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**Response to Written Comments  
Draft Waste Discharge Requirements  
Order No. R1-2023-0014  
National Pollutant Discharge Elimination System (NPDES)  
for the  
Fall Creek Hatchery  
Regional Water Quality Control Board, North Coast Region  
April 6, 2023**

## **Comments Received**

The deadline for submittal of public comments regarding draft Waste Discharge Requirements for Order No. R1-2023-0014, NPDES Permit (Draft Permit) for the PacifiCorp and California Department of Fish and Wildlife (Permittees) Fall Creek Hatchery (Facility) was March 1, 2023. Regional Water Board staff (Staff) received written comments from the Permittees in a timely manner.

In this document, the Permittees' comments are summarized, followed by the Staff response. Text to be added is identified by underline and text to be deleted is identified by ~~strike-through~~ in this document. The term "Draft Permit" refers to the version of the permit that was sent out for public comment. The term "Proposed Permit" refers to the version of the permit that has been modified in response to comments and is being presented to the North Coast Regional Water Quality Control Board (Regional Water Board) for consideration.

## **California Department of Fish and Wildlife (CDFW) Comments**

### **Comment 1: Overarching Comments**

The Draft includes two (2) Permittees, CDFW and PacifiCorp. It is the Department's understanding that we would be the sole permittee and request PacifiCorp be removed from the Draft.

The Draft references the Klamath Basin Restoration Agreement and original Klamath Hydrologic Settlement Agreement (KHSAs). These agreements have expired. The Order should reference the amended KHSAs.

CDFW is concerned that the proposed start date for the FCH NPDES permit (April 2023) is 8 to 12 months premature. This could be important for several reasons, including:

1. CDFW staff will not perform regularly scheduled responsibilities or have an anticipated presence at FCH until December 2023 at the earliest, and therefore cannot perform water sampling activities. This is especially true regarding the

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fast-paced construction timelines. CDFW staff should not be subject to dangerous working conditions. Road reconstruction activity and transportation to FCH could be challenging, let alone working amongst heavy equipment and construction.

2. According to the Draft, the proposed start date is approximately 12 months before FCH qualifies as a cold water Concentrated Aquatic Animal Production (CAAP) facility.
  - According to Title 40 Code of Federal Regulations, section 122.23, and included in the General Order (R1-2021-0010), the definition of a CAAP includes the following:

*".....produce at least 20K pounds harvest weight of aquatic animals per year and feed at least 5K pounds of food during the calendar month of maximum feeding."*
  - Trout and Salmon are fed ~2.0% of their body weight per day. 5,000 pounds of feed in a month is approximately 161.3 pounds of feed per day and will feed about 8,065 pounds of fish at 2% body weight per day. FCH is scheduled to first exceed 8,000 pounds of biomass by April 2024, which is 12 months after the proposed start date of the draft Permit.
  - FCH will first have over 20,000 pounds of biomass (i.e., "harvestable weight") by September 2024 (18 months before the proposed start date for the Permit).
3. The site of FCH will be demolished and rebuilt by contractors during the 7 or 8 months preceding CDFW operations. It seems reasonable that CDFW is not issued a permit for discharge when not present or performing operations, and while private contractors and subcontractors are performing significant activities.

The permit is good for a 5-year period, but the Draft includes commitments that extend beyond the life of the permit to the full 8 years of operation and 10 years of monitoring.

**Response 1:** *It is appropriate to name the owner of the property as well as the operator of the facility, in part because the owner is allowing the activity to occur on its land and has control over the conditions of its property, including whether to allow discharges to occur. In addition, per the 2016 Amended KHSA, "PacifiCorp will fund 100 percent of hatchery operations and maintenance necessary to fulfill annual mitigation objectives developed by the California Department of Fish and Wildlife in consultation with the National Marine Fisheries Service. This includes funding the Iron Gate Hatchery facility as well as funding of other hatcheries necessary to meet ongoing mitigation objectives following Facilities Removal. Funding will be provided for hatchery operations to meet mitigation requirements and will continue for eight years following the Decommissioning of Iron Gate Dam." The State Water Board has explicitly recognized the Regional Water Board authority to name both owners and operators in waste discharge requirements. (See State Water Board Order WQ-No. 90-03 which states in part that "we find that it is within the Regional Board's discretion to name a nonoperating landowner in waste discharge requirements/NPDES permits.") Thus, the Permit and Order will name both the owner, PacifiCorp, and operator, California Department of Fish and Wildlife, as co-permittees.*

*Regional Water Board staff recognizes the error in including language from the KBRA and the original KHSA. Amended language and changes are included, below, in Response 19.*

*Per Title 40 Code of Federal Regulations section 122.23, for facilities that operate a cold water Concentrated Aquatic Animal Production (CAAP) Facility and discharge at least 30 calendar days per year, produce at least 20,000 pounds harvest weight of aquatic animals per year, and feed at least 5,000 pounds of food during the calendar month of maximum feeding are required to meet Federal Effluent Limitations Guidelines. The Facility will not produce 20,000 pounds per year of fish or feed at least 5,000 pounds of fish in a month until September 2024, as stated in Comment 1 above. The discharge from the Facility is considered a significant contributor of pollution to waters of the United States in accordance with the Klamath River TMDL. As such, Regional Water Board staff have determined that the Permittees are required to meet Federal Effluent Limitation Guidelines starting June 1, 2023, despite the fact that the Facility will not meet the production thresholds until September 2024. The Proposed Permit will be effective on June 1, 2023, with monitoring requirements starting upon commencement of waste discharges from the settling pond identified in Table 1 of the Proposed Permit and described in section 2.1 of the Fact Sheet.*

*State Water Resources Control Board Resolution No. 2008-0025, Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits (Compliance Schedule Policy), section 6.b states, "The duration of the compliance schedule may not exceed ten years from the date of adoption, revision, or new interpretation of the applicable water quality objective or criterion in a water quality standard." The Proposed Permit contains a compliance schedule through the life of the Facility (eight years). After the five-year duration of the Proposed Permit, the compliance schedule can be amended if necessary. It is Regional Water Board staff's intention to require monitoring until discharge ceases from the Facility.*

**Comment 2: Page 6, Section 2.6 (Anticipated Water Quality Impacts in Disadvantaged or Tribal Communities)**

The first paragraph as written suggests the permittee is currently operating the facility. Suggest revising to "will operate".

