

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2004-0119

NPDES NO. CA0081752

WASTE DISCHARGE REQUIREMENTS
FOR
CALAVERAS TROUT FARM, INC.
AND
MERCED IRRIGATION DISTRICT
TROUT REARING FACILITY
MERCED COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) finds that:

1. Calaveras Trout Farm, Inc. submitted a Report of Waste Discharge, dated 18 June 2003, and applied to renew its permit to discharge treated flow-through process wastewater under the National Pollution Discharge Elimination System (NPDES) for the Trout Rearing Facility located near Snelling in Merced County.
2. According to the Report of Waste Discharge the facility is owned and operated by the Calaveras Trout Farm, Inc. on land owned by the Merced Irrigation District in Section 12, T 5 S, R 14 E, MDB&M, as shown by Attachment A, which is a part of this Order. The Calaveras Trout Farm, Inc. and Merced Irrigation District are hereafter jointly referred to as the Discharger. The facility discharges treated process wastewater from trout hatchery and rearing operations to the Merced River, waters of the State and the United States.
3. The discharge of treated flow-through process wastewater to the Merced River is presently governed by Waste Discharge Requirements (WDRs) Order No. 96-107 (NPDES No. CA0081752), adopted by the Regional Board on 3 May 1996.
4. The U.S. Environmental Protection Agency (USEPA) and the Regional Board have classified this discharge as a minor discharge.
5. Based on a compliance inspection by Regional Board staff in 1998, the facility has a production goal of approximately 400,000 pounds annually. Flow entering the facility from the Merced River is diverted into two streams – one to 16 concrete rearing ponds and one to hatchery operations and 10 raceways. All flow is directed to seven settling ponds, where it is treated by a minimum of two ponds. From the ponds, treated flow-through process wastewater is discharged to the Merced River at discharge Outfall 001.
6. Based on Discharge Monitoring Reports from 2001-2003, flow through the facility does not vary from 27 mgd. BOD, suspended solids and settleable solids in effluent are consistently at or below analytical detection limits and pH of effluent is consistently in

the range of 7.0 – 7.2. Monthly monitoring reports from 2001 through September 2003 characterize the discharge as follows:

| <u>Constituent</u> | <u>Maximum</u> | <u>Minimum</u> | <u>Average</u> |
|-------------------------------|----------------|----------------|----------------|
| Flow (mgd) | 27 | 27 | 27 |
| BOD (mg/L) | 1.0 | 0.1 | 1.0 |
| Total Suspended Solids (mg/L) | 5.0 | 0.1 | 1.6 |
| Settleable Solids (mL/L) | 0.1 | 0.1 | 0.1 |
| pH (standard units) | 7.2 | 7.0 | 7.1 |

APPLICABLE REGULATIONS, POLICIES, AND PLANS

7. At 40 CFR 122.24, USEPA defines a cold-water concentrated aquatic animal production (CAAP) facility as a fish hatchery, fish farm, or other facility which contains, grows, or holds cold-water fish species or other cold water aquatic animals including, but not limited to, the Salmonidae family of fish (e.g. trout and salmon) in ponds, raceways, or other similar structures. The facility must discharge at least 30 calendar days per year, produce at least 20,000 pounds (harvest weight) and feed at least 5,000 pounds of food during the calendar month of maximum feeding. A facility that does not meet the above criteria may also be designated a cold water CAAP facility upon a determination that the facility is a significant contributor of pollution to waters of the United States. Cold-water, flow-through CAAP facilities are designed to allow continuous flow of fresh water through tanks and raceways. Flows are ultimately discharged to waters of the State and the United States. USEPA specifies that CAAP facilities are point sources subject to the NPDES program. The Discharger's facility meets the definition of a cold-water, flow-through CAAP facility.
8. CAAP facilities may introduce a variety of pollutants into receiving waters. USEPA identifies three classes of pollutants – (1) conventional pollutants (total suspended solids, oil and grease, biochemical oxygen demand, fecal coliform bacteria, and pH); (2) toxic pollutants, including metals; and (3) non-conventional pollutants such as ammonia, formalin, and phosphorus. The most significant pollutants discharged from CAAP facilities are solids from uneaten feed and fish feces, which are primarily composed of organic matter including BOD, organic nitrogen, and organic phosphorus.
9. Fish raised in CAAP facilities may become vulnerable to disease and parasite infestations; and therefore, various aquaculture drugs and chemicals are typically used to ensure the health and productivity of the confined fish population, to clean raceways, and to anesthetize fish prior to spawning or tagging. As a result of these practices, drugs and chemicals may be present in discharges to waters of the State and the United States. Within the Report of Waste Discharge and monthly Discharge Monitoring Reports the Discharger reports that no aquaculture chemicals or drugs are used at the facility.

10. In August 2004, USEPA promulgated Effluent Limitation Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category (hereafter “ELG”). The ELG regulation establishes national technology-based effluent discharge requirements for flow-through and recirculating systems and for net pens based on Best Practicable Control Technology Currently Available (BPT); Best Control Technology for Conventional Pollutants (BCT); Best Available Technology Economically Achievable (BAT); and New Source Performance Standards (NSPS). In its proposed rule, published on 12 September 2002, USEPA proposed to establish numeric limitations for a single constituent – total suspended solids (TSS) – while controlling the discharge of other constituents through narrative requirements. In the final rule, however, USEPA determined that, for a nationally applicable regulation, it would be more appropriate to promulgate qualitative TSS limitations in the form of solids control best management practices (BMP) requirements. Furthermore, the final ELG does not include numeric effluent limitations for non-conventional and toxic constituents, such as aquaculture drugs and chemicals, but also relies on narrative limitations to address these constituents.
11. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and describes an implementation program and policies to achieve water quality objectives for all waters of the Basin. This includes plans and policies adopted by the State Water Resources Control Board (SWRCB) and incorporated by reference, such as Resolution No. 68-16, “Statement of Policy with Respect to Maintaining High Quality of Waters in California” (Resolution No. 68-16). These requirements implement the Basin Plan. The Basin Plans, as amended, designate beneficial uses, establish water quality objectives, and contain implementation plans and policies for waters of the Basins. Pursuant to the California Water Code Section 13263 (a), waste discharge requirements must implement the Basin Plans.
12. Resolution No. 68-16 requires the Regional Board, in regulating discharges of waste, to maintain high quality waters of the State unless it is demonstrated that a change in water quality will be consistent with the maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Board’s policies. It requires that discharges be regulated to meet best practicable treatment or control to assure that pollution or nuisance will not occur; and the highest water quality be consistently maintained for the maximum benefit to the people of the State. The Regional Board has considered Resolution 68-16 and USEPA antidegradation requirements at 40 CFR 131.12. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge, and the impact on existing water quality will be insignificant.

13. USEPA adopted the *National Toxics Rule* (NTR) on 22 December 1992, which was amended on 4 May 1995 and 9 November 1999, and the *California Toxics Rule* (CTR) on 18 May 2000, which was amended on 13 February 2001. These rules contain water quality standards applicable to this discharge. The SWRCB adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP) on 2 March 2000, which contains policies and procedures for implementation of the NTR and the CTR.

BENEFICIAL USES

14. The existing beneficial uses of the Merced River from McSwain Reservoir to the San Joaquin River, downstream of the discharge as identified in Table II-1 of the Basin Plan are: municipal and domestic supply (MUN); stock watering (AGR); industrial process, service, and power supply (PROC, IND, and POW); water contact recreation (including canoeing and rafting) (REC-1); non-contact water recreation (REC-2); warm and cold freshwater habitat (WARM and COLD); warm and cold water fish migration habitat (MIGR); warm and cold water spawning habitat (SPWN); and wildlife habitat (WILD).
15. All groundwaters of the Region are considered suitable or potentially suitable, at a minimum, for municipal and domestic supply (MUN), agricultural supply (AGR), and industrial service (IND) and industrial process supply (PRO).

