STATE WATER RESOURCES CONTROL BOARD
WORKSHOP SESSION—DIVISION OF WATER QUALITY
JULY 6, 2005

ITEM 10

SUBJECT

CONSIDERATION OF ADOPTION OF THE STATE WATER RESOURCES CONTROL BOARD (STATE WATER BOARD) WATER QUALITY ORDER NO. 2005-XXX-DWQ, NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT NO. CA0103209 FOR THE CALIFORNIA DEPARTMENT OF FISH AND GAME SILVER KING CREEK ROTENONE PROJECT, ALPINE COUNTY

DISCUSSION

The Department of Fish and Game (DFG), in cooperation with the U.S. Department of Agriculture, Humboldt-Toiyabe National Forest (USFS), and the U.S. Fish and Wildlife Service (USFWS), proposes to use the aquatic pesticide rotenone as part of recovery efforts for Paiute Cutthroat Trout, *Oncorhynchus clarki seleniris*, at Silver King Creek. Rotenone is a naturally occurring pesticide found in the roots of certain plants and is used for insect control and for fisheries management. It interferes with oxygen use and is toxic to fish because it is readily absorbed through the gills. Under normal field conditions, rotenone breaks down naturally within approximately five days or can be detoxified by oxidation with potassium permanganate or chlorine, and it does not persist as a pollutant in groundwater. DFG proposes to discharge rotenone formulation and potassium permanganate into Silver King Creek and associated tributaries between Snodgrass Creek (Silver King Canyon) and Llewellyn Falls. DFG has completed several rotenone projects in the Lahontan Region since the late 1980s. Those projects included treatments of portions of the Upper Truckee River (Alpine County), Mill Creek (Mono County), Wolf Creek (Mono County), and the 1991-1993 treatments in upper portions of the Silver King Creek drainage for Paiute Cutthroat Trout restoration.

On September 8, 2004, the Lahontan Regional Water Quality Control Board (Lahontan Water Board) held a hearing on a draft NPDES permit for the proposed project. The Lahontan Water Board did not act on the draft NPDES permit because it did not believe enough information had been provided by DFG to determine the full effects of the project on endangered species or to assess the recovery of the site within two years after the use of rotenone as required by the Lahontan Region's Water Quality Control Plan. DFG filed a petition to the State Water Board to adopt the permit for the project. At the June 1, 2005 State Water Board public hearing on the petition, the State Water Board directed staff to draft an NPDES permit for its consideration at the July 6, 2005 workshop. On June 3, 2005, State Water Board staff sent the draft NPDES permit (attached) with only minor revisions to interested parties. Also on June 3 and 5, 2005, the State Water Board published a notice in two local newspapers: Tahoe Tribune and Record Courier, respectively. To date, only the Lahontan Water Board staff has sent comments to the State Water Board on the draft NPDES permit. These comments are only editorial.

June 27, 2005

POLICY ISSUE

Should the State Water Board adopt the Water Quality Order No. 2005-XXX-DWQ?

FISCAL IMPACT

State and Regional Water Board costs for implementing this Order can be accomplished within existing budgeted resources.

REGIONAL WATER QUALITY CONTROL BOARD IMPACT

Yes. Lahontan Water Board.

STAFF RECOMMENDATION

That the State Water Board adopts the Water Quality Order No. 2005-XXX-DWQ.

Policy: Ladd 6/22/05
Fiscal: FD 6/22/05
Legal: [illegible] 6/22/05

DRAFT

State Water Resources Control Board

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Arnold Schwarzenegger
Governor

WATER QUALITY ORDER NO. 2005-XXX-DWQ

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT, NO. CA0103209

CALIFORNIA DEPARTMENT OF FISH AND GAME SILVER KING CREEK ROTENONE PROJECT ALPINE COUNTY

The California State Water Resources Control Board (State Water Board) finds:

1 Discharger

The California Department of Fish and Game (DFG) is responsible for carrying out a variety of fishery management activities. These activities are designed to protect and maintain valuable aquatic ecosystems and sport fisheries. DFG is also responsible under State and federal law for the restoration and protection of threatened and endangered species. For the purposes of this Order, DFG is referred to as the "Discharger."