**Response 2:** *The first paragraph of section 2.6 of the Draft Permit states the following:*

*"The Permittees operate a concentrated cold water fish hatchery facility located along Fall Creek in the middle Klamath River watershed in Siskiyou County."*

*The Proposed Permit has been modified as follows, "The Permittees operate a concentrated cold water fish hatchery facility located along Fall Creek in the middle Klamath River watershed in Siskiyou County. The Facility is proposing to be operational and begin discharge as early as December 2023."*

**Comment 3: Page 8, Section 4.1.1.4. (Carbonaceous Biochemical Oxygen Demand (CBOD))**

CBOD –CDFW NPDES Monitoring and Reporting have demonstrated that Iron Gate Hatchery (IGH) does not cause or add to the five-day carbonaceous biochemical oxygen demand (CBOD) as part of the Klamath Total Maximum Daily Loads (TMDL).

For this reason, IGH was given a reprieve from CBOD monitoring. FCH will have a maximum, annual goal of producing a mere 15.4% of IGH's maximum annual fish production goal. CDFW does not anticipate FCH adding to CBOD. FCH's stringent budget precludes unnecessary cost of FCH staff time and laboratory analysis for CBOD.

**Response 3:** *CDFW states that monitoring and reporting have demonstrated that IGH does not cause or add to the five-day CBOD as part of the Klamath TMDL. Regional Water Board staff (Staff) have not received data that shows IGH does not cause or add to the five-day CBOD loading to the Klamath River. Staff acknowledge that the loading from IGH is minimal compared to the overall loading of non-point source discharges to the Klamath River. However, extrapolating CBOD loading from the IGH to the Facility is not representative of conditions at Fall Creek. Additionally, the Facility has not begun monitoring for CBOD in the effluent to show whether or not there is loading for CBOD to Fall Creek. Staff proposes to provide an option for the Permittees to conduct temporary monitoring for CBOD at both the influent and effluent monitoring locations in order to demonstrate that Facility operations do not significantly contribute to CBOD loading.*

*The Permittees are not required to conduct influent CBOD monitoring since the Proposed Order includes numeric interim effluent limitations for CBOD. Final effluent limitations for CBOD include a no net loading limitation. Since the compliance schedule in the Proposed Permit runs through the full eight years of the proposed discharge from the Facility, the no net loading final limitation will not be effective during the term of the Permit.*

*If the Permittees would like to discontinue effluent CBOD monitoring on the basis that the Facility operations do not significantly contribute to CBOD loading, the Permittees may opt to conduct both influent and effluent monitoring at locations INF-001 and EFF-001, respectively for a period of two years to demonstrate if there is a statistical difference between the influent and the effluent CBOD concentrations as further described below.*

*Table Note 2 has been added to Table E-2 (Effluent Monitoring -Monitoring Location EFF-001) and Table Note 8 has been added to Table E-3 (Effluent Monitoring -Monitoring Location EFF-001) as follows. "The Permittees are not required to conduct influent CBOD monitoring. However, the Permittees may collect samples and analyze for CBOD at monitoring locations INF-001 and EFF-001 approximately at the same time for a period of two years to demonstrate that there is no statistically significant difference between the influent and effluent CBOD concentrations. Each sample shall be split into two duplicates and analyzed for CBOD. The Permittees shall then conduct a t-test to determine if there is a statistical difference between the influent and the effluent CBOD concentrations. Significant difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95th percent confidence level. If the average influent concentration is lower than the average effluent concentration and the difference is statistically significant, then the Regional Water Board can conclude that the discharge at EFF-001 is contributing CBOD to Fall Creek. If the average influent concentration is higher than the effluent concentration or if the difference between the average influent and effluent concentrations is not determined to be statistically significant, then the Regional Water Board can conclude that the*

discharge at EFF-001 is not contributing CBOD to Fall Creek and the Permittees may discontinue sampling for CBOD as established in Tables E-2 and E-3."

*Effluent monitoring for CBOD is needed to determine compliance with CBOD interim effluent limitations in the absence of definitive information that indicates that the discharge does not contribute CBOD to receiving waters. The cost for effluent monitoring is commensurate with the need to obtain information. As described above, influent CBOD monitoring is optional, but the monitoring data obtained from this voluntary monitoring may be used to demonstrate compliance with final no-net loading effluent limitations for CBOD and justify discontinuance of effluent sampling for CBOD, subject to concurrence by the Regional Water Board Executive Officer.*

**Comment 4: Page Section 4.1.1.5. (pH)**

*"The pH of discharges to Fall Creek shall not be depressed below 7.0 nor raised above 8.5, except when the pH of the influent exceeds 8.5 at Monitoring Location EFF- 001, in which case the pH of discharges shall not exceed the pH of the influent. In no case shall the effluent pH exceed 9.0".* Active NPDES permits for CDFW fish hatcheries throughout California specify a pH range of 6.5 to 8.5 as acceptable for effluent. CDFW suggests that Fall Creek could conceivably have a pH below 7.0 as the influent and is sole water source for FCH. CDFW requests that the lower pH range specified in Section 4.1.1.5 be changed to 6.5. The rest of the Section is acceptable.

