFG Pesticide Unit when determining whether water quality-based effluent limits for oxytetracycline used in an immersion bath treatment were necessary. Results of acute toxicity tests using *C. dubia* showed a 96-hour NOAEL of 40.4 mg/L. Results of chronic toxicity tests using *C. dubia* showed a 7-day NOEC for reproduction of 48 mg/L.

The information available regarding use and discharge of oxytetracycline at CAAP facilities indicates that it is discharged at levels well below the lowest NOEC and NOAEL. Oxytetracycline, when used in feed or in an immersion bath treatment, is not discharged at levels that cause, have the reasonable potential to cause, or

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contribute to an excursion of a narrative water quality objective for toxicity from the Basin Plan. Accordingly, an effluent limitation for oxytetracycline is not necessary. However, monthly use of oxytetracycline would continue to be reported as specified in the Monitoring and Reporting Program.

Penicillin G. Penicillin G is an antibiotic used for the control of bacterial infections and is administered as a 6 to 8 hour immersion bath treatment. Penicillin G is not approved under FDA's NADA program and its extra-label use in aquaculture requires a veterinarian's prescription. Due to the length of treatment time, the results of acute and chronic aquatic life toxicity testing conducted by the DFG Pesticide Unit when determining whether water quality-based effluent limits for Penicillin G were necessary. Results of acute toxicity tests using *C. dubia* showed a 96-hour NOAEL of 890 mg/L. Results of 7-day chronic toxicity testing using *Pimephales promelas* showed 7-day NOEC for survival of 350 mg/L. Based on the information available Penicillin G is discharged at levels well below the lowest NOEC and NOAEL at CAAP facilities. Therefore, Penicillin G, when used in an immersion bath treatment, is not discharged at levels that cause, have the reasonable potential to cause, or contribute to an excursion of a narrative water quality objective for toxicity from the Basin Plan. Accordingly, an effluent limitation for Penicillin G is not necessary. However, monthly use of Penicillin G would continue to be reported as specified in the Monitoring and Reporting Program.

Amoxicillin, erythromycin, florfenicol, and Romet-30®. Amoxicillin, erythromycin, florfenicol, and Romet-30® may be used by CAAP facilities. Amoxicillin is injected into fish to control acute disease outbreaks through a veterinarian's prescription for extra-label use. Erythromycin (injected or used in feed formulations) and florfenicol (used in feed formulations) are antibiotics used to control acute disease outbreaks. Erythromycin must be used under an INAD exemption or a veterinarian feed directive. Florfenicol is a NADA approved drug. Romet 30®, also known by the trade name Sulfadimethoxine-oremtroprim, is an antibiotic used in feed formulations and is FDA-approved for use in aquaculture for control of furunculosis in salmonids. Amoxicillin (when injected into fish), erythromycin (when injected into fish or used as a feed additive), florfenicol and Romet-30® (when used as feed additives) are used in a manner that reduces the likelihood of direct discharge of antibiotics to waters of the United States or waters of the State, particularly when CAAP facilities implement BMPs. Accordingly, water quality-based effluent limitations for these substances are not necessary; however, monthly monitoring and reporting of these substances would continue according to the Monitoring and Reporting Program.

Vibrio Vaccine and Enteric Redmouth Bacterin. To treat enteric redmouth disease, CAAP facilities may need to administer enteric redmouth bacterin. Enteric redmouth (or yersiniosis) bacterin is formulated from inactivated *Yersinia ruckeri* bacteria and may be used as an immersion or injectable vaccine to help protect salmonid species from enteric redmouth disease caused by *Yersinia ruckeri*. This bacterin stimulates the fish's immune system to produce protective antibodies. Vibrio vaccine may be used as an immersion or an injectable vaccine and helps protect salmonid species from vibriosis disease caused by *Vibrio anguillarum* serotype I and *Vibrio ordalii*. Vibrio vaccine stimulates the fish's immune system to produce protective antibodies, helping the animal defend itself against vibriosis. Vibrio vaccine and enteric redmouth bacterin are licensed for use by the USDA's Center for Veterinary Biologics. Veterinarians should be consulted before beginning an immunization program. According to USDA, most biologics leave no chemical residues in animals and most disease organisms do not develop resistance to the immune response by a veterinary biologic. Based upon available information regarding the use of these substances at CAAP facilities, vibrio vaccine or enteric redmouth bacterin, when used according to label and veterinarian instructions, are not discharged at levels that cause, have the reasonable potential to cause, or contribute to an excursion of Basin Plan narrative water quality objectives for toxicity. Accordingly, water quality-based effluent limitations for these substances are not necessary; however, use of these substances must continue to be reported as specified in the Monitoring and Reporting Program. In the future, as additional information becomes available regarding the use or toxicity of these biologics, the NC Board will re-evaluate whether the discharge of any of these substances to receiving waters may cause, have the reasonable potential to cause, or contribute to an excursion of the Basin Plan objectives for toxicity and, if necessary, re-open this Order to include numeric effluent limitations.

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MS-222®. CAAP facilities use the anesthetic Tricaine methanesulfonate, commonly known as MS-222 (with trade names of Finquel® or Tricaine-S®). MS-222 has been approved by FDA for use as an anesthetic for *Salmonidae*. Results of toxicity tests using *C. dubia* where the test animals were exposed to MS-222 for 2 hours, followed by three exchanges of control water to remove residual compound and then observed for 96 hours, determined the NOEC and LOEC to be 70 and 200 mg/L respectively. MS-222 is used as a 50 or 150 gallon static treatment bath having 350 mg/L MS-222. The concentration is diluted well below 70 mg/L when discharged at CAAP facilities. Based on available information regarding MS-222 when used according to the reported treatment, MS-222 is not discharged at levels that cause, have the reasonable potential to cause, or will contribute to an excursion of Basin Plan narrative water quality objectives for toxicity. Accordingly, water quality-based effluent limitations for MS-222 are not necessary. However, use and monitoring of MS-222 must continue to be reported as specified in the Monitoring and Reporting Program.

PVP Iodine. PVP Iodine (Argentyne), a solution composed of 10% PVP Iodine Complex and 90% inert ingredients. PVP Iodine typically is applied in short-term treatments of 1 hour or less to disinfect eggs spawned at CAAP facilities. Because PVP Iodine typically is applied in short-term treatments of 1-hour or less, results of acute aquatic life toxicity testing conducted by the DFG Pesticide Unit were considered when determining whether water qualitybased effluent limitations for PVP Iodine were necessary in this Order. Results of a single acute toxicity test with *C. dubia* showed a 96-hour NOAEL of 0.86 mg/L. PVP Iodine used to disinfect eggs. Based on available information PVP Iodine is not discharged at levels that cause, have the reasonable potential to cause, or will contribute to an excursion of Basin Plan narrative water quality objectives for toxicity. Accordingly, water quality-based effluent limitations for PVP Iodine are not necessary. However, use and monitoring of PVP Iodine must continue to be reported as specified in the Monitoring and Reporting Program.