2. Project Purpose

The Discharger, in cooperation with the U.S. Department of Agriculture, Humboldt-Toiyabe National Forest (USFS), and the U.S. Fish and Wildlife Service (USFWS), proposes to use rotenone as part of recovery efforts for Paiute Cutthroat Trout, *Oncorhynchus clarki seleniris*, at Silver King Creek. Paiute Cutthroat Trout is the rarest subspecies of trout in North America, indigenous only to the Silver King Creek watershed. Paiute Cutthroat Trout was listed by the USFWS as federally endangered on October 13, 1970 (Federal Register 35:16047) and reclassified as federally threatened on July 16, 1975 (Federal Register 40:29863). Rotenone will be used to eradicate introduced fish species that can out-compete and interbreed with Paiute Cutthroat Trout, from portions of Silver King Creek and associated tributaries, prior to introduction of the native trout.

The Paiute Cutthroat Trout was successfully reintroduced to upper portions of Silver King Creek, above a natural fish barrier (Llewellyn Falls), following rotenone treatments in 1991, 1992, and 1993. The Discharger is concerned that non-native fish from below this barrier could be introduced by humans into the area where the pure population of Paiute Cutthroat Trout has been reestablished, threatening restoration efforts. The current project would help safeguard the restoration of Paiute Cutthroat Trout by introducing the endangered fish to six additional miles of the main-stem Silver King Creek downstream of Llewellyn Falls, and five miles of associated tributary stream.

According to the USFWS document *Draft Revised Recovery Plan for the Paiute Cutthroat Trout* (November 2003), "Four self-sustaining, genetically pure populations of Paiute cutthroat trout are known to occur out-of-basin in the North Fork of Cottonwood Creek [Mono County], Stairway Creek [Madera County], Sharktooth Creek [Fresno County], and Cabin Creek [Mono County] . . ."

3. Rotenone

Rotenone is a naturally occurring pesticide found in the roots of certain plants. It is used for insect control and for fisheries management. Rotenone acts by interfering with oxygen use. It is especially toxic to fish because it is readily absorbed through the gills.

The Department of Pesticide Regulation (DPR) regulates rotenone as a restricted material. Commercial rotenone formulations contain certain "inert" ingredients (solvents, dispersants, emulsifiers, etc.) as well as the active ingredient rotenone.

The active ingredient rotenone and some of the inert ingredients are potentially toxic chemicals. Chemical concentration, duration, and route of exposure must all be considered in determining potential risk to non-target organisms. At the concentrations proposed for the Silver King Creek project, the rotenone formulations will be toxic to gill breathing organisms such as fish and amphibians in aquatic life stages, and aquatic organisms such as invertebrates. There is no evidence of adverse effects to humans or terrestrial wildlife such as deer from incidental contact (for example, through drinking water) with rotenone formulation ingredients applied to surface waters at concentrations typical of fishery management projects.

Under normal field conditions (water temperature greater than 5°C), when applied to water, rotenone breaks down naturally within approximately five days. It can also be detoxified by oxidation with potassium permanganate or chlorine. It binds readily to organic matter in soil. Consequently, it does not persist as a pollutant in groundwater. Inert ingredients are generally volatile compounds that are expected to dissipate within two weeks.

4. Project Location

The Discharger will discharge rotenone formulation and potassium permanganate into Silver King Creek and associated tributaries between Snodgrass Creek (Silver King Canyon) and Llewellyn Falls (see map, Attachment A). Discharges will also be made into Tamarack Lake. The project area is within the East Fork Carson River Hydrologic Unit (Hydrologic Unit #632.00). The project is within the jurisdictional area of the Lahontan Regional Water Quality Control Board (Lahontan Water Board).