EFFLUENT LIMITATIONS AND OTHER SPECIFICATIONS

16. At 40 CFR 122.44, USEPA requires NPDES permits to contain effluent limitations, including technology-based and water quality-based limitations for specific constituents, and limitations based on toxicity.
17. The Facility creates wastes, including solids from algae, silt, fish feces, and uneaten feed. As noted above, USEPA's final ELG for the aquaculture industry does not include numeric effluent limitations on any conventional, non-conventional, or toxic constituents. Rather, USEPA promulgated qualitative limitations in the form of BMP requirements. The Regional Board is establishing effluent limitations for discharges of total suspended solids (TSS) and settleable solids from this Facility. Technology-based requirements in this Order are based on a combination of application of the ELG for BMP requirements and case-by-case numeric limitations developed using best professional judgment (BPJ) and carried over from the previous Order No. 96-107. These effluent limitations are 5.0 mg/L net TSS as an average monthly limitation and 15 mg/L net TSS as a maximum daily limitation; and 0.1 ml/L settleable solids as an average monthly limitation and 0.2 ml/L settleable solids as a maximum daily limitation. Removal of these numeric limitations for TSS and settleable solids would constitute backsliding under CWA Section 402(o). The Regional Board has determined that these numeric effluent

- limitations for TSS and settleable solids continue to be applicable to the Facility and that backsliding is not appropriate. Previous Orders for hatcheries have expressed effluent limitations for TSS in terms of a net limitation. The Regional Board finds the use of a net TSS effluent limitation is an appropriate measure of performance and a correct interpretation of this limitation, and does not constitute backsliding (40 CFR 122.44(l)(2)(i)(B)(2)). Results of monitoring indicate the Discharger is capable of meeting these limitations. This Order does not include mass effluent limitations for TSS because there are no standards that specifically require a mass-based effluent limitation, mass of the pollutant discharged is not specifically related to a measure of operation (40 CFR 122.45(f)(iii)), and, in addition, mass-based effluent limitations for TSS are not necessary because this Order includes both concentration-based limitations and a maximum flow limitation.
18. Order 96-107 included technology-based effluent limitations for BOD based upon BPJ. This Order does not include limitations for BOD, as the control of TSS and settleable solids in the discharge and implementation of a Best Management Practices Plan will effectively control levels of BOD in the discharge. This determination is based on findings of USEPA Region 10 presented in its General NPDES Permit (No. ID-G13-0000) for Aquaculture Facilities in Idaho and the accompanying Fact Sheet, as well as observation and analysis of monitoring data from aquaculture facilities throughout the Central Valley Region. Also, USEPA's proposed ELG for CAAP facilities (12 September 2002) stated that controlling TSS discharges from flow-through, CAAP facilities will effectively control BOD and nutrients. The final ELG also correlates TSS removal and BOD removal. This Order addresses TSS removal through both numeric effluent limitations for TSS and requirements to implement BMPs. Because new information resulting from the work of USEPA Region 10 and the Regional Board has become available since adoption of Order No. 96-107, effluent limitations have been removed from this Order. This change is consistent with the Federal anti-backsliding provisions of 40 CFR 122.44 (l) (2) and 122.62 (a) (16).
 19. At 40 CFR 122.44 (d) (1) USEPA requires effluent limitations for all pollutants that are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an in-stream excursion above a numeric water quality criterion (such as a CTR criterion) or a narrative water quality criterion within a State water quality standard. These regulations also set forth a methodology for establishing effluent limitations based on narrative state water quality criteria.
 20. To implement 40 CFR 122.44, the USEPA has promulgated the CTR and NTR that establish water quality criteria. The SWRCB has adopted the State Implementation Policy (SIP) that implements the CTR and NTR. The USEPA also has published recommended ambient water quality criteria, and the Basin Plan contains numeric and narrative water quality objectives. The Basin Plan contains the *Policy for Application of Water Quality Objectives* that, in part, sets forth a process for translating narrative water

quality objectives into numeric effluent limitations. The USEPA ambient water quality criteria, results of toxicity studies conducted by the California Department of Fish and Game (DFG), and the Basin Plan *Policy of Application of Water Quality Objectives* may be used to implement 40 CFR 122.44 (d) (1) (v).

21. The Discharger submitted results of effluent samples collected on 1 May and 25 May 2001 that were analyzed for CTR priority pollutants. Methodology described in Section 1.3 of the SIP was used to conduct a reasonable potential analysis of the Discharger's effluent monitoring data for the CTR priority toxic pollutants. Review of the water quality data submitted by the Discharger found the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above water quality standards for constituents monitored in the effluent with the exception of zinc. Zinc was discharged at a detected concentration of 70 µg/l. The Discharger did not sample receiving waters for CTR constituents and hardness. Hardness concentrations are needed to determine the applicable water quality criteria for zinc. Since zinc is not added to the process water, receiving water and/or influent zinc data are also needed to evaluate whether intake credits for zinc may be appropriate. Without hardness and influent zinc data the Regional Board could not establish if the discharge has reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard or objective for zinc. The United States Geological Service (USGS) collects water quality data for the Merced River at a sampling point near Newman, California, approximately 30 miles downstream of the discharge. Data generated by the USGS between October 2000 and September 2001 indicate hardness values in the Merced River range between 17 and 81 mg/L as CaCO₃. This data results in water quality criteria for zinc from 27 µg/l to 100 µg/l. Because zinc is not a constituent that is commonly detected in discharges from fish hatcheries, and because of uncertainty regarding hardness concentrations in the Merced River near the facility, effluent limitations for zinc are not included in this Order. Provisions in this Order require the Discharger to establish hardness values for the Merced River upstream and downstream of the discharge, determine influent concentrations of zinc, and to evaluate if levels of zinc in the discharge have reasonable potential to cause or contribute to an in-stream excursion above the water quality criterion for zinc. This Order may be reopened and effluent limitation established, if appropriate.
22. In the Report of Waste Discharge and in monthly Discharge Monitoring Reports, the Discharger states that no aquaculture drugs and chemicals are used at the facility. This Order prohibits the discharge of any drugs and chemicals at any concentration unless notice has been provided to the Regional Board prior to their use as prescribed by the Order.
23. The Order retains the effluent limitation for pH of 6.5 – 8.5, which reflects the applicable water quality objective of the Basin Plan for pH.

24. Best Management Practices plan requirements are established based on requirements in Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category at 40 CFR Part 451.
25. California Water Code Section 13267 states, in part, “(a) A Regional Board, in establishing...waste discharge requirements... may investigate the quality of any waters of the state within its region” and “(b) (1) In conducting an investigation... the Regional Board may require that any person who... discharges... waste...that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Board requires.” California Water Code Section 13383 states in part, “a regional board may establish monitoring, inspection, entry, reporting, and record keeping requirements . . . for any person who discharges pollutants . . . to navigable waters.” The attached Monitoring and Reporting Program No. R5-2004-0119” is necessary to assure compliance with waste discharge requirements and is incorporated by reference herein. The attached Monitoring and Reporting Program is established pursuant to California Water Code Sections 13383.
26. Effluent limitations, and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.
27. The Regional Board has considered the information in the attached Information Sheet in developing the findings of this Order. The attached Information Sheet is part of this Order.
28. The action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resources Code Section 21000, et seq., in accordance with Section 13389 of the California Water Code.
29. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
30. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.
31. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect upon the date of hearing, provided USEPA has no objections.