A paragraph in the Section reads *"The pH of discharges to Fall Creek shall not be depressed below 7.0 nor raised above 8.5, except when the pH of the influents exceeds 8.5 at Monitoring Location EFF-001..."* Is the correct Monitoring Location INF-001?

**Response 4:** *Table 3.1 of the North Coast Basin Plan (Basin Plan) includes specific water quality objectives for the North Coast Region. The Table includes pH objectives for the "Klamath River above Iron Gate Dam including Iron Gate & Copco Reservoirs". These objectives include a minimum of 7.0 and a maximum of 8.5.*

*For consistency with the Basin Plan, the following language has been changed as follows: "The pH of discharges to Fall Creek shall not be depressed below 7.0 nor raised above 8.5, except when the pH of the influent is below 7.0 or exceeds 8.5 at Monitoring Location EFFINF-001, in which case the pH of discharges shall not exceed the pH of the influent. In no case shall effluent pH exceed 9.0."*

**Comment 5: Page 8, Section 4.1.2.2 (Temperature Interim Limitations)**

Specifies a period of 10 years beginning on the Permit effective date and ending ten years after first discharge from the proposed FCH. CDFW is scheduled to conclude FCH operations 8 years following dam removal and has no anticipated responsibility for the facility after that time. CDFW requests changing the period specified in Section 4.1.2.2 to 8 years from first discharge.

**Response 5:** *The language in section 4.1.2.2. has been updated as follows: "Temperature. During the period beginning on the permit effective date and ending ~~ten~~ eight years after first discharge from the Facility, the monthly average effluent temperature shall not exceed the monthly average upstream receiving water temperature, with compliance measured at effluent Monitoring Locations EFF-001 and upstream receiving water Monitoring Location RSW-001. This interim effluent limitation*

*shall apply in lieu of the corresponding final effluent limitations specified in sections 4.1.1.1 for temperature during the time period indicated in this Order.”*

*Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. However, pursuant to 40 C.F.R. section 122.6 (d) (1) and California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Permittees comply with all federal NPDES requirements for continuation of expired permits.*

*Regional Water Board staff recognize that the Facility will operate for eight years after first discharge from the Facility, per the Amended KHSA. The Proposed Permit includes a compliance schedule for eight years, beyond the five-year NPDES permit term, in order to extend compliance for the full eight years. In accordance with State Water Resources Control Board Resolution 2008-0025, “Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits” compliance schedules must contain final effluent limitations within the issued permit.*

**Comment 6: Page 8, Section 4.1.2.2 (Temperature Interim Limitations)**

Section references **Section 4.1.1.1** and explains that there shall be no net increase in loading of temperature from Discharge Point 001 to Fall Creek. However, **Section 5.1.14** seems to allow a potential increase in the natural receiving water by 5°F. CDFW does not anticipate at FCH operations to influence the temperature loading of the natural receiving water but requests clarification on these three sections.

**Response 6:** *Section 4.1.1.1 of the Proposed Order appropriately contains effluent limitations for temperature based on the waste load allocations established in the Klamath River TMDL. Section 5.1.14 of the Proposed Order contains surface water limitations as established in the “Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California” (Thermal Plan).*

*Regional Water Board staff acknowledge section 5.1.14 applies a receiving water limitation based on the Thermal Plan WQO that is less stringent than the no-net loading allocation from the Klamath River TMDL. The Klamath River TMDL no-net loading WQO for temperature is the more stringent than the Thermal Plan WQO. Therefore, the TMDL allocations apply in the Proposed Permit and, section 5.1.14 has been removed from the Proposed Permit.*

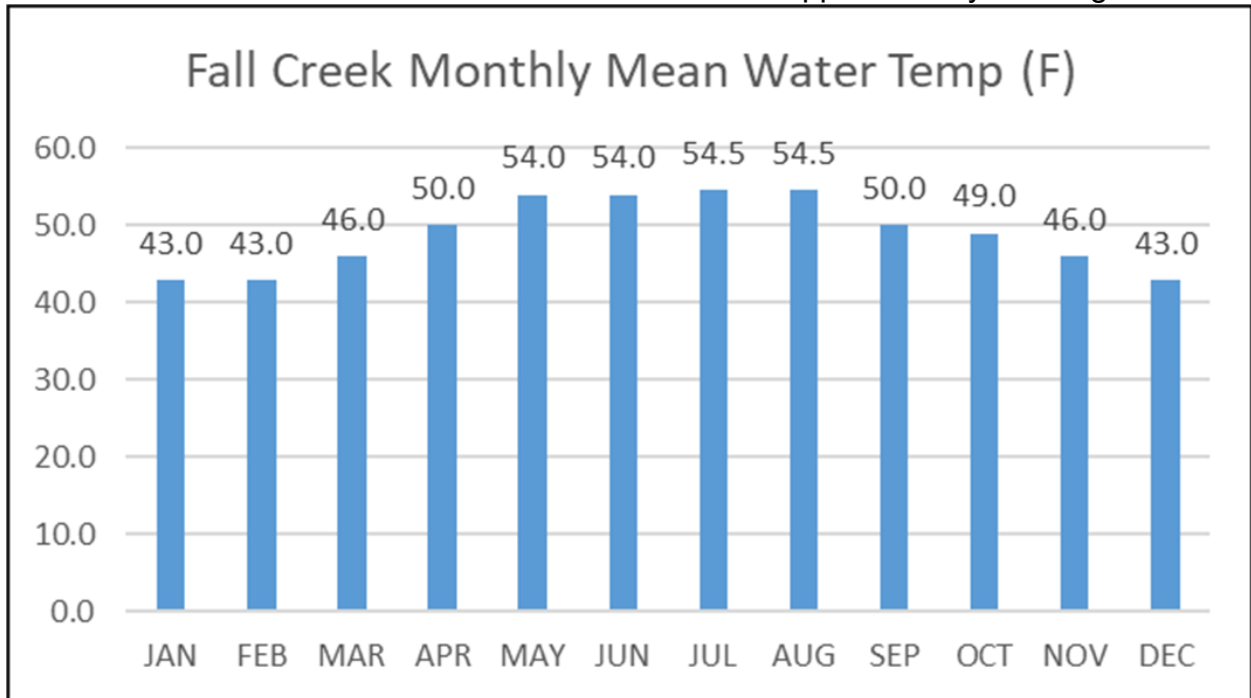
**Comment 7: Page 9, Section 5.1.1. (Dissolved Oxygen Surface Water Limitation)**