Formaldehyde (Formalin). Formalin, a solution typically 37 percent by weight formaldehyde, (also known by the trade names Formalin-F®, Paracide-F®, PARASITE-S®) is FDA-approved for use in CAAP facilities for controlling external protozoa and monogenetic trematodes on fish, and for controlling fungi of the family *Saprolegniaceae* in food-producing aquatic species. Formalin is used as a treatment for controlling external parasites in raceways where it would be discharged to surface waters. Formalin treatments are usually utilized as a batch or flush treatment which result in discharges from 3 to 8 hours. The State of California Department of Health Services (DHS) does not have an MCL for formaldehyde, however the DHS historic Drinking Water Action Level is listed as 0.1 mg/L based on calculation by standard risk assessment methods, with a Modifying Factor equal to 10. The USEPA Integrated Risk Information System (IRIS) lists a reference dose of 1.4 mg/L as a drinking water level. There are no recommended criteria for formaldehyde for the protection of aquatic life. The DFG Pesticide Unit conducted biotoxicity studies to determine the aquatic toxicity of Formalin using *Pimephales promelas* and *C. dubia*. A summary of the data submitted follows:

Species	7-day LC50 (mg/L)	LOEC (mg/L)	NOEC (mg/L)	LOAEL (mg/L)	NOAEL (mg/L)
<i>Ceriodaphnia dubia</i>	2.43	5.8 ₁ 1.3 ₂	1.3 ₁ <1.3 ₂	5.8	1.3
<i>Pimephales promelas</i>	23.3	9.09	2.28	--	--
<i>Selanastrum capricornutum</i>	<5.2	--	--	--	--

₁ Survival

₂ Reproduction

Notes: DFG lab report no. P-2251.1 dated 6/30/2001. Results as formaldehyde. Divide by 0.37 to obtain the equivalent Formalin concentration.

Since Formalin treatments are usually utilized as a batch or flush treatment which result in discharges from 3 to 8 hours, short-term tests were conducted with *C. dubia*, exposing the organisms for 2-hour and 8-hour periods, removing them from the chemical, and continuing the observation period for 7 days in clean water. The results were as follows:

	7-day LC50	LOAEL	NOAEL
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Species	(mg/L)	(mg/L)	(mg/L)
<i>Ceriodaphnia dubia</i> – 2-hour exposure	73.65	46.3	20.7
<i>Ceriodaphnia dubia</i> – 8-hour exposure	13.99	15.3	6.7

Notes: DFG lab report no. P-2294.1 dated 1/30/2002. Results as formaldehyde. Divide by 0.37 to obtain the equivalent Formalin concentration.

Results of both acute and chronic aquatic life toxicity testing conducted by the DFG Pesticide Unit, effluent limitations from the previous individual CAAP Orders, and the Basin Plan narrative toxicity objective were considered when determining whether water quality-based effluent limitations for formalin as formaldehyde were necessary. Results of 7-day chronic toxicity tests indicated *C. dubia* was the most sensitive species, with a 7-day NOEC value of 1.3 mg/L formaldehyde for survival and less than 1.3 mg/L for reproduction (the Central Valley Water Board used an NOEC of 1.3 mg/L). Acute toxicity tests conducted using *C. dubia* showed a 96-hour NOAEL of 1.3 mg/L formaldehyde. The additional acute toxicity tests with *C. dubia* conduct using only an 8-hour exposure, resulted in a 96-hour NOAEL concentration of 6.7 mg/L formaldehyde.

At CAAP facilities, formaldehyde may be discharged at levels that cause, have the reasonable potential to cause, or contribute to an excursion of the Basin Plan narrative water quality objective. Accordingly, this Order includes WQBELs for formaldehyde. Although formaldehyde treatments at CAAP facilities are short in duration exposure to formaldehyde in the receiving water as a result of discharges from CAAP facilities may be long-term because of retention time in the settling basin and potential application procedures (e.g., successive raceway treatments, drip treatments for eggs). Therefore, an average monthly formaldehyde effluent limitation of 0.65 mg/L and a maximum daily formaldehyde effluent limitation of 1.3 mg/L are calculated based on the 96-hour NOAEL value and using the procedure in USEPA’s TSD for calculating water quality-based effluent limitations. These limitations are carried over from the previous individual CAAP permits. These effluent limitations will ensure protection of aquatic life against effects from exposure to formaldehyde in CAAP facility discharges. Use and monitoring of formaldehyde must continue to be reported as specified in the Monitoring and Reporting Program.

Using the USEPA’s TSD guidance to calculate the MDEL and AMEL, effluent limitations for formaldehyde as follows:

Assuming:

- No in-stream dilution allowance.
- Coefficient of Variation (CV) = 0.6 for the lognormal distribution of pollutant concentrations in the effluent.

Effluent Concentration Allowance (ECA) based on NOAEL (acute toxicity) with no dilution allowance

$ECA_a = 1.3 \text{ mg/L formaldehyde}$

Effluent Concentration Allowance based on NOEC (Chronic toxicity) with no dilution allowance

$ECA_c = 1.3 \text{ mg/L formaldehyde}$

Long Term Average concentration based on acute ECA

$LTA_a = 1.3 \text{ mg/L} \times 0.321 = 0.4173 \text{ mg/L formaldehyde}$ (where 0.321 = acute ECA multiplier at 99% occurrence probability and 99% confidence)

Long Term Average concentration based on chronic ECA

$LTA_c = 1.3 \text{ mg/L} \times 0.527 = 0.6851 \text{ mg/L formaldehyde}$ (where 0.527 = chronic ECA multiplier at 99% occurrence probability and 99% confidence)

Most Limiting LTA concentration

$LTA = 0.4173 \text{ mg/L formaldehyde}$

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Average Monthly Effluent Limit

$$\text{AMEL} = \text{LTA} \times 1.55$$

(where 1.55 = AMEL multiplier at 95% occurrence probability, 99% confidence, and $n = 4$)

$$\text{AMEL} = 0.4173 \text{ mg/L} \times 1.55 = \mathbf{0.65 \text{ mg/L formaldehyde}}$$