IT IS HEREBY ORDERED that Order No. 96-107 is rescinded and that Calaveras Trout Farm, Inc., and the Merced Irrigation District, their agents, successors, and assigns, in order to meet the

provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastes in a manner other than as described in this Order, or at a location different from that described in Finding 2 is prohibited and may be considered a violation of the Clean Water Act and the California Water Code.
2. The by-pass or overflow of untreated wastewater or wastes into any surface water or surface water drainage course is prohibited, except as allowed by Standard Provision A.13.
3. Discharge of hazardous waste, as defined at Title 23, Division 3, Chapter 15, Article 2, Section 2521 of the California Code of Regulations or designated waste, as defined at Section 13173 of the California Water Code, is prohibited.
4. Practices that allow accumulated sludge, grit, and solid residues to be discharged to surface waters or surface water drainage courses are prohibited.
5. Discharge of aquaculture chemicals and drugs, is prohibited at any concentrations unless the Regional Board has received prior notice of the use of such materials in accordance with Provision F.3. of this Order.

B. Effluent Limitations

1. The discharge shall not have a pH less than 6.5 nor greater than 8.5. If the effluent pH is less than 6.5, it shall not be less than the concurrent influent pH. If the effluent pH is greater than 8.5, it shall not be greater than the concurrent influent pH.
2. The discharge shall not exceed the following limitations.

| <u>Constituent</u> | <u>Units</u> | <u>AMEL</u> ¹ | <u>MDEL</u> ² |
|------------------------|--------------|--------------------------|--------------------------|
| TSS ³ (net) | mg/L | 5.0 | 15.0 |
| Settleable Solids | ml/L | 0.1 | 0.2 |

¹ AMEL = Average Monthly Effluent Limitation

² MDEL = Maximum Daily Effluent Limitation

³ Effluent limitations for total suspended solids are net values

(Net TSS concentration = Effluent TSS concentration – Influent TSS concentration)

3. The monthly average discharge shall not exceed 32 mgd.

C. Best Management Practices (BMP) Plan

Within 12 months of adoption of this Order, the Discharger shall certify in writing to the Regional Board that it has developed a Best Management Practices (BMP) plan. The Discharger shall develop and implement the BMP plan to prevent or minimize the generation and discharge of wastes and pollutants to the waters of the United States and waters of the State. The Discharger shall develop and implement a BMP Plan consistent with the following objectives:

1. Solids Management

- a. Conduct fish feeding in raceways in a manner that limits feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth and minimizes the discharge of unconsumed food and waste products to surface waters.
- b. Clean raceways using procedures and at frequencies that minimize the disturbance and subsequent discharge of accumulated solids during routine activities such as inventorying, grading, and harvesting.
- c. Report the final disposition of all other solids and liquids, including aquaculture drugs and chemicals, not discharged to surface waters in the effluent.
- d. Collect, store, and dispose of fish mortalities and other solids in an environmentally safe manner and in manner so as to minimize discharge to waters of the United States or waters of the State.

2. Operations and Maintenance

- a. Maintain in-system production and wastewater treatment technologies to prevent the overflow of any floating matter or bypassing of treatment technologies.
- b. Inspect the production system and the wastewater treatment system on a routine basis in order to identify and promptly repair any damage.
- c. Ensure storage and containment of drugs, chemicals, fuel, waste oil, or other materials to prevent spillage or release into the aquatic animal production Facility, waters of the United States, or waters of the State.
- d. Implement procedures for properly containing, cleaning, and disposing of any spilled material.

- e. Collect, store, and dispose of fish mortalities and other solids in an environmentally safe manner and in manner so as to minimize discharge to waters of the United States or waters of the State.
 - f. Prevent fish from being released within the FDA-required withdrawal time of any drug or chemical with which they have been treated.
3. Training
- a. Adequately train all relevant facility personnel in spill prevention and how to respond in the event of a spill in order to ensure the proper clean-up and disposal of spilled material.
 - b. Train staff on the proper operation and cleaning of production and wastewater treatment systems, including training in feeding procedures and proper use of equipment.

The Discharger shall ensure that its operations staff are familiar with the BMP Plan and have been adequately trained in the specific procedures it requires.

D. Waste Disposal

1. Collected screenings, sludges, and other solids, including fish carcasses, shall be disposed of in a manner approved by the Executive Officer and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.
2. All aquaculture drugs and chemicals that are not discharged to receiving waters in accordance with the provisions of this Order shall be disposed of in an environmentally safe manner, according to label guidelines, Material Safety Data Sheet guidelines and BMPs. Any other form of disposal requires approval from the Executive Officer.
3. Any proposed change in disposal practices, shall be reported to the Executive Officer at least **90 days** in advance of the change.

E. Receiving Water Limitations for the Merced River

Receiving water limitations are site-specific interpretations of water quality objectives contained in the Basin Plan. As such, they are a required part of this Order. However, a receiving water condition not in conformance with the limitation is not necessarily a

violation of this Order. The Regional Board may require an investigation to determine cause and culpability prior to asserting a violation has occurred. The discharge shall not cause the following in the Merced River.

1. Fecal coliform concentrations, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200/100 ml or more than ten percent of the total number of samples taken during any 30-day period to exceed 400/100 ml.
2. Biostimulatory substances to be present which promote aquatic growths that cause nuisance or adversely affect beneficial uses.
3. Discoloration that causes nuisance or adversely affects beneficial uses.
4. Dissolved oxygen concentrations to fall below 7.0 mg/L, the monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass or the 95th percentile concentration of dissolved oxygen to fall below 75 percent of saturation.
5. Floating material in amounts that cause nuisance or adversely affect beneficial uses.
6. Oils, greases, waxes, or other materials that result in a visible film or coating on the water surface or on objects in the water.
7. The normal ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 units.
8. Pesticides to be present in concentrations in the receiving water, bottom sediments, or aquatic life in concentrations that adversely affect beneficial uses or in concentrations that exceed the lowest levels technically and economically achievable.
9. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
10. Suspended sediment load and suspended sediment discharge rates to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
11. Deposition of material that causes nuisance or adversely affects beneficial uses.

12. Suspended material in concentrations that adversely affect beneficial uses.
13. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or to cause nuisance or adversely affect beneficial uses.
14. An increase in the normal ambient temperature of waters by more than 5°F (3°C).
15. Toxic pollutants to be present in concentrations that adversely affect beneficial uses or that produce detrimental physiological responses in human, plant, animal, or aquatic life.
16. The turbidity of receiving waters to increase over background levels by more than:
 - a. 1 NTU when background turbidity is between 0 and 5 NTUs;
 - b. 20 percent when background turbidity is between 5 and 50 NTUs;
 - c. 10 NTUs when background turbidity is between 50 and 100 NTUs; and
 - d. 10 percent when background turbidity is greater than 100 NTUs.

In determining compliance with the above limitations, appropriate averaging periods may be applied upon approval by the Executive Officer.

17. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
18. Violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the SWRCB pursuant to the CWA and regulations adopted thereunder.

F. Provisions

1. The Discharger shall comply with the attached Monitoring and Reporting Program No. R5-2004-0119, which is part of this Order, and any revisions thereto, as ordered by the Executive Officer. If sufficient information is collected and indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numerical water quality standard, then this Order may be reopened to include effluent limitation(s) to achieve water quality standards. Additionally, if pollutants are detected in

discharges from the Discharger's facility, but insufficient information exists to establish an effluent limitation or determine if an effluent limitation is necessary, then the Discharger may be required to conduct additional monitoring to provide sufficient information.