CDFW is concerned that the limits for dissolved oxygen (DO) in receiving waters may be too low. The information below shows Fall Creek mean monthly temperatures, and a table showing 100% DO saturation at elevation and temperature.

The elevation of the proposed FCH is approximately 2,215 feet above sea level.

- The lowest mean monthly water temperature occurs in December, January and February annually and is 43.0 F.
  - At 43.0 F
    - 100% Fall Creek DO saturation is approximately 11.44 mg/L.

- 85% Fall Creek DO saturation is approximately 9.73 mg/L.
- The highest mean monthly water temperature occurs in July and August annually and is approximately 54.5 F.
  - At 54.5 F
    - 100% Fall Creek DO saturation is approximately 9.82 mg/L.
    - 85% Fall Creek DO saturation is approximately 8.35 mg/L.



**Dissolved Oxygen, parts per million (mg/L) for Fresh Water, in Equilibrium with Air Including Elevation in Feet Above Sea Level. Table adopted from Trout and Salmon Culture, CA Fish Bulletin Number 164**

Temperature in Degrees F.	0 Feet	1000 Feet	2000 Feet	3000 Feet
40	13.0	12.5	12.1	11.6
45	12.1	11.7	11.2	10.8
46	11.9	11.5	11.1	10.7
47	11.8	11.3	10.9	10.5
48	11.5	11.2	10.8	10.4
49	11.3	11.1	10.6	10.3
50	11.2	10.9	10.5	10.1
51	11.0	10.8	10.4	10.0

52	10.8	10.6	10.2	9.9
53	10.6	10.5	10.1	9.8
54	10.0	10.4	10.0	9.6
55	9.4	10.3	9.9	9.5
60	9.0	9.6	9.3	8.9

According to the data above, during the warmer and drier months, receiving waters in Fall Creek could very likely already be below 9.0 mg/L. CDFW requests further consideration of the lower DO levels, given the information above.

**Response 7:** *Regional Water Board staff incorrectly included dissolved oxygen (DO) surface water limitations in the Draft Permit as established in section 3.3.5 of the Basin Plan. Table 3-1a of the Basin Plan includes waterbody-specific objectives for DO in the mainstem of the Klamath River. Therefore, section 5.1.1 of the Proposed Permit has been modified as follows.*

*“The discharge shall not cause the dissolved oxygen (DO) concentration of the receiving water to be depressed below 9.0 mg/L 85 percent DO saturation April 1 through September 30 and below 90 percent DO saturation October 1 through March 31 based on natural receiving water temperatures.”*

*~~“In those waterbodies for which the aquatic life-based DO requirements are unachievable due to natural conditions, site-specific background DO requirements can be applied as water quality objectives by calculating the daily minimum DO necessary to maintain 85 percent DO saturation during the dry season and 90% DO saturation during the wet season under site salinity, site atmospheric pressure, and natural receiving water temperature. In no event may controllable factors reduce the daily minimum DO below 6.0 mg/L.”~~*

*~~“Natural conditions are conditions or circumstances affecting the physical, chemical, or biological integrity of water that are not influenced by past or present anthropogenic activities. Site specific DO requirements can be applied upon approval from the Regional Water Board Executive Officer. The method(s) used to estimate natural temperatures for a given waterbody or stream length must be approved by the Executive Officer and may include, as appropriate, comparison with reference streams, simple calculation, or computer models.”~~*

*It is important to recognize that the objective states that the discharge does not cause DO concentration of the receiving water to be depressed below the specified saturation values. Staff recognize the concern of the Permittee in meeting the dissolved oxygen (DO) surface water limitation from the North Coast Basin Plan (Basin Plan).*



*Monitoring data will be evaluated to determine if the Facility is the cause of the exceedance of the DO surface water limitation. Any exceedances of the DO surface water limitation would not be subject to mandatory minimum penalties. Enforcement would be determined at the Board's discretion.*

**Comment 8: Page 9, Section 5.1.2. (Specific Conductance Surface Water Limitation)**

Water quality analyses were performed to evaluate Fall Creek as a suitable source of water for the proposed FCH (Attachment 1), but specific conductance was not one of the parameters analyzed. CDFW does not believe FCH operations will be in violation of Section 5.1.2 but requests an opportunity to establish a naturally occurring baseline for that parameter prior to finalization of a Permit.