Maximum Daily Effluent Limit

$$\text{MDEL} = \text{LTA} \times 3.11$$

(where 3.11 = MDEL multiplier at 99% occurrence probability and 99% confidence)

$$\text{MDEL} = 0.4173 \text{ mg/L} \times 3.11 = \mathbf{1.3 \text{ mg/L formaldehyde}}$$

Hydrogen Peroxide. Hydrogen peroxide (35% H₂O₂) has been used for the control of external parasites at CAAP facilities. FDA approved hydrogen peroxide to control fungi on fish at all life stages, including eggs. Hydrogen peroxide may also be used to control bacterial gill disease in salmonids, and, through an INAD, external parasites. Hydrogen peroxide is a strong oxidizer that rapidly breaks down into water and oxygen; however, it exhibits toxicity to aquatic life during the oxidation process. The NC Board considered the results of acute aquatic life toxicity testing conducted by the DFG Pesticide Unit when determining whether water quality-based effluent limits for hydrogen peroxide are necessary. Results of an acute toxicity test using *C. dubia* showed a 96 hour NOAEL of 1.3 mg/L based on continual constant exposure to hydrogen peroxide. When exposed to hydrogen peroxide for 2 hours followed by a triple lab water flush and normal test completion, *C. dubia* showed a 96-hour NOEC of 2 mg/L. Based on the chemical nature of hydrogen peroxide (i.e., high reactivity resulting in rapid degradation) and on available information regarding hydrogen peroxide when used according to the reported treatments, hydrogen peroxide is not discharged at levels that cause, have the reasonable potential to cause, or will contribute to an excursion of Basin Plan narrative water quality objectives for toxicity. Accordingly, water quality-based effluent limitations for hydrogen peroxide are not necessary. However, use and monitoring of hydrogen peroxide must continue to be reported as specified in the Monitoring and Reporting Program.

Potassium Permanganate. Potassium permanganate (also known by the trade name of Cairox™) may be used to control gill disease, external parasites, bacteria, and fungal growth on fish. Potassium permanganate has a low estimated lifetime in the environment, being readily converted by oxidizable materials to insoluble manganese dioxide (MnO₂). In non-reducing and non-acidic environments, MnO₂ is insoluble and has a very low bioaccumulative potential. Potassium permanganate is a special category drug the FDA calls “regulatory action deferred”. Potassium permanganate is typically applied in a single, short-term treatment, or as a series of closely spaced, short-term treatments. Results of a single acute toxicity test conducted by the DFG Pesticide Unit using *C. dubia* showed a 96-hour NOAEL of 0.038 mg/L for potassium permanganate under continuous exposure. The DFG’s 2-hour exposure test showed a 0.1975 mg/L NOEC. Since potassium permanganate is rapidly converted to insoluble manganese dioxide under hatchery conditions, this Order does not include water quality based effluent limitations for potassium permanganate. However, use and monitoring of potassium permanganate must be reported as specified in the attached Monitoring and Reporting Program.

Chloramine-T. Chloramine-T is available for use in accordance with an INAD exemption by FDA as a possible replacement for copper sulfate and formalin. The therapeutic treatment consists of a 10 to 20 mg/L dose for a 1-hour exposure once per day for a 1 to 3 day period. Chloramine-T breaks down into para-toluenesulfonamide (p TSA) and unlike other chlorine-based disinfectants does not form harmful chlorinated compounds. Results of the DFG Pesticide Unit *C. dubia* test where the test animals were exposed to the toxicant for 2 hours followed by three exchanges of control water to remove residual compound and then observed for 96 hours determined the NOEC and LOEC to be 86.3 and 187 mg/L, respectively. Based on available information regarding Chloramine-T when used according to the reported treatment, Chloramine-T is not discharged at levels that cause, have the reasonable potential to cause, or will contribute to an excursion of Basin Plan narrative water quality objectives for toxicity. Accordingly, water quality-based effluent limitations for Chloramine-T are not necessary. However,

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use and monitoring of Chloramine-T must continue to be reported as specified in the Monitoring and Reporting Program.

SLICE. The drug SLICE (Emamectin benzoate 0.2% Aquaculture premix) may be used by CAAP facilities to treat *Salmincola californiensis* (copepods) in finfish. SLICE must be used under an INAD exemption. SLICE is used in a manner that reduces the likelihood of direct discharge to waters of the United States or waters of the State, particularly when CAAP facilities implement BMPs as required by this Order. Medicated feed is prepared by coating SLICE Premix onto the surface of non-medicated fish feed pellets. Feeding occurs to ensure the food is consumed and then metabolized by the fish. Accordingly, water quality-based effluent limitations for SLICE are not necessary; however, monthly monitoring and reporting of this substance is required as specified in the Monitoring and Reporting Program.



July 17, 2015

Mr. Matthias St. John, Executive Officer
North Coast Regional Water Quality Control Board
5550 Skyline Blvd, Suite A
Santa Rosa, California 95403

Mr. St. John,

The California Department of Fish and Wildlife (CDFW) would like to thank the North Coast Regional Water Quality Control Board (NC Board) for, extending the comment period for the draft General NPDES Permit for Concentrated Aquatic Animal Production Facilities (draft General Permit) to July 17, 2015, and extracting Iron Gate Hatchery (IGH) from the draft General Permit. The extension, and removal of IGH, allowed CDFW adequate time to review data, complete analyses, and prepare comprehensive comments specifically for Trinity River (TRH), Mad River (MAD), Warm Springs (WSH) and Coyote Valley Fish Facility (CVFF), and address the common aspects of the draft General Permit.

Attached are CDFW's written comments ("NC draft General Permit Comments July 17 2015.xlsx"). Additional files are also attached corresponding with specific comments.

CDFW is hopeful the revised draft General Permit will be more general. Our four facilities operate in three separate watersheds, which CDFW recognizes presents the NC Board with challenges and CDFW appreciates that the NC Board has invested tremendous effort to develop this permit; however, if the general permit is written as individual permits in one document CDFW requests that four individual permits be developed instead.

Of primary concern, as CDFW identified in our June 26, 2015 preliminary comments, the Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture Operations within the Basin Plan (Hatchery Policy) is not acceptable, and has not been for well over a decade. Additional comments regarding this critical issue are included, and CDFW would appreciate opportunity to work with the NC Board to reconcile. CDFW is mathematically and scientifically confident that discharge of drugs and chemicals from normal treatment of fish diseases will not cause receiving waters to contain drugs or chemicals in concentrations that cause nuisance or adversely affect beneficial uses, and requests Receiving Water limitations be established for drugs and chemicals rather than prohibition.