When requested by USEPA, the Discharger shall complete and submit additional Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharge Self-Monitoring Reports.

2. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)", dated February 2004, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."
3. This Order prohibits the discharge of aquaculture chemicals and drugs to the Merced River in accordance with the effluent limitations and other conditions herein. The Discharger shall submit the following prior to the use of any other chemical or aquaculture drug that may enter the wastewater discharge:
 - a. Product name, active ingredients, and percent active strengths.
 - b. The purpose for the proposed use of the drug or chemical (i.e. list the specific disease for treatment and specific species for treatment).
 - c. Anticipated frequency of application, method of application, anticipated schedule of application, application rates, and duration of treatment, and a calculated estimate of the concentration in the discharge.
 - d. Material Safety Data Sheets and available toxicity information.
 - e. Any related Investigational New Animal Drug (INAD), New Animal Drug Application (NADA) information, extra-label use requirements and/or veterinarian prescriptions.

Prior to discharging the chemical or aquaculture drug, the Discharger also shall conduct and/or submit the results of acute toxicity test information on any new chemical or drug in accordance with *EPA-821-R-02-012*, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, *Fifth Edition, October 2002*, using *C. dubia*, to determine the NOAEL, and LOAEL.

If the toxicity testing, or above listed information submitted to the Regional Board indicates that the drug or chemical is, or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an in-stream excursion above any chemical-specific water quality criteria, narrative water quality objective for chemical constituents from the Basin Plan, or narrative water quality objective for toxicity from the Basin Plan, this Order may be reopened to established effluent limitations.

4. There are indications that the discharge may contain zinc in concentrations that have a reasonable potential to cause or contribute to an exceedance of CTR water quality criteria. The Discharger shall collect receiving water, influent, and effluent samples one time approximately **every three months for the twelve month period immediately following adoption of this Order** (four sampling events, total). Receiving water and influent samples shall be analyzed for total zinc and total hardness (as CaCO₃); and effluent samples shall be analyzed for zinc. Results of all analyses shall be reported with the subsequent monthly Discharge Monitoring Report; and the Discharger shall submit to the Regional Board a summary report describing analytical results of all monitoring events, within **fourteen months** following adoption of this Order.

This Provision is intended to be consistent with the requirements for generating hardness and zinc data described in Finding 21.

If review of the monitoring results determines that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality criteria for zinc, this Order may be reopened to establish effluent limitation(s) for zinc.

5. **Within 12 months of adoption of this Order**, the Discharger shall develop and implement a Best Management Practices (BMP) Plan which achieves the objectives and the specific requirements outlined in C. Best Management Practices Plan above. Through implementation of a BMP Plan, the Discharger shall prevent or minimize the generation and discharge of wastes and pollutants from the Facility to the waters of the United States. In the BMP Plan, each component of the Facility shall be evaluated by the Discharger for its waste minimization opportunities and its potential for causing a release of significant amounts of pollutants to receiving waters due to the failure or improper operation of equipment. The examination shall include all normal operations, including raw material and product storage areas, feeding of fish, internal movement of fish, cleaning of rearing/holding units and settling systems, processing and product handling areas, loading or unloading operations, spillage or leaks from the processing floor and dock, and sludge and waste disposal. The BMP Plan shall contain an explicit quantification of the inputs and outputs of the Facility, including fish, feed, feed components, mortalities due to predation and disease,

dissolved and solid pollutants, and water. The BMP Plan shall contain a description of specific management practices and standard operating procedures used to achieve the above objectives, including, for example, schedules for solids removal from each waste collection component including what procedures will be used to determine when cleaning is necessary to prevent accumulated solids from being discharged. The BMP Plan shall contain a statement that the BMP Plan has been reviewed and endorsed by the Facility Manager and the individuals responsible for implementation of the BMP operating plan. The Discharger shall ensure that its operations staff is familiar with the BMP Plan and have been adequately trained in the specific procedures which it requires. The Discharger shall maintain a copy of the BMP Plan at the Facility and shall make the plan available upon request to representatives of the Regional Board.

6. The Discharger may conduct studies pertaining to facility operations, the effluent discharge, and the receiving water. For example, such studies may include a mixing zone and dilution study. The Regional Board will review such studies and, if warranted, may reopen this Order to make appropriate changes.
7. The Discharger shall report promptly to the Regional Board any material change or proposed change in the character, location, or volume of the discharge.
8. A copy of this Order shall be kept at the Discharger's facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
9. This Order expires on **1 September 2009** and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than **180 days** in advance of such date an application for renewal of waste discharge requirements if it wishes to continue the discharge.
10. The Merced Irrigation District, as owner of the real property at which the discharge will occur, is ultimately responsible for ensuring compliance with these requirements. The Department of Fish and Game retains primary responsibility for compliance with these requirements, including day-to-day operations and monitoring. Enforcement actions will be taken against Merced Irrigation District only in the event that enforcement actions against the Department of Fish and Game are ineffective or have been futile, or that enforcement is necessary to protect public health or the environment.
11. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of Incorporation if a corporation, the name, address, and the telephone number of the persons responsible for contact with the Regional Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6. and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Regional Board, Central Valley Region on 10 September 2004 .

THOMAS R. PINKOS, Executive Officer

Tt:JME

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2004-0119
NPDES NO. CA0081752
FOR
CALAVERAS TROUT FARM INC.
AND
MERCED IRRIGATION DISTRICT
TROUT REARING FACILITY
MERCED COUNTY

INTRODUCTION

This Monitoring and Reporting Program is issued pursuant to California Water Code §13383 and includes: influent monitoring of raw water supply, effluent monitoring of discharges to waters of the United States and waters of the State, and receiving water monitoring. All water quality samples shall be representative of the volume and nature of the discharge. The time, date, and location of sample collection shall be recorded on a chain of custody (COC) form. COC forms shall be completed for each sample collected and copies provided to the Regional Board with the monthly monitoring reports.

Water quality samples do not need to be taken during months when there are no pollutant discharges to surface waters resulting from aquaculture operations, or associated on-site fish processing (e.g. no monitoring is required if no fish are being held at the facility). Monitoring reports must still be submitted, however, on a monthly basis during these periods to document no discharge.

All water quality sampling and analyses shall be performed in accordance with the Monitoring and Reporting Requirements as outlined in Section C of the Standard Provisions of this Order. Water quality sample collection, storage, and analyses shall be performed according to 40 CFR Part 136, or other methods approved and specified by the Executive Officer. Water and waste analyses shall be performed by a laboratory approved for these analyses by the State Department of Health Services (DHS).