**Response 8:** *Section 5.1.2 of the Draft Permit erroneously included Water Quality Objectives (WQOs) for specific conductance from Table 3-1 of the Basin Plan for the Klamath River below Iron Gate Dam. The correct WQOs for specific conductance should have been for the Klamath River above Iron Gate Dam including Iron Gate & Copco Reservoirs. Therefore, the Proposed Permit has been modified as follows.*

*"The discharge shall not cause the specific conductance (micromhos) concentration of the receiving waters to increase above 275 micromhos more than 50 percent of the time, or above ~~350~~ 425 more than 10 percent of the time."*

*Table 3-1 of the Basin Plan establishes Specific WQOs in the North Coast Region for various waterbodies. The Proposed Permit contains a receiving water limitation for specific conductance as established in Table 3-1 of the Basin Plan for the Klamath River above Iron Gate Dam including Iron Gate & Copco Reservoirs where Fall Creek enters the main stem of the Klamath River. If the Permittees wish to develop a naturally occurring baseline for specific conductance, then a compliance schedule will need to be issued to perform monitoring and show that the WQO is not representative to Fall Creek and establish a site-specific WQO.*

*Site specific criteria are allowed by regulation and are subject to EPA review and approval. The Federal water quality standards regulation at 40 CFR 131.11 (b)(1) requires States and authorized Tribes to adopt numeric water quality criteria that are based on section 304(a) criteria, section 304(a) criteria modified to reflect site-specific conditions, or other scientifically defensible methods. Under 40 CFR 131.5(a)(2), EPA reviews State Water Quality Standards (WQS) to determine whether a State has adopted criteria to protect the designated uses. Existing guidance and practice are that EPA will approve site specific criteria developed on the basis of sound scientific rationales.*

*Currently, EPA guidance has specified three procedures for States and Tribes to follow in deriving site-specific criteria. These are the Recalculation Procedure, the Water-Effect Ratio Procedure and the Resident Species Procedure. These procedures can be found in the Water Quality Standards Handbook (EPA-823-B940005a, 1994). EPA also recognizes there may be naturally occurring concentrations of pollutants which may exceed the national criteria published under section 304(a) of the Clean Water Act.*

*The Policy for Establishing Site Specific Aquatic Life Criteria Equal to Natural Background applies only to site specific numeric aquatic life criteria based on natural background. States and Tribes may establish site specific numeric aquatic life water quality criteria by setting the criteria value equal to natural background. Natural background is defined as background concentration due only to non-anthropogenic sources, i.e., non-manmade sources. In setting criteria equal to natural background the State or Tribe should, at a minimum, include in their water quality standards:*

- (1) a definition of natural background consistent with the above;*
- (2) a provision that site specific criteria may be set equal to natural background;*
- (3) a procedure for determining natural background, or alternatively, a reference in their water quality standards to another document describing the binding procedure that will be used.*

*No other changes have been made to the Proposed Permit in response to Comment 8.*

**Comment 9: Page 9, Section 5.1.3. (Hardness Surface Water Limitation)**

Water quality analyses were performed to evaluate Fall Creek as a suitable source of water for the proposed FCH (Attachment 1). Results show baseline Calcium and Magnesium concentrations of 12.5 and 7.6 mg/L, respectively. CDFW believes FCH will comply with Section 5.1.3.

**Response 9:** *Comment noted.*

**Comment 10: Page 10, Section 5.1.4. (Boron Surface Water Limitation)**

Water quality analyses were performed to evaluate Fall Creek as a suitable source of water for the proposed FCH (Attachment 1), but Boron was not one of the parameters analyzed. Boron is associated with groundwater and fish hatcheries are not known to contribute this element to receiving waters. Historically CDFW is required to monitor Boron once per Permit term to comply with the California Toxic Rule (CTR) for Priority Pollutants (PPs) and requests to maintain that sampling and reporting schedule in the FCH Permit.

**Response 10:** *Priority Pollutants are required to be sampled once per permit term in the Draft Permit and Boron is a pollutant included in the Priority Pollutant sampling. The Proposed Permit retains the once per permit term sampling requirement. Therefore, no changes were made in response to Comment 10.*

**Comment 11: Page 10, Section 5.1.5. (pH Surface Water Limitations)**

Please see CDFW comments on Section 4.1.1.5 above.

**Response 11:** *See Response 4 above.*

**Comment 12: Page 18, Section 6.3.7., Task 1.**

CDFW does not own the Facility; therefore, CDFW does not have the authority to certify decommissioning.

**Response 12:** *The Proposed Permit includes both CDFW and PacifiCorp as co-permittees. Since PacifiCorp is the owner of the Facility, they have the authority to certify decommissioning. See Response 1 for relevant co-permittee response.*

**Comment 13: Page E-5, Table E-1 (Monitoring Station Locations)**

CDFW suggests additional description of monitoring location EFF-002 and EFF-003 as these two points of discharge will only be used during volitional release of water and fish for migration. In other words, EFF-002 and EFF-003 will not discharge to the settling pond and then to the effluent of EFF-01. CDFW wishes to record the rationale establishing reprieve from water sampling at EFF-002 and EFF-003.

The locations of RSW-001 and RSW-002 should be further defined in relation to EFF-001, i.e., liner feet above and below EFF-001.