5. Basin Plan

In compliance with the Porter-Cologne Water Quality Control Act, the Lahontan Water Board adopted the *Water Quality Control Plan for the Lahontan Region* (Basin Plan) that became effective on March 31, 1995. The Basin Plan incorporates State Water Board plans and policies by reference, contains beneficial use designations and water quality objectives for all waters of the Lahontan Region, and provides a strategy for protecting beneficial uses of surface and ground waters throughout the Lahontan Region. The Basin Plan can be viewed or downloaded on the Internet at http://www.waterboards.ca.gov/lahontan/BPlan/BPlan_Index.htm, reviewed at the Lahontan Water Board office, or purchased at a nominal cost. This permit implements the Basin Plan.

6. Lahontan Water Board Policy for DFG Rotenone Use

The Lahontan Water Board amended the Basin Plan in 1990 to allow conditional use of rotenone by DFG. The Basin Plan rotenone policy allows use of rotenone by DFG for certain specific types of fishery management activities, including restoration or enhancement of threatened or endangered species. Eligibility criteria and conditions are set forth in Chapter 4 of the Basin Plan. For DFG projects meeting the eligibility criteria and conditions, the Basin Plan rotenone policy grants a variance from meeting Basin Plan water quality objectives (such as the pesticides and toxicity objectives) that would otherwise apply. Projects qualifying for the variance are instead subject to specific water quality objectives for DFG rotenone use established in Chapter 3 of the Basin Plan. A Memorandum of Understanding (MOU) between the Lahontan Water Board and DFG was executed in 1990 to implement the policy. In 1993, the Lahontan Water Board adopted additional Basin Plan amendments affecting rotenone use by the DFG.

7. Reason for Action

On March 12, 2001, the Ninth Circuit Court of Appeals held that point-source discharges of pollutants associated with use of aquatic pesticides in waters of the United States require a NPDES permit (Headwaters, Inc. v. Talent Irrigation District[1]). Accordingly, the discharge of pollutants associated with the application of rotenone for the Silver King Creek Project requires an NPDES permit.

8. Project Description

The Discharger proposes to apply rotenone in the summer of 2005. Additional treatments will be scheduled as necessary to ensure complete eradication of non-native fish.

Under this permit, DFG is limited to the use of two commercially available rotenone formulations for this project, specifically Nusyn-Noxfish and CFT Legumine. Use of other formulations is not authorized under this permit.

CFT Legumine is a recently developed "alternative" formulation, which reportedly contains less potentially objectionable "inert" ingredients. The use of CFT Legumine is consistent with Basin Plan rotenone provisions that require DFG to encourage development of and to use alternative formulations.

Nusyn-Noxfish will be applied at a target concentration of 1,000 microgram/L (ug/L) formulation (25 µg/L rotenone) to all flowing streams except Tamarack Creek. CFT Legumine will be applied at a target concentration of 1,000 ug/L formulation (50 µg/L rotenone) to Tamarack Creek, and Tamarack Lake. The discharge will take place over a period of 12-18 hours. Rotenone will be applied to streams using drip stations, with hand spraying in backwater areas as necessary. DFG will apply rotenone to Tamarack Lake from non-motorized rafts using gasoline-powered pumps.

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[1] Headwaters, Inc. v. Talent Irrigation District, (9th Cir. 2001) 243 F.3d 526.

DFG will operate a detoxification station downstream of the application, at the confluence of Silver King Creek and Snodgrass Creek. The Discharger will apply potassium permanganate at a rate of approximately 3 mg/L as the detoxifying agent. Under these conditions, potassium permanganate is expected to be quickly reduced to manganese oxide and does not persist for more than a day following the end of detoxification. At these levels, potassium permanganate is not considered a health threat to humans and will not violate water quality objectives. Potassium permanganate will result in a temporary purple or brown discoloration for up to two stream miles downstream of the project boundaries (project boundaries are defined in Finding #9, below).

The Discharger will conduct a fish salvage operation prior to treatment, using electroshock devices to stun and remove as many fish as possible from the treatment area. Salvaged fish will be relocated to other nearby waters as feasible. To the extent feasible, fish killed during the treatment will be removed for burial. A few dead fish may remain and may be consumed by foraging wildlife. DFG evaluated the potential toxicity of these dead fish to foraging wildlife in its Programmatic Environmental Impact Report (EIR), *Rotenone Use for Fisheries Management, July 1994*, and concluded that foraging wildlife will not be adversely affected by consuming these fish.