INFLUENT MONITORING

A sampling station shall be established and located where representative samples of the influent water supply can be obtained. Influent samples shall be collected at approximately the same time as effluent samples. Influent monitoring shall include at least the following:

| <u>Constituent</u> | <u>Unit</u> | <u>Type of Sample</u> | <u>Sampling Frequency</u> |
|------------------------|-------------|--|---------------------------|
| Influent flow | mgd | calibrated meter, weir, or other approved method | Weekly |
| Total Suspended Solids | mg/L | grab | Monthly |
| Zinc (Total) | µg/L | grab | Quarterly |

EFFLUENT MONITORING
 (Outfall 001)

Effluent samples shall be collected of the discharge, downstream of the production raceways and prior to discharge into the Merced River. Effluent samples shall be representative of the volume and quality of the discharge. Effluent samples shall be collected during or immediately following raceway cleaning and must be representative of the volume and quality of the discharge at the time when representative levels of solids, drugs, chemicals, or other pollutants are present in the discharge. Time of collection of samples shall be recorded. Effluent monitoring shall include the following:

| <u>Constituent</u> | <u>Units</u> | <u>Type of Sample</u> | <u>Sampling Frequency</u> |
|----------------------------------|--------------|--|---------------------------|
| Effluent Flow | mgd | calibrated meter, weir, or other approved method | Recorded weekly |
| Total suspended solids (TSS) | mg/L | grab | Monthly |
| Net TSS ¹ | mg/L | calculation | Monthly |
| Settleable solids | ml/L | grab | Monthly |
| pH | pH units | grab | Monthly |
| Specific Conductance @ 25°C | µmhos/cm | grab | Monthly |
| Zinc (Total) | µg/L | grab | Quarterly |
| Hardness (as CaCO ₃) | mg/l | grab | Quarterly |

¹ Effluent limitations for total suspended solids are net values.
 (Net TSS concentration = Effluent TSS concentration – Influent TSS concentration)

RECEIVING WATER MONITORING

Receiving water samples shall be collected when fish are being held at the Facility, and when there is a direct discharge from Discharge 001 to the Merced River. All receiving water samples shall be grab samples collected at a depth of 6 to 12 inches below the surface. Receiving water monitoring shall include at least the following:

| <u>Station</u> | <u>Description</u> |
|----------------|---|
| R-1 | At the intake pipe or upstream |
| R-2 | 100 feet downstream of the point of discharge, along the path of the effluent plume |

Receiving water monitoring shall include at least the following.

| <u>Constituent</u> | <u>Units</u> | <u>Station</u> | <u>Sampling Frequency</u> |
|----------------------------------|--------------|----------------|---------------------------|
| Flow | cfs or mgd | R1 | Weekly |
| Dissolved Oxygen | mg/L | R1, R2 | Monthly |
| Temperature | ° C | R1, R2 | Monthly |
| pH | pH units | R1, R2 | Monthly |
| Specific Conductance | µmhos/cm | R1, R2 | Monthly |
| Hardness (as CaCO ₃) | mg/l | R1, R2 | Monthly |
| Turbidity | NTUs | R1, R2 | Quarterly |

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-1 through R-2. Attention shall be given to the presence or absence of:

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

Notes on receiving water conditions shall be summarized in the monthly Discharge Monitoring Reports.

MONTHLY DRUG AND CHEMICAL USE REPORT

Order R5-2004-0119 prohibits the discharge of aquaculture chemicals and drugs unless the Regional Board has received prior notice in accordance with Provision F.3 of Order R5-2004-0119, the following information shall be submitted for all aquaculture drugs or chemicals used at the Facility. This information shall be reported at **monthly** intervals using the appropriate Monthly Discharge Monitoring Reports.

- a. The name(s) and active ingredient(s) of the drug or chemical.
- b. The date(s) of application.
- c. The purpose(s) for the application.
- d. The method of application (e.g., immersion bath, administered in feed), duration of treatment, whether the treatment was static or flush (for drugs or chemicals applied directly to water), amount in gallons or pounds used, treatment concentration(s), and the flow in cubic feet per second (cfs) in the treatment units.

- e. The total flow through the facility in cubic feet per second (cfs) to the Merced River after mixing with the treated water.
- f. For drugs and chemicals applied directly to water (i.e., immersion bath, flush treatment) and for which effluent monitoring is not otherwise required, the estimated concentration in the effluent at the point of discharge to the Merced River.
- g. The method of disposal for drugs or chemicals used but not discharged in the effluent.

Calculation of Concentration:

For drugs or chemicals used in an immersion bath, “drip” treatment, or in other direct application to waters at the facility, use the following formula 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 concentration

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

$C = 2.0 \text{ mg/L} \times 0.09$

C = 0.18 mg/L potassium permanganate at the point of discharge

This information shall be submitted quarterly. If the analysis of this chemical use data compared with any toxicity testing results or other available information for the therapeutic agent, chemical or anesthetic indicates that the discharge may cause, have the reasonable potential to cause, or contribute to an excursion of a numeric or narrative water quality criterion or objective, the Executive Officer may require site specific whole effluent toxicity (WET) tests using *C. dubia* or reopen this Order to include an effluent limitation based on that objective.

PRIORITY POLLUTANT METALS MONITORING

The State Water Resources Control Board (SWRCB) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP). The SIP states that the Regional Boards will require periodic monitoring (at least once prior to issuance and reissuance of a permit) for pollutants for which criteria or objectives apply and for which no effluent limitations have been established.

The Regional Board has determined that, based on priority pollutant data collected from this and similar facilities, discharge of priority pollutants other than metals is unlikely. Accordingly, the

Discharger shall monitor effluent and receiving water (at the receiving water station R-1) and analyze samples for priority pollutant metals **one time at least 180 days but no more than 365 days prior to expiration of this Order.**

The Discharger must analyze pH and hardness of the effluent and receiving water at the same time as priority pollutant metals. The priority pollutant metals for which this one-time analysis is required are as follows:

- Antimony
- Arsenic
- Beryllium
- Cadmium
- Chromium (III)
- Chromium (IV)
- Copper
- Lead
- Mercury
- Nickel
- Selenium
- Silver
- Thallium
- Zinc

Metals shall be analyzed by the USEPA methods listed below. Alternative analytical procedures may be used with approval by the Regional Board if the alternative method has the same or a better detection level than the method listed.

| Method Description | EPA Method | Constituents |
|---|------------|--|
| Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) | 1638 | Antimony, Beryllium, Cadmium, Copper, Lead, Nickel, Selenium, Silver, Thallium, Total Chromium, Zinc |
| Cold Vapor Atomic Absorption (CVAA) | 1631 | Mercury |
| Gaseous Hydride Atomic Absorption (HYDRIDE) | 206.3 | Arsenic |
| Flame Atomic Absorption (FAA) | 218.4 | Chromium VI |

All priority pollutant metal analyses shall be performed at a laboratory certified by the California Department of Health Services. The laboratory is required to submit the Minimum Level (ML) and the Method Detection Limit (MDL) with the reported results for each constituent. The MDL should be as close as practicable to the USEPA MDL determined by the procedure found in 40 CFR Part 136. The results of analytical determinations for the presence of chemical constituents in a sample shall use the following reporting protocols:

- a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory.

- b. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.
- c. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration." Numerical estimates of data quality may be by percent accuracy (+ or – a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
- d. Sample results that are less than the laboratory's MDL shall be reported as "Not Detected" or ND.

GENERAL REPORTING REQUIREMENTS

The Discharger shall implement this monitoring program on the first day of the month following adoption of the Order. The Discharger shall submit monthly Discharge Monitoring Reports to the Regional Board by the **first day of the second month** following sample collection. Annual monitoring reports shall be submitted by **30 January** each year. All reports submitted in response to this Order shall comply with signatory requirements of Standard Provision D.6. A duplicate copy of the Discharge Monitoring Reports shall also be submitted monthly to the property owner, the Merced Irrigation District (MID).

By **30 January of each year**, the Discharger shall submit a written Annual Report to the Executive Officer containing the following information:

1. A tabulation by month of the pounds of fish produced during the previous year including dates of operation and species and amount (lbs.) of fish harvested, processed, or released per month.
2. A summary of information on monthly land application and land disposal of solids and wastewater during the previous year including the type and amount of solids and wastewater that are land-applied or land disposed.
3. A summary of all feeding practices used at the facility on a monthly basis including:
 - a. The name(s), type(s) and amount(s) of feed(s) used.
 - b. The percent of phosphorus in the feed(s) used (as available).
 - c. The method and frequency of feeding.
4. Septic tank inspection and maintenance report.