There are also considerable comments and discussion regarding Priority Pollutants from the CTR sampling at the TRH, WSH and CVFF facilities. CDFW believes that re-evaluation of these data is prudent, and substantial changes to the monitoring are required.

CDFW looks forward to working cooperatively with the NC Board to reach agreement regarding solutions to the Hatchery Policy, and reviewing the revised draft General Permit.

Mr. Matthias St. John, Executive Officer
North Coast Regional Water Quality Control Board
July 17, 2015
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If you have any questions, or require any additional information, please do not hesitate to contact me at 916-464-6352 or terry.jackson@wildlife.ca.gov.

Regards,



Terry A Jackson, M.S.
Senior Environmental Scientist
Hatchery NPDES & Homeland Security Coordinator

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NC draft GENERAL NPDES PERMIT Preliminary COMMENTS

North Coast Region DRAFT General NPDES No. CAG131015, Order No. R1-2015-0009 - DUE to JULY 17, 2015

Reviewers: Terry Jackson Linda Radford Brett Wilson Larry Glenn Shad Overton Ellen McKenna Tresa Veek Gail Cho	Senior Env. Scientist: Statewide Hatchery NPDES Coordinator Senior Hatchery Supervisor: Iron Gate, Trinity River and Mad River hatcheries Senior Hatchery Supervisor: Warm Springs and Coyote Valley Fish Facility hatcheries Trinity River Hatchery Manager Mad River Hatchery Manager Warm Springs and Coyote Valley Fish Facility Manager Research Scientist I: Fish Pathologist Office of Spill Prevention and Response/Water Pollution Control Lab: Staff Chemist, Quality Assurance
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California Department of Fish and Wildlife

Comment Number	Comment Type (General, Chapter Number or Attachment Letter)	Section Name	Sub-section Name	Page #	Table #	Reviewer	Comment
1	General/clarification					Jackson	<p>CDFW provided preliminary comments on 6/26/15 regarding Trinity River Hatchery pH, Mad River Hatchery discharge allowance clarification and the "Hatchery Policy" regarding discharge of Drugs and Chemical for treatment of fish for diseases. In an effort to allow the NC Board opportunity to begin addressing CDFW's comments and issues. Although the comments do reference the previous preliminary comments, they do not repeat in detail those three issues.</p> <p>A specific challenge with the "Hatchery Policy" regarding the prohibition of detectable discharge of drugs and chemicals used to treat fish is that laboratory and field technology continues to improve, and thus detection limits have decreased. Besides the fact that this prohibition ignores the facts of science of toxicity tests and bioassays and findings from other Regional Water Boards that evaluate CDFW CAAP facilities, it is also not specific regarding "detection". Is the detection limit when the policy was written, or the current limits? Regardless, even the 1974 detection limit for most drugs & chemicals is below scientifically validated concentrations for adversely affecting beneficial uses.</p>
2	General					Jackson	<p>CDFW appreciates the comment period extension to July 17, 2015 and postponement of the adoption meeting in August 2015. Since subjects relating to Iron Gate Hatchery (IGH) will be extracted from the draft General Permit, the NC Board requested CDFW not comment on references to IGH. Although indeed whole sections will be removed, some sections were less clear and CDFW will likely have additional comments once a revised draft General Permit is available for review. CDFW made every effort to not comment on sections referring to IGH, but there are a couple of sections that were interwoven and commenting remained appropriate in CDFW's opinion.</p>
3	General					Jackson	<p>This is not a "general" permit, but rather a complicated document with 5 individual "permits". The only general provisions are for TSS, SS and no detectible concentration allowance of drugs or chemicals for treating fish for diseases. With the extraction of Iron Gate Hatchery from this draft General Permit, CDFW is hopeful to work toward making the permit more general. The four facilities operate in three separate watersheds, which CDFW recognizes presents the NC Board with challenges and CDFW appreciates that the NC Board has invested tremendous effort to develop this permit, but if the general permit is written as individual permits in one document CDFW requests that four individual permits be developed instead.</p>
4	General/Attachment Memorandum					Jackson	<p>Copper Sulfate. Although Iron Gate Hatchery is being removed from the General Permit, CDFW hatcheries have not used Copper Sulfate for many years (decades for some facilities), and thus will not contribute to copper in the effluent or receiving water. Attached is an August 3, 2011 DFG Prohibition of copper sulfate and copper based compounds at DFG operated fish hatcheries memorandum</p>
5	General	III. Findings	A. Legal Authorities	6		Radford/Jackson	<p>"3. Require the same type of effluent limitations or operating conditions; 4. require similar monitoring; 5. are more appropriately regulated under a general permit rather than individual permits." Disagree with stated section intent. Effluent limitation types are considerably different for several of the facilities; this permit is written more as numerous individual permits rather than a general permit, but hopefully will become more general with removal of IGH.</p>
6	Unacceptable policy - refer to attached Word Document titled "Hatchery Policy comments 6-25-15.docx"	IV. DISCHARGE PROHIBITIONS	G.	7		Jackson	<p>Comments provided 6/26/15 in "Hatchery Policy comments 6-25-15.docx". CDFW has conducted bioassays just in the last 3yrs at Mad River hatchery that demonstrate our normal treatment with H2O2 and KMnO4 are not toxic. CDFW was allowed to conduct full normal treatments because all water went to percolation ponds – thus no surface discharge to the river. The CV & Lahontan Regional Water Boards have evaluated the data and science in their findings and facts. The science of bioassays/toxicity tests, plus the evaluation by the other Regional Boards of the science and hatchery operations, and hatchery data as compliant with effluent limitations, that these are more than adequate as "findings" and new information to modify the discharge allowance.</p> <p>The effluent flow of CDFW's facilities is typically an inconsequential volume of water (<3%) compared to the receiving water flow. The CDFW and the NC Board are Resource Agencies, and both are concerned with protecting beneficial uses of the receiving water. CDFW is mathematically and scientifically confident that discharge of drugs and chemicals from normal treatment of fish diseases will not cause receiving waters to contain drugs or chemicals in concentrations that cause nuisance or adversely affect beneficial uses.</p>