**Response 13:** *Section 2.1 of the Fact Sheet in the Draft Permit includes rationale for EFF-002 and EFF-003 as follows.*

*“In addition to discharge point EFF-001, the Coho salmon and Chinook salmon raceways will be equipped with volitional release pipes to allow for volitional fish passage to Fall Creek. These are the only other points of discharge from the Facility. Up to 500 gallons per minute (gpm) of flow will be released from the Coho salmon rearing ponds/raceways to facilitate fish movement through the volitional release pipe (discharge point EFF-003) to Fall Creek.”*

*“The Chinook volitional release pipe will convey flow-through water and fish from the Chinook raceways to a constructed plunge pool located along the east bank of Fall Creek (discharge point EFF-002). Up to 550 gpm of flow will be released from the raceway during this period to support fish movement through the volitional release pipe.”*

*The Monitoring and Reporting Plan (MRP) contained in Attachment E of the Draft Permit does not include monitoring requirements for EFF-002 and EFF-003. Section 2.2.1 of the Proposed Permit Fact Sheet has been modified as follows.*

*“Discharges from 002 and 003 are flow through discharges that are used to discharge coho and chinook salmon to Fall Creek. Discharges from 002 and 003 are not altered chemically or physically before being discharged. Therefore, no monitoring requirements are included for 002 and 003.”*

**Comment 14: Page E-6, Table E-2. (Influent Monitoring – Monitoring Location INF-001)**

Please see CDFW comments on sampling INF-001 CBOD as referenced in Section 4.1.1.4 above.

**Response 14:** *CBOD monitoring at INF-001 has been removed from the Proposed Permit. See Response 3 above.*

**Comment 15: Page E-6 and E-7, Table E-3. (Effluent Monitoring – Monitoring Location EFF-001)**

Please see CDFW comments on sampling EFF-001 CBOD as referenced in Section 4.1.1.4 above.

CDFW suggests that monitoring temperature daily or twice a day is more appropriate descriptor than “continuously”.

CDFW requests that hardness be sampled, analyzed and reported once per Permit term, concurrent with collecting and analyzing samples for CTR PPs as some metals are hardness dependent in the calculations of final results and limitations.

FCH is designed to have each water supply line equipped with an inline magnetic flow meter that will transmit flow rates to a programable logic controller (PLC). CDFW proposes that this data is sufficient to account for effluent flow as specified in Table E-3.

**Response 15:** *CBOD effluent monitoring at EFF-001 has been retained in the Proposed Permit. See Response 3 above.*

*Continuous monitoring of temperature at EFF-001 is required to determine compliance with temperature effluent limitations established in the Draft Permit as defined in the Klamath River TMDL. Grab samples performed once or twice daily will not be appropriate to determine the maximum temperature loading from the Facility throughout the daily discharge. Temperature monitoring has not been changed in the Proposed Permit.*

*Hardness is required to be monitored annually in the Proposed Permit. Staff believes annual sampling for hardness will be more effective in establishing yearly, and possibly seasonal, variations in hardness to determine the most stringent hardness value for potential hardness dependent metal effluent limitations in future NPDES permits for the Facility. Hardness monitoring has not been changed in the Proposed Permit.*

*The Permittees propose to use influent flow monitoring as the reported value for effluent flow. However, the influent flow may discharge to EFF-002 and EFF-003 for volitional discharge of chinook and coho salmon. Since the influent flow can be split between three different discharge locations, it is appropriate to require flow monitoring specifically at EFF-001 (settling pond discharge) to determine the pollutant loading from the Facility.*

**Comment 16: Page E-9, Table E-5. (Receiving Water Monitoring Requirements – Monitoring Location RSW-002)**

CDFW disagrees with the stipulation to monitor CTR PPs in RSW-002 as that analysis will be performed for EFF-001 and RSW-001.

**Response 16:** *Staff agrees with Comment 16. Table Note 4 from Table E-5 of the Proposed Permit has been modified as follows.*

*“Monitoring shall consist of a full priority pollutant scan at RSW-001 only one time at least 180 days but no more than 365 days prior to expiration of this Order, concurrent with effluent sampling. The Permittees are not required to sample and analyze for asbestos. Upstream receiving water hardness shall be monitored concurrently with the priority pollutant sample.”*

**Comment 17: Page F-4, 2.0 Facility Description.**

The paragraph states that IGH will be demolished when in fact the infrastructure will remain, but without a water supply from the Klamath River or pre-existing Iron Gate Reservoir. The office, shop, cold storage, staff residences and other buildings will remain. IGH will no longer be a fish hatchery but support infrastructure for operations at FCH.

The first paragraph states that FCH will have the capacity to produce 25,000 pounds of Coho Salmon and 30,000 pounds of Chinook Salmon for a total of 55,000 pounds of fish annually and will require a maximum monthly feed ration of 26,640 pounds. Results from the FCH BioProgram (Attachment 2) show a maximum production of Coho Salmon in any 12 month period as 12,182 pounds, and that of Chinook Salmon to be 24,951 pounds, for a maximum annual total of 37,133 pounds. This is 67.6% of fish production weight as stated in the Draft. The updated figures provided here make sure to take into account the total weight of current brood year's developing fish, and in addition the weight of the prior year's yearling fish.

The paragraph states that FCH would require a maximum of 26,640 pounds of feed per month (during maximum biomass) between the months of April and October. According to the BioProgram, (Attachment 2) November will be the month with the maximum biomass (30,579 pounds) and would require 18,347 pounds of feed in that month (68.9% of figures in Draft). CDFW requests these figures to be updated. Initial designs of FCH were refined to maintain low rearing density and maximum fish health.