5. Monthly records documenting cleaning, inspections, maintenance, and repairs of all production and wastewater treatment systems.

In the event that there is failure in or damage to the structure of an aquatic animal containment system that results in an unanticipated material discharge of pollutants to waters of the United States or waters of the State, the Discharger shall provide an oral report within 24 hours describing the cause of the failure or damage and identifying the materials that have been released to the environment as a result of the failure or damage. Within 7 days of discovery of the failure or damage, the Discharger shall provide a written report documenting the cause, the estimated time elapsed until the failure or damage was repaired, and steps being taken to prevent a recurrence.

In the event the Discharger becomes aware of a violation of the prohibitions, specifications, or limitations of this Order, the Discharger shall notify the Board by telephone within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within 5 days.

If the Discharger monitors any pollutant more frequently than is required by this Order, the results of such monitoring shall be included in the calculation of the values required in the monthly monitoring report. Such increased frequency also shall be indicated on the monthly monitoring report.

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

10 September 2004
(Date)

Tt:JME

INFORMATION SHEET

ORDER NO. R5-2004-0119
CALAVERAS TROUT FARM, INC.
MERCED IRRIGATION DISTRICT
TROUT REARING FACILITY
MERCED COUNTY

FACILITY DESCRIPTION

The Calaveras Trout Farm is on the south bank of the Merced River, four miles east of Snelling on approximately fifty acres of land leased from the Merced Irrigation District in Section 12, T 5 S, R 14 E, MDB&M. The facility discharges treated wastewater from trout hatchery and rearing operations to the Merced River.

The Discharger, who has a production goal of 400,000 pounds annually, diverts water from the Merced River through 16 concrete rearing ponds, a hatchery, and 10 flow through raceways. All flow is directed to seven settling ponds, where it is treated by a minimum of two ponds.

Based on Discharge Monitoring Reports from 2001-2003, flow through the facility does not vary from 27 mgd. Biochemical oxygen demand (BOD₅), suspended solids, and settleable solids in effluent are consistently at or below analytical detection limits, and pH of effluent is consistently in the range of 7.0 – 7.2. Within the Report of Waste Discharge and monthly Discharge Monitoring Reports the Discharger reports that no aquaculture chemicals or drugs are used at the facility.

The discharge was previously governed by Regional Board Order No. 96-107 (NPDES No. CA0081752), adopted on 3 May 1996.

APPLICABLE REGULATIONS, POLICIES, AND PLANS

A cold-water concentrated aquatic animal production (CAAP) facility is defined by the United States Environmental Protection Agency (USEPA) at 40 CFR 122.24 as a fish hatchery, fish farm, or other facility which contains, grows, or holds cold-water fish species or other cold water aquatic animals including, but not limited to, the Salmonidae family of fish (e.g. trout and salmon) in ponds, raceways, or other similar structures. In addition, a CAAP facility discharges at least 30 calendar days per year, produces at least 20,000 pounds harvest weight of aquatic animals per year and feeds at least 5,000 pounds of food during the calendar month of maximum feeding. A facility that does not meet these criteria may also be designated a cold water CAAP facility upon a determination that it is a significant contributor of pollution to waters of the United States. Cold water, flow-through CAAP facilities are designed to allow the continuous flow of fresh water through tanks and raceways and typically discharge to waters of the United States and of the State. USEPA specifies that CAAP facilities are point sources subject to the National Pollutant Discharge Elimination System (NPDES) program. The Discharger's facility meets the definition of a cold-water, flow-through CAAP facility.

The operation of CAAP facilities may introduce a variety of pollutants into receiving waters. USEPA identifies three classes of pollutants: (1) conventional pollutants - total suspended solids (TSS), oil and grease (O&G), biochemical oxygen demand (BOD₅), fecal coliform bacteria, and pH; (2) toxic pollutants, including metals; and (3) non-conventional pollutants such as ammonia, Formalin, and phosphorus. The most significant pollutants discharged from CAAP facilities are solids from uneaten feed and fish feces, both being composed primarily of organic matter including BOD, organic nitrogen, and organic phosphorus.

Fish raised in CAAP facilities may become vulnerable to disease and parasite infestations, and various aquaculture drugs and chemicals may be used to ensure the health and productivity of the confined fish population and to maintain production efficiency. Aquaculture drugs and chemicals are also used to clean raceways; to treat fish for parasites, fungal growths and bacterial infections; and to anesthetize fish prior to spawning or tagging. As a result of these activities, drugs and chemicals may be present in discharges from cold water CAAP facilities.

In August 2004, USEPA promulgated Effluent Limitation Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category (hereafter "ELG"). The ELG regulation establishes national technology-based effluent discharge requirements for flow-through and recirculating systems and for net pens based on Best Practicable Control Technology Currently Available (BPT); Best Control Technology for Conventional Pollutants (BCT); Best Available Technology Economically Achievable (BAT); and New Source Performance Standards (NSPS). In its proposed rule, published on 12 September 2002, U.S. EPA proposed to establish numeric limitations for a single constituent – total suspended solids (TSS) – while controlling the discharge of other constituents through narrative requirements. In the final rule, however, USEPA determined that, for a nationally applicable regulation, it would be more appropriate to promulgate qualitative TSS limitations in the form of solids control best management practices (BMP) requirements. Furthermore, the final ELG does not include numeric effluent limitations for non-conventional and toxic constituents, such as aquaculture drugs and chemicals, but also relies on narrative limitations to address these constituents.

In 1998, the Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and describes an implementation program and policies to achieve water quality objectives for all waters of the Basin, including plans and policies adopted by the State Water Resources Control Board (SWRCB) and incorporated by reference, such as Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*. The waste discharge requirements of proposed Order No. R5-2004-0119 implement the Basin Plan, as required by Section 13263 (a) of the California Water Code.

Resolution No. 68-16 requires the Regional Board, in regulating discharges of waste, to maintain high quality waters of the State unless it is demonstrated that any change in water quality will be consistent with the maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Board's

policies. Resolution No. 68-16 requires that discharges be regulated to meet best practicable treatment or control in order to assure that pollution or nuisance will not occur, and the highest water quality will be consistently maintained for the maximum benefit to the people of the State. The Board has considered Resolution 68-16 and USEPA antidegradation regulations at 40 CFR 131.12, and proposed Order No. R5-2004-0119 is consistent with these requirements.

Regulation of Aquaculture Drugs and Chemicals

According to the Report of Waste Discharge and monthly monitoring reports, the Discharger has not used and does not propose to use aquaculture drugs and chemicals at this facility; and therefore, the Order includes a prohibition on the discharge of such materials. The Order also requires that, prior to the potential discharge of aquaculture drugs and chemicals, the Discharger must submit specific information to the Regional Board to allow a determination of appropriate prohibitions, limitations, and conditions regarding the potential discharge and to allow amendment of the Order to include those appropriate prohibitions, limitations, and conditions, if necessary. Any drug or chemical found to be potentially discharged at a level that will cause, have the reasonable potential to cause, or contribute to an in-stream excursion above any chemical-specific water quality criteria or numeric or narrative water quality objective from the Basin Plans will require the NPDES Order be reopened to establish effluent limitations prior to the potential discharge of the drug or chemical. It is the responsibility of those using, prescribing, or recommending the use of aquaculture drugs and chemicals to know what materials may be used in CAAP facilities in the Region under all applicable federal, State, and local regulations, and which aquaculture drugs and chemicals may be discharged to waters of the State and the United States. The following text describes the types and uses of aquaculture drugs and chemicals used by other CAAP facilities throughout the United States.