Comment Number	Comment Type (General, Chapter Number or Attachment Letter)	Section Name	Sub-section Name	Page #	Table #	Reviewer	Comment
7	Clarification/question	V. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS	A. Effluent Limitations – Applicable to All Permittees 1. Final Effluent Limitations – Applicable to All Permittees a. Total Suspended Solids (TSS) and Settleable Solids.	7	4	Radford/Jackson	It is unclear if this allows Mad River Hatchery (MAD) to discharge to the river, as they were allowed in their 2000 permit. The footnote implies that MAD is allowed to discharge, but the effluent limitation is not net.
8	pH limitation - refer to attached Excel spreadsheet titled "TRH Water Quality 2005-2015.xlsx"	b. pH	i. Klamath and Trinity River	8		Jackson	Delete Klamath. The previous limit is between 6.5 to 8.5. Recommend leaving it 6.5 to 8.5 as a General limitation (which is consistent with IX. RECEIVING WATER LIMITATIONS A. Surface Water Limitations 3 on page 10), as TRH has not had a pH reading below 7.5. Analyses of the TRH pH data indicate an increasing pH trend in the Inflow and Receiving Water, often at 8.5. CDFW requests discussion and agreement how to address likely exceedances if the upper Trinity River continues to increase in pH above 8.5. Attached is an Excel spreadsheet titled "TRH Water Quality 2005-2015.xlsx".
9	pH limitation - refer to attached Excel spreadsheets titled "WSH Water Data 2005-2015.xlsx" and "CVFF Water Data 2005-2015.xlsx"	b. pH	ii. Mad River and Russian River	8		Jackson	In reviewing the pH water quality data for Warm Springs Hatchery (WSH) and Coyote Valley Fish Facility (CVFF), there were several occasions since 2005 that the inflow pH exceeded 8.5 (6 times at WSH and 3 times at CVFF). CDFW requests discussion and agreement how to address potential exceedances if the inflow pH is above 8.5. Attached is are Excel spreadsheets titled "WSH Water Data 2005-2015.xlsx" and "CVFF Water Data 2005-2015.xlsx"
10	Clarification/question	IX. RECEIVING WATER LIMITATIONS	A. Surface Water Limitations 3.	10		Radford/Jackson	It is unlikely that a CDFW facility could possibly change the water quality of the Receiving Water for any parameter even if effluent measurements were drastically different than the receiving water, as our facilities are far less than 3% of the receiving water. The challenge in some systems is that the Intake Water and Receiving Water may have considerably different characteristics for temperature, pH, etc. If, for example, pH is 8.5 at R-001 and 8.7 in the Inflow and Effluent and R-002 is 8.6, will that be a violation for our facility? If so, modification of this section is requested so we are not penalized for Inflow water quality.
11	Request	IX. RECEIVING WATER LIMITATIONS	A. Surface Water Limitations	10		Jackson	The effluent flow of CDFW's facilities is typically an inconsequential volume of water (<3%) compared to the receiving water flow. The CDFW and the NC Board are Resource Agencies, and both are concerned with protecting beneficial uses of the receiving water. CDFW is mathematically and scientifically confident that discharge of drugs and chemicals from normal treatment of fish diseases will not cause receiving waters to contain drugs or chemicals in concentrations that cause nuisance or adversely affect beneficial uses. CDFW requests that drugs and chemicals for treating fish diseases be a Receiving Water Limitation, rather than a no detectable discharge prohibition.
12	General	X. Provisions		11-18		Jackson	This section seems excessive, in particular the Pollutant Minimization Program (PMP) on page 14, and not necessarily for hatcheries. CDFW recognizes several sections clarify with "as required by the Executive Officer".
13	Addition	2. Social Studies, Technical Reports and Additional Monitoring Requirements	a. New Chemical and Aquaculture Drug Use Reporting.	13		Jackson	As more challenges arise with treating fish, a couple additional medications and chemicals are being utilized by CDFW pathologists at other CDFW hatcheries, and CDFW would like to add SLICE and ivermectin to the current list. Copper sulfate can be removed. An updated list will be included with each facility's NOI, but CDFW requests SLICE and ivermectin be added to the General Permit blanket.
14	General/clarification	2. Speceial Studies, Technical Reports and Additional Monitoring Requirments	a. New Chemical and Aquaculture Drug Use Reporting.	13		Overton/Jackson	"The Permittee shall also submit chronic toxicity test information..." The CDFW has conducted numerous toxicity tests, and supplied information within the file. CDFW asks for clarification that "submit" does not imply we conduct additional chronic toxicity tests beyond those already conducted.
15	General/clarification	iii. Structural Maintenance	(a) & (b)	15		Jackson	CDFW hatcheries do not have wastewater treatment systems, unless this is referring to settling and percolation ponds
16	Disagree	c. Chemical Controls Verification Monitoring and Reporting Plan		16		Radford/Jackson	A verification MRP is too much. Cannot verify actual effluent concentration of a drug or chemical when fed to the fish as the fish metabolize the drug or chemical. Drugs and Chemicals utilized for fish disease activities is addressed in the "Hatchery Policy comments 6-25-15.docx". Request reporting of drug and chemical use only. Analysis of this would be cost prohibitive
17	Disagree	4. Construction, Operation and Maintenance Specifications	b.	16		Radford/Jackson	This request is too intensive, and seems beyond the scope of a NPDES permit. Hatcheries already have an Operations Manual, BMP and County Business Plan (Haz Mat Plan), site safety plan and spill prevention plan. Subsection "i. Description of the Facility's organizational structure showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment Facility so as to achieve the required level of treatment at all times." in particular is excessive. Qualified employees are hired/promoted and trained appropriately as necessary to manage and operate the facility properly and responsibly.
18	General	6.Other Special Provisions	a.Solids Disposal ii.	17		Wilson	This "report" could be spelled out in one sentence. It is also covered in our BMP. Is this really necessary?
19	General/clarification	IV. STANDARD PROVISIONS RECORDS	A.	D-4		Jackson	"...sewage sludge use and disposal activities,..." CDFW does not use sewage sludge or dispose of it, unless this is referring to rare occasion of having a septic tank pumped if/when necessary. Please clarify what this means for CDFW.