**Response 17:** *In accordance with CDFW comments, the following changes have been made to Fact Sheet section 2.1 on page F-5.*

*"Iron Gate Hatchery is not being demolished as part of the Klamath River Renewal Project but will not have a water supply from the Klamath River or pre-existing Iron Gate Reservoir."*

*"The Facility is owned by PacifiCorp and operated by the California Department of Fish and Wildlife (Permittees). The Facility is a cold water concentrated aquatic animal production facility, which was last operational in 2003 when 180,000 juvenile Chinook salmon were reared in the existing raceways. As a component of the Klamath River Renewal Project, the Facility will receive significant investment and infrastructure and returned to service in order to accommodate Coho salmon and Chinook salmon production following the removal of the four hydroelectric dams on the Klamath River. The Facility will have the capacity for producing ~~25,000~~ 12,182 pounds of Coho salmon and ~~30,000~~ 24,951 pounds of Chinook salmon annually at maximum production. These fish will require approximately ~~26,640~~ 18,347 pounds of feed monthly, at full capacity and during the months between April and October. The Facility will include a water intake structure on Fall Creek, three hatchery buildings (Chinook Incubation Building, Coho Building, and a Spawning Building), three adult fish holding ponds, one flow-through settling pond, two Coho rearing ponds/raceways, eight Chinook production raceways, and three points of discharge to Fall Creek."*

**Comment 18: Page F-12, Section 3.4. (Impaired Water Bodies on the CWA section 303(d) List)**

The paragraph describes the TMDL Action Plan with IGH identified as "the only point source" for heat and of nutrients and organic matter in the Klamath River watershed. CDFW requests that the paragraph explains that IGH is the only known point source, without qualification of any water quality parameters. When water arrives to IGH it has already exceeded the TMDLs for thermal and nutrient/organic loading from agriculture, timber, reservoirs, canals, and water conveyance and other "non-point source" impacts.

As written the paragraph wrongly suggests that IGH is the most impactful source of TMDLs on the Klamath River, which is not factual.

**Response 18:** Staff agrees that the language in the draft Permit mistakenly identifies IGH as the only point source, when the Action Plan only identifies IGH as the only known point source. Accordingly, the section 3.4 of the Fact Sheet has been revised to include the following paragraph:

“The Klamath River TMDL includes Waste Load Allocations (WLAs) for Iron Gate Fish Hatchery for temperature, total phosphorus, total nitrogen and organic matter. The WLA for temperature is “zero increase above natural temperature.” The WLAs for nutrients and organic matter is “zero net increase of nutrient and organic matter loads above California allocation scenario conditions.” Review of current hatchery sampling data shows that the Facility discharges approximately 2,500 lbs of nitrogen per year, 500 lbs of phosphorus per year and 14,000 lbs of organic matter per year measured as Biochemical Oxygen Demand (BOD). This represents 0.03% of the overall loading of nitrogen and phosphorus and 0.02% of the overall loading of organic matter to the Klamath River every year. The Facility will have an even lower overall loading impact than Iron Gate Hatchery did due to lower production and flow values.”

**Comment 19: Page F-14, Section 3.5.3. (Klamath Basin Restoration Agreement)**

The KBRA expired. The Order should reference the amended KHSA.

**Response 19:** Section 3.5.3 of the Fact Sheet in the Proposed Order has been modified as follows.

**Klamath Basin Restoration Hydroelectric Settlement Agreement (Amended 2016)**

Interim Measure 19 in the Amended KHSA states, “PacifiCorp will propose a post-Iron Gate Dam Mitigation Hatchery Plan (Plan) to provide continued hatchery production for eight years after the removal of Iron Gate Dam. PacifiCorp’s eight- year funding obligation assumes that dam removal will occur within one year of cessation of power generation at Iron Gate Dam. If dam removal occurs after one year of cessation of power generation at Iron Gate Dam, then the Parties will Meet and Confer to determine appropriate hatchery funding beyond the eight years. PacifiCorp’s Plan shall propose the most cost-effective means of meeting hatchery mitigation objectives for eight years following removal of Iron Gate Dam. Upon approval of the Plan by the California Department of Fish and Wildlife or Oregon Department of Fish and Wildlife (as appropriate) and the National Marine Fisheries Service, PacifiCorp will begin implementation of the Plan. Plan implementation may include PacifiCorp contracting with the owners or administrators of other identified hatchery facilities and/or funding the planning, design, permitting, and construction of measures identified in the Plan as necessary to continue to meet mitigation production objectives. Five years after the start of Plan implementation, or as otherwise agreed by PacifiCorp, the California Department of Fish and Wildlife or Oregon Department of Fish and Wildlife (as appropriate) and the National Marine Fisheries Service, the CDFW or ODFW (as appropriate) and the NMFS shall meet to review the progress of Plan implementation. The five-year status review will also provide for consideration of any new information

relevant to Plan implementation. Plan implementation shall ultimately result in production capacity sufficient to meet hatchery mitigation goals for the eight-year period being in place and operational upon removal of Iron Gate Dam.

Interim Measure 20 in the Amended KHSA states, “After removal of Iron Gate Dam and for a period of eight years, PacifiCorp shall fund 100 percent of hatchery operations and maintenance costs necessary to fulfill annual mitigation objectives developed by the California Department of Fish and Wildlife in consultation with the National Marine Fisheries Service. The hatchery mitigation goals will focus on chinook production, with consideration for steelhead and coho, and may be adjusted downward from current mitigation requirements by the California Department of Fish and Wildlife and National Marine Fisheries Service, in consultation with the other Klamath River fish managers, in response to monitoring trends.”

Section 6.3.1 of the Amended KHSA states, “Subject to the provisions of this Section 6.3.1, PacifiCorp agrees to implement load allocations and targets assigned the Project under the States’ respective Klamath River TMDLs, in accordance with Oregon Administrative Rules chapter 340, Division 42, and California Water Code Division 7, Chapter 4, Article 3. It is the expectation of the Parties that the implementation of the commitments in this Settlement, coupled with Facilities Removal by the Dam Removal Entity, will meet each State’s applicable TMDL requirements. PacifiCorp’s commitment to develop and carry out TMDL implementation plans in accordance with this Settlement is not an endorsement by any Party of the TMDLs or load allocations therein.”