9 Project Boundaries

The Basin Plan defines the project boundaries for rotenone projects as encompassing the treatment area, the detoxification area, and the area downstream of the detoxification station at Snodgrass Creek, up to a thirty-minute in-stream travel time. The project boundaries are determined in the field based on stream flow measurements immediately prior to treatment.

10. Proposition 65 Considerations

Three inert ingredients present in one or both proposed rotenone formulations (N-methyl-2-pyrrolidone, ethylbenzene, and naphthalene) are on the Proposition 65 list of chemicals known to the State of California to cause cancer or reproductive toxicity. The Proposition 65 statute is contained in California Health and Safety Code sections 25249.9-25249.13. Proposition 65 prohibits the discharge of chemicals known to cause cancer or reproductive toxicity. The California Department of Health Services is the State agency responsible for enforcing Proposition 65. Section 25249.11(b) specifically exempts State agencies from the statute's provisions. Therefore, as a State agency, DFG is exempt from Proposition 65.

Impacts to Non-target Aquatic Life—Benthic Macroinvertebrates

Rotenone treatment is expected to have short-term effects on benthic macroinvertebrate communities (invertebrates are expected to repopulate treated areas following treatment and beneficial uses must be restored within two years of the final treatment). The Discharger conducted benthic macroinvertebrate monitoring studies before, during, and for three consecutive years following rotenone treatments that occurred in portions of the Silver King Creek basin in 1991 through 1993. DFG also conducted a study of rotenone impacts on macroinvertebrates in Silver King Creek (Mono County), which was treated for three years from 1994 to 1996. The previously-cited Negative Declaration for the Silver King Creek

project asserts that "the results of the monitoring did not provide any evidence that rotenone use had affected macroinvertebrate abundance . . . [these studies] suggested that rotenone may have short-term impacts to sensitive aquatic invertebrates . . ." Based on those studies and the metrics evaluated, DFG concluded that the data do not suggest any significant long-term impacts to invertebrates lasting beyond the study periods. There has been significant controversy regarding the adequacy of the design and interpretation of those studies. The State Water Board finds that the existing studies do not necessarily agree with DFG's conclusions and that additional monitoring is necessary to conclusively characterize impacts to invertebrate communities and the duration of those impacts.

The Discharger submitted an Aquatic Macroinvertebrate Study Proposal, dated June 15, 2003, to the Lahontan Water Board, including plans for pre- and post-project macroinvertebrate surveys and statistical analysis, that addresses some of the criticisms leveled at earlier studies. This permit requires the Discharger to implement the Study Proposal as part of the current project.

At this time, no macroinvertebrate species have been identified that are strictly endemic to the Silver King Creek basin. However, neither existing macroinvertebrate surveys nor surveys to be conducted under the Study Proposal are designed to detect endemic species, and they cannot rule out the possibility that endemic species may be present that could be impacted by rotenone use.

12. Impacts to Non-target Aquatic Life – Amphibians

Amphibians in the terrestrial life stage should not be affected by the rotenone treatment. However, gill breathing life stages are susceptible, if present.

Mountain Yellow Legged Frogs (*Rana mucosa*) and Yosemite Toads (*Bufo canorus*) are known to inhabit portions of the Silver King Creek basin. Both species are candidates for listing under the federal Endangered Species Act. The DFG recently completed four years of amphibian surveys within the project area and nearby upstream areas. Although Mountain Yellow Legged Frogs have been found in certain areas upstream of the project area (Upper Fish Valley and Fly Valley Creek), none was observed in the project area. A few Western Toad/Yosemite Toad adult and terrestrial subadult hybrids were observed within the project area. DFG biologists determined that during the August 2004 survey, tadpoles within the project area had already metamorphosed into terrestrial life stages due to an early spring/summer and low water year.

The Discharger will conduct additional amphibian surveys immediately before treatment, according to protocols described in Attachment 4 of the Monitoring and Reporting Program. If adult or tadpole life stages of any threatened, endangered, sensitive, candidate or rare amphibians are found during pre-project surveys, they will be captured by net and relocated out of the project area to suitable nearby habitat.