Comment Number	Comment Type (General, Chapter Number or Attachment Letter)	Section Name	Sub-section Name	Page #	Table #	Reviewer	Comment
20	General/clarification	B. Signatory and Certification Requirements	2. All permit applications shall be signed as follows: c.	D-5		Jackson	As a state agency "...all permit applications shall be signed by either a principal executive officer or ranking elected official." It is not clear who that would be for us. Is the NC Board requiring CDFW have the Director sign? Each facility is under Regional jurisdiction, would the Regional Manager be acceptable? Does the Senior Hatchery Supervisor need an signed "authorization" to be the Legal Reporting Official under Standard Provisions - Reporting V.B.2?
21	Modify	I. GENERAL MONITORING PROVISIONS	E. Minimum Levels (ML) and Reporting Levels (RL) Provision.	E-2	E-1	Jackson	Delete Copper, as CDFW does not use copper compounds and it is associated with IGH. CDFW is fine with the Test Methods and MLs for the Chromium VI and Cyanide, but disagrees with quarterly monitoring of Chromium VI and Cyanide (see discussions below). CDFW is not convinced that GCMS is the appropriate test method for Bis (2-Ethylhexyl) Phthalate - see discussion below.
22	General/clarification	III. INFLUENT MONITORING REQUIREMENTS	A. Influent Monitoring - Applicable to All CAAP Facilities 1.	E-3	E-3	Overton/Jackson	Mad River Hatchery influent comes from wells, and according to the footnote of Table 4 on page 7, Influent TSS and SS cannot be used for net calculations because the Effluent Limitation applies to the total concentration in the effluent. Monitoring Influent TSS and SS for Mad River Hatchery would be unnecessary. If Mad River Hatchery is allowed net effluent TSS and SS, as the other facilities are, then sampling these constituents in the influent is logical. Please clarify.
23	Change recommendation	III. INFLUENT MONITORING REQUIREMENTS	A. Influent Monitoring - Applicable to All CAAP Facilities 1.	E-3	E-3	Jackson	CDFW recommends sampling hardness and CTR Priority Pollutants once per permit term at the influent, rather than at RSW-001 (see discussion below for Table E-10 on page E-7)
24	Disagree/modify	IV. EFFLUENT MONITORING REQUIREMENTS	A. Effluent Monitoring - Applicable to All CAAP Facilities 1.	E-4	E-5	Jackson	Annual sampling for Hardness is excessive. CDFW agrees that each facility needs to sample for hardness once per permit term to coincide with CTR sampling. CDFW speculates that annual hardness sampling was intended for proposed Chromium VI sampling at Coyote Valley, Total Cyanide sampling at Trinity River, and Bis (2-Ethylhexyl) Phthalate sampling at Warm Springs; however, none of these constituents are hardness-dependent, as is even noted under Hardness on page F-27 of this draft General Permit. Mad River definitely should not be required to monitor Hardness annually.
25	Disagree/clarification - attachments	B. Effluent Monitoring - Applicable to the Coyote Valle Fishery Mitigation Facility		1 E-5	E-6	Veek/Cho/Jackson	Chromium VI: Under Minimum Sampling Frequency of Quarterly, there is a footnote "1" that does not seem to correspond to the Table Notes 1 - curious if there was a footnote intended regarding the sampling. Regardless, CDFW disagrees with sampling Chromium VI at Coyote quarterly (especially for 5 years), as the data do not support a reasonable potential of exceedance. The discussion in the Fact Sheet under ii. Chromium on page F-28 does not mention that Chromium VI was not detected (ND) in the CTR sampling on 6/27/13. The second sampling on 1/6/14, which is discussed, was "J-flagged" and is not reliable. Although indeed it is unfortunate that the hold time was exceeded, 22 minutes is not considered excessive to invalidate the analyses. If the NC Board wishes to utilize the 1/6/14 analyses, then even though the precise Chromium VI value would be unknown it is reasonable to deduce that it was 1.1 µg/L or less (which is below the 11 µg/L CTR chronic criterion), as that was the results for total chromium, and Chromium III was ND. Total Chromium was analyzed utilizing 200.8, which if considerably more precise than 7196A (colorimeter) which was used for Chromium VI. As is stated in the Fact Sheet on page F-18, "Since chromium VI is a component of total chromium, the concentration of chromium VI should not be greater than the concentration for total chromium." Additionally a 3rd sample was collected and analyzed using 7196A on 5/28/14, with results of ND for Chromium VI. CDFW contends that the Coyote Valley facility does not add Chromium VI to the receiving water, nor is there reasonable potential that the facility would violate the CTR chronic criterion for protection of aquatic life - thus monitoring for this constituent should only be required once per permit term. CDFW does agree that future Chromium VI analyses should be conducted with a more precise method than 7196A, and will utilize one of the Required Analytical Test Methods
26	Clarification/disagree	D. Effluent Monitoring - Applicable to the Trinity River Salmon and Steelhead Hatchery		1 E-6		Glenn/Jackson	Requires monitoring for cyanide for Effluent Discharges EFF-003 and EFF-004, but does not mention EFF-002. If CDFW were to sample quarterly for Cyanide (see discussion below), CDFW presumes it would be flow-weighted for all effluents flowing at the time of sampling.
27	Disagree - attachments	D. Effluent Monitoring - Applicable to the Trinity River Salmon and Steelhead Hatchery		1 E-6	E-8	Radford/Jackson	CDFW disagrees with sampling Cyanide at Trinity River Hatchery (TRH) quarterly (especially for 5 years), as the data do not support a reasonable potential of exceedance. Analyses from January 2003, March 2013 and April 2014 indicate that Cyanide were not detected in the TRH effluent. The discussion in the Fact Sheet under iii. Cyanide on page F-28 notes the ND of March 12, 2013 (actually March 19, 2013). The discussion includes the "detection" of Cyanide on November 20, 2012 (actually November 19-20, 2012), but also notes that there were issues at the lab with the QC sample which indeed puts the sample quality and "detection" in-question. Regardless, the two subsequent samples of 3/19/13 and 4/16/14 were ND. CDFW contends that the TRH does not add Cyanide to the receiving water, nor is there reasonable potential that the facility would violate the CTR chronic criterion for protection of aquatic life - thus monitoring for this constituent should only be required once per permit term. CDFW does agree that future Cyanide analyses will utilize the Required Analytical Test Method