Some aquaculture drugs and chemicals used at CAAP facilities are approved by the U.S. Food and Drug Administration (FDA) for specific aquaculture uses on specific aquatic species. Others have an exemption from this approval process, when used under specified conditions. Still others are not approved for use in aquaculture, but are considered to be of low regulatory priority (LRP) by FDA. FDA is unlikely to take regulatory action related to the use of a LRP drug, if an appropriate grade of the chemical or drug is used, good management practices are followed, and local environmental requirements are met (including NPDES permit requirements). Finally, some drugs and chemicals may be used for purposes, or in a manner not listed on their label under the direction of licensed veterinarians for the treatment of specific fish diseases. Such extra-label use may occur only for short periods of duration during acute disease outbreaks. Each method of using aquaculture drugs is discussed in greater detail, below.

FDA Approved New Animal Drugs

There are currently six new animal drugs approved by FDA for use in food-producing aquatic species.

1. Chorionic gonadotropin (Chlorulun®) used for spawning
2. Oxytetracycline (Terramycin®), an antibiotic
3. Sulfadimethoxine-ormetoprim (Romet-30®), an antibiotic
4. Tricain methanesulfonate (MS-222, Finquel® and Tricaine-S), an anesthetic
5. Formalin (Formalin-F®, Paracide F® and PARASITE-S®), used as a fungus and parasite treatment
6. Sulfamerazine, an antibiotic.

Each aquaculture drug in this category is approved by FDA for use on specific species, for specific disease conditions, at specific dosages, and with specific withdrawal times. Product withdrawal times ensure that aquaculture drugs do not exceed legal tolerance levels in the animal tissue, when it reaches the consumer.

FDA-approved new animal drugs that are added to aquaculture feed must be specifically approved for such use only in accordance with FDA medicated-feed regulations. Practices such as top-dressing feed with an over-the-counter antibiotic product are not authorized. Some medicated feeds, such as Romet-30®, may be manufactured only after the FDA has approved a medicated-feed application submitted by the feed manufacturer.

FDA Investigational New Animal Drugs (INAD)

INAD exemptions are granted by FDA's Center for Veterinary Medicine (CVM) to permit the purchase, shipment, and use of an unapproved new animal drug for investigational purposes with the expectation that meaningful data will be generated to support future approval.

INADs are standard or compassionate; and aquaculture INADs, which are mostly compassionate, are either routine or emergency. A compassionate INAD exemption is used when the aquatic animal's health is of primary concern. In certain situations, producers can use unapproved drugs for clinical investigations (under a compassionate INAD exemption) subject to FDA approval. In these cases, CAAP facilities are used to conduct closely monitored clinical field trials. FDA reviews test protocols, authorizes specific conditions of use, and closely monitors any drug use under an INAD exemption. An application to renew an INAD exemption is required each year. Data recording and reporting are required under the INAD exemption in order to support the approval of a new animal drug or an extension of approval for new uses of the drug.

FDA Unapproved New Animal Drugs of Low Regulatory Priority

LRP drugs do not require a new animal drug application or INAD exemptions from FDA. LRP drugs commonly used at CAAP facilities in the Region include:

1. Acetic acid, used at a dip concentration of 1,000-2,000 mg/L as a parasiticide.
2. Carbon dioxide gas, used for anesthetic purposes.
3. Hydrogen peroxide, used at 250-500 mg/L to control fungi on all species and life stages of fish, including eggs.
4. Povidone iodine (PVP) compounds, used as a fish egg disinfectant at rates of 50 mg/L during egg hardening and 100 mg/L solution after water hardening.
5. Sodium bicarbonate (baking soda), used at 142-642 mg/L as a means of introducing carbon dioxide to anesthetize fish.
6. Sodium chloride (salt), used at 0.5-1% solution as an osmoregulatory aid to relieve stress and prevent shock. Used as 3% solution as a parasiticide.

FDA's enforcement position on the use of LRP drugs is neither an approval nor an affirmation of their safety and effectiveness. Based on new information available in the future, FDA may take a different position on their use. In addition, FDA notes that classification of substances as new animal drugs of LRP does not exempt CAAP facilities from complying with all other federal, state and local environmental requirements, including compliance with NPDES permits.

Extra Label Use of an Approved New Animal Drug

Extra-label drug use is the actual or intended use of an approved new animal drug in a manner not consistent with approved label directions and may occur only with prescription by a licensed veterinarian pursuant to FDA CVM's extra-label drug use policy. CVM's extra-label use drug policy (CVM Compliance Policy Guide 7125.06) states that extra-label drug use may be considered in treating food-producing animals, if the health of the animals is immediately threatened, and if further suffering or death would result from failure to treat the affected animals. It does not allow prophylactic uses or uses to improve growth rates, reproduction, or fertility. Spawning hormones cannot be used under the extra-label policy.

RECEIVING WATER BENEFICIAL USES

Existing and potential beneficial uses, which currently apply to surface waters of the Central Valley Region, are presented in Figure II-1 and Table II-1 of the Basin Plan, which states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. In

addition, SWRCB Resolution No. 88-63 states that all surface and ground waters of the State, with narrow exceptions, are considered to be suitable for municipal and domestic supply. For the Merced River from McSwain Reservoir to the San Joaquin River, the Basin Plan specifically identifies the following existing beneficial uses: municipal and domestic supply (MUN); stock watering (AGR); industrial process, service, and power supply (PROC, IND, and POW); water contact recreation (including canoeing and rafting) (REC-1); non-contact water recreation (REC-2); warm and cold freshwater habitat (WARM and COLD); warm and cold water fish migration habitat (MIGR); warm and cold water spawning habitat (SPWN); and wildlife habitat (WILD).

All groundwaters of the Region are considered suitable or potentially suitable, at a minimum, for municipal and domestic supply (MUN), agricultural supply (AGR), and industrial service (IND) and industrial process supply (PRO).

The Basin Plan, on page II-1.00, states that protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning, and that disposal of wastewaters is not a prohibited use of waters of the State but merely a use which cannot be satisfied to the detriment of beneficial uses.

REASONABLE POTENTIAL ANALYSIS AND EFFLUENT LIMITATIONS

USEPA regulations at 40 CFR Section 122.44 require NPDES permits to contain effluent limitations, including technology based and water quality based effluent limitations (WQBELs) and limitations based on toxicity.

USEPA adopted the *National Toxics Rule* (NTR) on 5 February 1993 and the *California Toxics Rule* (CTR) on 18 May 2000. These rules contain water quality standards applicable to the discharge. The SWRCB adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the State Implementation Policy or SIP), which contains guidance on implementation of the NTR and CTR.

At 40 CFR 122.44 (d) (1) USEPA requires effluent limitations for all pollutants that are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an in-stream excursion above a numeric or narrative water quality criterion within a State water quality standard. To implement this requirement the USEPA, SWRCB, and Regional Board have adopted or established water quality standards in the NTR, CTR, and Basin Plan; and the USEPA has also established recommended ambient water quality criteria. The SWRCB has adopted the SIP to implement the CTR and NTR. USEPA has set forth a methodology for establishing effluent limitations based on narrative state water quality criteria; and the Regional Board, in its *Policy for Application of Water Quality Objectives*, likewise sets forth a process for translating narrative water quality objectives into numeric effluent limitations.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Total Suspended Solids and Settleable Solids

Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional Board determined that numeric technology-based effluent limitations for total suspended solids (TSS) and settleable solids are appropriate. In addition, based upon application of the final ELG for CAAP facilities, the Regional Board is establishing requirements for a BMP plan.