Section 1.2.1 of the 2010 Klamath Basin Restoration Agreement (KBRA) states, “The Klamath Hydroelectric Project (FERC No. 2082), located on the Klamath River and its tributaries, blocks the upstream passage of anadromous and other fish at River Mile 195 and has other adverse impacts as a result of flow regulation. The Klamath Hydroelectric Settlement Agreement (Hydroelectric Settlement or KHSA) establishes a process for potential Facilities Removal and operation of the Hydroelectric Project until that time”.

Section 11.4.1 of the KBRA states, “Natural reintroduction of anadromous fish within the California portion of the Klamath Basin will commence immediately once fish passage is restored. The California Department of Fish and Game shall adopt a passive (wait and see) approach to reintroduction which shall include development of reintroduction goals, monitoring protocols, habitat assessments and other investigations as appropriate. The Plan shall also include development of guidelines for use of a conservation fish hatchery to more quickly establish naturally producing populations in the wild if deemed appropriate and necessary.”

Section 11.4.4 of the KBRA states, “In the context of this Agreement, a conservation hatchery is an artificial fish production facility with the primary objective of enabling naturally produced fishes to fully support re-establishing populations. Fishes produced in such a facility must fit within the ecological context of the Klamath River such that (i) artificially produced fishes demonstrate the range of life history characteristics representative of naturally produced fishes; (ii) the genetic structure of the artificially produced fishes matches that of the naturally produced fishes; (iii) the number of fishes produced in the hatchery does not overwhelm the naturally produced fishes as returning

~~adults; and (iv) artificially produced fishes do not introduce new diseases or greater susceptibility to existing diseases to the naturally producing population(s). A successful conservation hatchery program will continually decrease the dependence on artificial production as naturally produced fishes become more abundant, successful, and dispersed among the range of available habitats. A successful conservation hatchery eventually stops operating because natural production is capable of fully supporting the reestablished populations.”~~

Under this Proposed Permit, the Facility is considered the mitigation hatchery as described by the Amended KHSA.

**Comment 20: Page F-27, Section 4.3.3.1.2. (Determining the Need for WQBELs, pH)**

Please see CDFW comments on pH on Section 4.1.1.5 above.

**Response 20:** Please see comment 4 above.

**Comment 21: Page F-49, Section 6.2.7. (Compliance Schedule)**

The Section references the KHSA which expired. The Order should reference the amended KHSA.

**Response 21:** The following language has been modified in the Proposed Permit as requested.

~~“A compliance schedule is necessary because the Permittees must operate for eight years after year two of dam removal following the Decommissioning of Iron Gate Dam to meet the requirements of a conservation hatchery current hatchery mitigation goals as identified in the KBRA and amended KHSA.”~~

**PacifiCorp Comments**

**PacifiCorp Comment 1:** As we discussed, PacifiCorp would like to see the implementation of monitoring associated with the Fall Creek hatchery NPDES permit align with the construction schedule and actual commissioning of the facility. Currently, water testing of the Coho raceways is set for late September 2023 so September seems like a reasonable starting point for compliance monitoring associated with the NPDES permit. Fish will not be onsite until December 2023 at the earliest and the hatchery itself won't be fully complete until April 2024.

**Response 1 (PacifiCorp):** See Response 1 above.

**PacifiCorp Comment 2:** Please also review the draft permit and remove KBRA-specific language since that agreement has expired and is no longer valid. Specifically, the entirety of Section 3.5.3 would seem unnecessary (page F-14).

**Response 2:** Section 3.5.3 has been amended per CDFW Response 19 above. In addition, section 6.2.7 of the Fact Sheet in the Proposed Permit has been amended as follows. ~~“A compliance schedule is necessary because the Permittees must operate for eight years after year two of dam removal to meet the requirements of a conservation~~ mitigation hatchery as identified in the KBRA and Amended KHSA.

**Staff Initiated Changes:**



The following sections describe changes made to the draft Order, initiated by Regional Water Board staff to update and provide clarification to the Proposed Permit. The modified sections are identified by their section numbers as indicated in the Proposed Order. Regional Water Board staff virtually met with the Permittee on January 12, 2023 to discuss the changes made to the Draft Permit and the Permittee did not have any objections to the proposed changes.

*Section 5.1.3 of the Draft Permit included Water Quality Objectives (WQOs) for hardness from Table 3-1 of the Basin Plan for the Klamath River below Iron Gate Dam. The correct WQOs for specific conductance should have been for Klamath River above Iron Gate Dam including Iron Gate & Copco Reservoirs. Therefore, the Proposed Permit has been modified as follows.*

*“The discharge shall not cause the hardness (mg/L) concentration of the receiving waters to increase above ~~80~~ 60 mg/L more than 50 percent of the time.”*

*Section 5.1.4 of the Draft Permit erroneously included Water Quality Objectives (WQOs) for boron from Table 3-1 of the Basin Plan for the Klamath River below Iron Gate Dam. The correct WQOs for specific conductance should have been for Klamath River above Iron Gate Dam including Iron Gate & Copco Reservoirs. Therefore, the Proposed Permit has been modified as follows.*

*“The discharge shall not cause the Boron (mg/L) concentration of the receiving waters to increase above 0.2 mg/L more than 50 percent of the time, or above ~~0.53~~ 0.5 mg/L more than 10 percent of the time.”*