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28	Disagree/modification - attachments	E. Effluent Monitoring - Applicable to the Warm Springs Fish Hatchery		1 E-6	E-9	Veek/Cho/Jackson	<p>Sorting through analyses and issues for Bis (2-Ethylhexyl) Phthalate (DEHP) at Warm Springs Hatchery (WSH) are complex at best. DEHP is an organic compound used in the production of polyvinyl chloride (PVC), and it exhibits low acute and chronic toxicity, particularly in water. The USEPA limits for DEHP in drinking water is 6 ppb. The Food and Drug Administration (FDA) permits use of DEHP-containing packaging only for foods that primarily contain water (rather than nonpolar solvents). DEHP in varying levels is essentially everywhere today and the CalEPA reference exposure level is a concentration at or below which adverse health effects are not likely to occur, thus the CTR criterion for protection of human health for consumption of water and organisms of 1.8 µg/L.</p> <p>Depending on time of year and weather for dam flow releases and hatchery operations, WSH effluent is typically 1-3% of the receiving water volume, but may be as high as 50% as we are experiencing currently under drought conditions. CDFW disagrees with sampling Bis (2-Ethylhexyl) Phthalate at WSH quarterly for 5 years. The data discussed in the draft permit do not support a reasonable potential of exceedance.</p> <p>As mentioned in the Fact Sheet under i. Bis (2-Ethylhexyl) Phthalate on page F-28, the 6/27/13 analyses indicate ND in the WSH effluent. The discussion includes the 2.9 µg/L "detection" of DEHP on 1/7/14, but also notes that the sample was "J-flagged" and is not reliable, as there was also detection in the method blank thus implying contamination. The sample should have also been "B-flagged" which indicates detection in the Blank, where EPA assesses the usability of the sample as usable if it is 10x the blank (which would be 6.3 µg/L). The sample result was below 6.3, thus unreliable. CDFW reviewed previous CTR analyses of a sample collected at WSH in December of 2002 (attached). These samples were also flagged for DEHP, but interestingly there was "detection" in the influent water (9.8 µg/L) as well as the effluent (49 µg/L). Again the reliability of these samples are questionable, but they raise question.</p>
29	Disagree/modification (continued)	E. Effluent Monitoring - Applicable to the Warm Springs Fish Hatchery		1 E-6	E-9	Cho/Jackson	<p>An additional sample was collected on 5/28/14 by the USACOE (attached); unfortunately only the WSH effluent was collected and analyzed. The results (100 µg/L) indeed inspire additional questions, and without inflow information CDFW can only speculate. WSH has been constructing additional infrastructure in round-tanks for improved husbandry of ESA listed Coho Salmon, and much of the plumbing is PVC. CDFW speculates that this high detection was from catching the flush of the new system, thus there may be reasonable potential that the facility could violate the CTR criterion for protection of human health for consumption of water and organisms - thus monitoring for this constituent is warranted.</p> <p>CDFW proposes an alternative sampling strategy for DEHP at WSH. CDFW does not agree to quarterly sampling for 5 years if the hatchery is not the cause and without opportunity to discontinue sampling if WSH net effluent DEHP is below the CTR criterion. CDFW proposes collecting an initial inflow/base-line DEHP sample in conjunction with an effluent sample. If DEHP is present in the inflow at or above the effluent level, then CDFW requests quarterly sampling not be required. If DEHP is detected in the inflow and the effluent level exceeds the inflow, CDFW requests Intake Credits (which we will request in the NOI), and quarterly sampling of both inflow and effluent would commence. If the net effluent concentration of DEHP is below 1.8 µg/L in two consecutive quarters then the quarterly sampling would be terminated, until the full CTR sampling once per permit term.</p>
30	Further evaluation of Required Analytical Test Method	E. Effluent Monitoring - Applicable to the Warm Springs Fish Hatchery		1 E-6	E-9	Cho/Jackson	<p>CDFW believes that the EPA method 3520C-625 analyses (which were used in the 2013 & 2014 analyses) for continuous Liquid-Liquid Extraction of Organics is an acceptable method to analyze DEHP, but is willing to agree to future DEHP analyses utilizing the Required Analytical Test Method Gas Chromatography-Mass Spectrometry (GC-MS) if it is the appropriate and best method; however, this analyses is primarily by the US Consumer Product Safety Commission for children's toys, and CDFW is not convinced this is the best method for testing WSH water. CDFW request the NC Board to determine if GC-MS is the appropriate and best method.</p>
31	Disagree/modify	VIII.RECEIVING WATER MONITORING REQUIREMENTS	A. Monitoring Location RSW-001 1.	E-7	E-10	Jackson	<p>Annual sampling for Hardness is excessive. CDFW agrees that each facility needs to sample for hardness once per permit term to coincide with CTR sampling. CDFW speculates that annual hardness sampling was intended for proposed Chromium VI sampling at Coyote Valley, Total Cyanide sampling at Trinity River, and Bis (2-Ethylhexyl) Phthalate sampling at Warm Springs; however, none of these constituents are hardness-dependent, as is even noted under Hardness on page F-27 of this draft General Permit. Mad River definitely should not be required to monitor Hardness annually.</p> <p>CDFW does not agree that sampling hardness at RSW-001 provides the information desired. CDFW recommends changing this requirement to the inflow once per permit term (see discussion below RE: CTR Priority Pollutants).</p>
32	Disagree/modify	VIII.RECEIVING WATER MONITORING REQUIREMENTS	A. Monitoring Location RSW-001 1.	E-7	E-10	Jackson	<p>CDFW does not agree that sampling CTR Priority Pollutants once per permit term at RSW-001 provides the information desired to evaluate if the hatchery effluent differs from the inflow. TRH, WSH, and CVFF are below reservoirs, and thus inflow is different than the discharge from the dam to the river, thus RSW-001. And Mad River Hatchery draws water from multiple off-channel wells, thus the inflow also is different than RSW-001. Although indeed it would be good to have CTR Priority Pollutants information for RSW-001, CDFW does not believe it is our responsibility to collect these data nor will it provide the necessary information in evaluating if the hatchery contributes to the CTR Priority Pollutants, CDFW recommends changing this requirement to the inflow once per permit term.</p>
33	Disagree/Clarification	IX. OTHER MONITORING REQUIREMENTS	A. Quarterly Drug and Chemical Use Report 6.	E-8		Glenn/Jackson	<p>"For drugs and chemicals used for the treatment and control of diseases (other than NaCl), the method used to demonstrate compliance with Discharge Prohibition IV.G of this General Order; and" - this requirement "...demonstrate compliance with Discharge Prohibition..." is a major area of disagreement with CDFW, as is discussed in the Word Document titled "Hatchery Policy comments 6-25-15.docx". Demonstration of compliance is dependent on resolution to this disagreement.</p>
34	General	D Compliance Summary		F-8		Jackson	<p>These violations for delinquent reports were under the authority of a now retired CDFW employee. No CDFW personnel currently holding positions of management or authority were involved with these violations.</p>