Background

As noted above, USEPA's final ELG for the aquaculture industry does not include numeric effluent limitations on any conventional, non-conventional, or toxic constituents. Rather, USEPA promulgated qualitative limitations in the form of BMP requirements. The Regional Board is establishing effluent limitations for discharges of total suspended solids (TSS) and settleable solids from this Facility. Technology-based requirements in this Order are based on a combination of application of the ELG for BMP requirements and case-by-case numeric limitations developed using best professional judgment (BPJ) and carried over from the previous Order No. 96-107. These effluent limitations are 5.0 mg/L net TSS as an average monthly limitation and 15 mg/L net TSS as a maximum daily limitation; and 0.1 ml/L settleable solids as an average monthly limitation and 0.2 ml/L settleable solids as a maximum daily limitation. Removal of these numeric limitations for TSS and settleable solids would constitute backsliding under CWA Section 402(o). The Regional Board has determined that these numeric effluent limitations for TSS and settleable solids continue to be applicable to the Facility and that backsliding is not appropriate. Previous Orders for hatcheries have expressed effluent limitations for TSS in terms of a net limitation. The Regional Board finds the use of a net TSS effluent limitation is an appropriate measure of performance, and correct interpretation of this limitation and does not constitute backsliding (40 CFR 122.44(l)(2)(i)(B)(2)). Results of monitoring indicate the Discharger is capable of meeting these limitations. This Order does not include mass effluent limitations for TSS because there are no standards that specifically require a mass-based effluent limitation, mass of the pollutant discharged is not specifically related to a measure of operation (40 CFR 122.45(f)(iii)), and, in addition, mass-based effluent limitations for TSS are not necessary because this Order includes both concentration-based limitations and a maximum flow limitation.

Pollution Control Options

Existing wastewater treatment technology, such as settling basins and vacuum cleaning, is capable of dependably removing solids (primarily fish feces and uneaten feed) from CAAP facility effluents prior to discharge. CAAP facilities use full flow or off line settling basins; and others rely on low flow rates through raceways, which allow solids to accumulate for removal. Discharges from off-line, compared to full flow, settling basins are typically smaller in volume with higher concentrations of pollutants. Some CAAP facilities place barriers in the lower portion of each

raceway to create quiescent zones, which allow solids to settle at the end of each raceway for collection and removal. At all CAAP facilities, fish mortalities are removed from each raceway on a regular basis to prevent the spread of disease.

The Calaveras Trout Farm relies on full slow settling capability to treat flow from the facility before discharging to the Merced River. The Regional Board considers this existing treatment capability, with implementation of BMPs, such as feed and other solids management practices, as an effective and proven option for controlling pollutants in discharges from the facility.

Relationship Between Technology Based and Water Quality Based Requirements

In addition to carrying over numeric technology-based requirements based on BPJ, the Regional Board considered the need for water quality-based limitations for TSS and settleable solids. The Regional Board determined that the numeric technology-based TSS and settleable solids limitations, along with the requirement for a BMP plan, are sufficient to ensure attainment of Basin Plan water quality objectives for sediment, settleable material, and suspended material.

Biochemical Oxygen Demand

Technology based limitations for BOD₅ from Order No. 96-107 are not retained in proposed Order No. R5-2004-0119. The Regional Board has determined that control of TSS and settleable solids in the discharge from the Calaveras Trout Farm and implementation of a BMP Plan will also effectively control levels of BOD₅ in the discharge. This determination is based on findings of USEPA Region 10 presented in its General NPDES Permit (No. ID-G13-0000) for Aquaculture Facilities in Idaho and the accompanying Fact Sheet, as well as observation and analysis of monitoring data from aquaculture facilities throughout the Central Valley Region. USEPA Region 10's general permit for Idaho became effective on 10 September 1999; and therefore, USEPA's determination that control of solids and implementation of BMPs will also effectively control BOD₅ is information that was not available to the Regional Board when Order No. 96-107 was adopted in May 1996. In an effort to develop a general discharge permit for aquaculture facilities in the Central Valley Region in 2003, the Regional Board has also observed in monitoring data from numerous aquaculture facilities that control of solids is an effective indicator regarding the control of BOD₅ in effluents from CAAP facilities. Based on its own attempt to develop a general permit and the work of USEPA Region 10, both of which occurred after the adoption of Order No. 96-107, the Regional Board has determined that effluent limitations proposed for suspended and settleable will also control BOD₅ concentrations in effluent, as if BOD limitations from Order No. 96-107 were being retained. Because such new information has become available to the Regional Board since adoption of Order No. 96-107, the proposed elimination of effluent limitations for BOD₅ represents a permissible exception to USEPA's anti-backsliding requirements at 40 CFR 122.44 (1) (2) and 40 CFR 122.62 (a) (16).

pH

There are no technology-based effluent limitations for pH that are applicable to discharges from fish hatcheries. The Basin Plan, however, establishes a water quality objective for pH of 6.5 to 8.5, and in fresh waters designated as warm and cold freshwater habitat, discharges cannot cause pH changes of greater than 0.5 pH units. Because discharges from CAAP facilities in the Region have the reasonable potential to cause or contribute to an in-stream excursion from this pH range, the Regional Board is establishing the water quality objective as an end-of-pipe limitation for pH for the Calaveras Trout Farm. This limitation is consistent with the pH limitation of Order No. 96-107.

Aquaculture Drugs and Chemicals

On Discharge Monitoring Reports and the Report of Waste Discharge the Discharger has reported that the facility does not use aquaculture drugs and chemicals. Proposed Order No. R5-2004-0119 therefore acknowledges the facility's non-use of aquaculture drugs and chemicals by prohibiting their presence in the discharge, unless the facility has previously notified the Regional Board that such a material will be used and provided relevant application information, as described in the Order.

WATER QUALITY-BASED EFFLUENT LIMITATIONS

Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional Board Discharger found that the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above water quality standards for constituents monitored in the effluent with the exception of zinc. This Order does not establish any water quality-based effluent limits for toxic pollutants, however, as the Discharger did not submit receiving water data. Without such data the Regional Board cannot establish reasonable potential nor establish water quality-based effluent limits in accordance with the State Implementation Plan for toxic pollutants. This Order directs the Discharger to conduct quarterly monitoring of receiving water and effluent for one year following adoption of this Order to determine receiving water hardness and zinc concentrations and zinc levels in effluent. Pending the results of this study, this Order may be reopened to include water quality-based effluent limitations for zinc.

BASIS FOR WASTE DISPOSAL PROVISIONS

Solid waste disposal provisions in this Permit are based on the requirements of CCR Title 27 and prevention of unauthorized discharge of solid wastes into waters of the United States or waters of the State.

BASIS FOR BEST MANAGEMENT PRACTICES PROVISIONS

Best Management Practices plan requirements are established based on requirements in Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category at 40 CFR Part 451.

BASIS FOR RECEIVING WATER LIMITATIONS

Receiving water limitations are interpretations of water quality objectives from the Basin Plans. Receiving water limitations in this Permit are included to ensure protection of beneficial uses of receiving waters. A receiving water condition not in conformance with a limitation is not necessarily a violation of the Permit. However, the Regional Board may require an investigation to determine cause and culpability prior to asserting that a violation has occurred.

MONITORING AND REPORTING PROGRAM

Receiving water monitoring requirements are based on the Basin Plan and authorized by California Water Code Section 13267 and 13383. Receiving water monitoring requirements are standard requirements in almost all NPDES permits issued by the Regional Board. Upstream receiving/background water monitoring station R-1 is located at the intake to the facility or upstream of that point in the Merced River. Receiving water monitoring station R-2 is 100 feet downstream of the discharge pipe outfall.