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35	Addition	C. State and Federal Laws, Regulations, Policies, and Plans	1. Water Quality Control Plans.	F-11		Jackson	"Therefore, this General Order authorizes discharges to the Klamath River, Mad River, and Russian River year-round." CDFW request that Trinity River be added so TRH is also authorized to discharge year-round.
36	General	3. Mad River		F-14		Jackson	"The TMDL identifies the Mad River Fish Hatchery as a point source of sediment and suspended sediment." - CDFW realizes the NC Board is only reporting facts written in the TMDL, but it is highly unlikely that a RPA of Mad River TSS, SS and Turbidity data would validate this statement. Mad River Hatchery abandoned the use of the Mad River as a source of inflow because of sediment issues, and utilizes off-channel wells.
37	General/disagree	E. Other Plans, Policies and Regulations	2. Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture Operations. c.	F-15		Jackson	"The discharge of detectable levels of chemicals used for the treatment and control of disease, other than salt (NaCl) shall be prohibited." This is a major area of disagreement with CDFW, as is discussed in the Word Document titled "Hatchery Policy comments 6-25-15.docx" and in various sections throughout.
38	General/disagree/delete	V. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS	7. Discharge Prohibition III.G.	F-19		Jackson	Again, this is a major area of disagreement and contention with CDFW, as is discussed in the Word Document titled "Hatchery Policy comments 6-25-15.docx". CDFW should not be prohibited from discharge for drugs & chemicals (as blanket ND) - this is not based on science, nor reasonable. Copper sulfate should be removed from the list of chemicals CDFW facilities use (see August 3, 2011 DFG Prohibition of copper sulfate and copper based compounds at DFG operated fish hatcheries memorandum).
39	General	2. Applicable Beneficial Uses and Water Quality Criteria and Objectives	c. SIP, CTR AND NTR.	F-22		Jackson	There is discussion of CMC and CCC regarding Aquatic life regarding CTRs and RPAs, yet these science-based criteria are not applied to establishing WQBELs for drugs and chemicals used for treating fish diseases.
40	General/Disagree	3. Determining the Need for WQBELs		F-23 - F-26		Jackson	No WQBELs for drugs and chemicals used for treating fish diseases - there needs to be an allowance of science-based discharge of drugs & chemicals.
41	General/Clarification	3. Determining the Need for WQBELs	ii. pH	F-23		Jackson	General pH of 6.5-8.5 based on Table 3-1 of Basin Plan - this should be the General limitation, which should include TRH (see comment regarding Effluent Limitation b.pH i. on page 8)
42	General/Additional Information	b. Priority Pollutants	i. Coyote Valley Fishery Mitigation Facility:	F-26		Jackson	Effluent priority pollutant data available for December 26, 2002, January 6, 2014 and May 28, 2014
43	Correction	b. Priority Pollutants	iii. Mad River:	F-26		Jackson	Effluent priority pollutant data were collected on November 19, 2012 and March 20, 2013, not 2012
44	General/Additional Information & correction	b. Priority Pollutants	iv. Trinity River:	F-27		Jackson	Effluent priority pollutant data available for January 28, 2003, November 19-20, 2012, March 19, 2013, and April 16, 2014 - not just November 20, 2012 and not March 12, 2013
45	General/Additional Information	b. Priority Pollutants	v. Warm Springs Fish Hatchery:	F-27		Jackson	Effluent priority pollutant data available for December 27, 2003, June 27, 2013, January 7, 2014, and May 28, 2014
46	General	b. Priority Pollutants	Hardness:	F-27		Jackson	"The hardness-dependent metal criteria include cadmium, copper, chromium (III), lead, nickel, silver, and zinc." - Chromium VI, Cyanide and Bis (2-Ethylhexyl) Phthalate are not hardness-dependent metals, thus Annual Hardness sampling is not necessary.
47	General	b. Priority Pollutants	Hardness:	F-27		Jackson	"Effluent and receiving water data for hardness was only available for the Iron Gate Hatchery, ..." - this was an unfortunate oversight and will be corrected.
48	Disagree, Consider Additional Information	c. Reasonable Potential Determination	i. Bis (2-Ethylhexyl) Phthalate, ii. Chromium VI, iii. Cyanide	F-28 - F-29		Jackson	CDFW disagrees that the Effluent priority pollutant data are "...inappropriate or insufficient for use...". CDFW does not agree with conclusions drawn from unreliable lab analyses and results, plus additional data are available. Please refer to previous comments/discussion above regarding quarterly priority pollutant sampling of these three constituents at these three facilities on/for pages E-5 and E-6.
49	Disagree, Consider Additional Information	c. Reasonable Potential Determination	i. Bis (2-Ethylhexyl) Phthalate, ii. Chromium VI, iii. Cyanide	F-29	F-5	Jackson	CDFW does not agree with conclusions drawn from unreliable lab analyses and results, plus additional data are available, which affects table results for CTR# 5b, 14 and 68, and Table Notes 3, 5 and 6, respectively. Please refer to previous comments/discussion above regarding quarterly priority pollutant sampling of these three constituents at these three facilities on/for pages E-5 and E-6.
50	Delete	c. Reasonable Potential Determination		F-29	F-5	Jackson	Delete CTR # 6 and Table Note 4 for Copper for IGH
51	General	c. Reasonable Potential Determination	5. Whole Effluent Toxicity (WET)	F-31		Jackson	"This General Order prohibits detectable amounts of aquaculture drugs and chemicals used for the treatment or control of disease and includes reporting requirements for the Permittees to demonstrate compliance with this prohibition during use." - Again, CDFW disagrees with the prohibition as is discussed in the attached Word Document titled "Hatchery Policy comments 6-25-15.docx" and in various sections of comments. CDFW not only requests the allowance of detectable concentrations of drugs and chemicals based on science, but recommends a Receiving Water Limitation be established rather than the prohibition.
52	Disagree/discuss	3. Best Management Practices and Pollution Prevention	c. Chemical Controls Verification Monitoring and Reporting Plan (Special Provision X.C.3.b).	F-37 - F-38		Jackson	"Monitoring is necessary to demonstrate the absence of chemical concentrations in the effluent associated with periodic disease control activities." - Cannot verify actual effluent concentration of a drug when fed or injected into the fish, as the fish metabolize the drug. Request reporting of drug use only, analysis would be cost prohibitive. Monitoring/calculation of external drugs and chemicals in the discharge is reasonable, with concentrations established to not adversely affect beneficial uses in the receiving water. This subject needs to be further discussed and developed, as CDFW does not agree with several issues regarding the "Hatchery Policy" and the discharge of drugs & chemicals.

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53	Disagree, Consider Additional Information	VIII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS	B. Effluent Monitoring	F-41		Jackson	"As described further in section V.C.3.c of this Fact Sheet,..." - CDFW does not agree with conclusions drawn from unreliable lab analyses and results, plus additional data are available. Please refer to previous comments/discussion above regarding quarterly priority pollutant sampling of these three constituents at these three facilities on/for pages E-5 and E-6.