13. Past DFG Rotenone Projects in the Lahontan Region

The Discharger has completed several rotenone projects in the Lahontan Region since the late 1980s. Those projects included treatments of portions of the Upper Truckee River

(Alpine County), Mill Creek (Mono County), Wolf Creek (Mono County), and the 1991-1993 treatments in upper portions of the Silver King Creek drainage for Paiute Cutthroat Trout restoration.

The Lahontan Water Board waived waste discharge requirements for those projects. Following the 9th U.S. Circuit Court's decision in the Headwaters, Inc. v. Talent Irrigation District, NPDES permits are required for the discharge of aquatic pesticides to waters of the United States, and there is therefore no longer any basis to waive waste discharge requirements.

Violations of waiver conditions occurred on several occasions. Violations included: persistence of rotenone or rotenolone in shallow lakes (attributed to standing water and cool temperatures during late-season applications); rotenone escaping past project boundaries (attributed to late detoxification start-up or premature cessation of detoxification); a fish kill (estimated 1,000 fish killed) downstream of project boundaries (attributed to over-application of potassium permanganate detoxifying agent); and naphthalene detected downstream of project boundaries at a concentration exceeding the 25 ug/L limit allowed under the Basin Plan rotenone policy (attributed to low temperature of flowing water). DFG proposed additional control measures for future projects to prevent recurrences of these violations. Staff did not recommend that the Lahontan Water Board take enforcement action for the violations.

This permit establishes waste discharge requirements for the proposed Silver King Creek project, including receiving water limits and Best Management Practices (BMPs), adequate to protect water quality. Violations will be subject to enforcement action pursuant to Lahontan Water Board authorities under the California Water Code.

14. Project Information Submitted by Discharger Meets Requirements for Variance

The Discharger has provided project-specific information required by the MOU. The Lahontan Water Board has considered this information and determined that this project meets Basin Plan conditions and eligibility criteria for DFG rotenone projects. On that basis, the project qualifies for the variance, established in the Basin Plan, from meeting water quality objectives that would otherwise apply. The project is subject, however, to specific water quality objectives for rotenone use contained in the Basin Plan and to numeric criteria for priority pollutants contained in the California Toxics Rule.

15. Consideration of Alternatives to Chemical Treatment

The Discharger has considered alternatives to chemical treatment, and determined that rotenone treatment is the only feasible, effective option to ensure the complete eradication of non-native fish necessary to reestablish the Paiute Cutthroat Trout for this project. Recent research indicates that gillnetting may be an effective non-chemical alternative to rotenone treatment in eradicating fish from certain shallow mountain lakes. The Discharger considered gillnetting as a possible alternative to using rotenone in Tamarack Lake, a shallow lake that is part of the project area, but determined that Tamarack Lake is deeper than the maximum depth recommended to ensure complete fish eradication by the gillnetting method. Water drawdown (followed by winter freezing) was also considered as a possible alternative to

rotenone for Tamarack Lake, but was determined to be impracticable due to the large volume of water that would need to be removed.

16. Beneficial Uses of Silver King Creek

The beneficial uses of Silver King Creek as set forth and defined in the Basin Plan are: Municipal and Domestic Supply, Agricultural Supply; Groundwater Recharge; Water Contact Recreation; Non-contact Recreation; Commercial and Sport Fishing; Cold Freshwater Habitat; Wildlife Habitat; Rare, Threatened or Endangered Species; and Spawning, Reproduction, and Development.

17. Effluent Limitations

NPDES permits for discharges to surface waters must meet all applicable provisions of sections 301 and 402 of the Clean Water Act (CWA). These provisions require controls that use best available technology economically achievable (BAT), best conventional pollutant control technology (BCT), and any more stringent controls necessary to reduce pollutant discharges and meet water quality standards.

Pursuant to section 122.44(k)(3) of Title 40 of the Code of Federal Regulations (CFR), BMPs may be required in NPDES permits in lieu of numeric effluent limits to control or abate the discharge of pollutants when numeric effluent limits are infeasible. Numeric effluent limits for pollutant discharges associated with the application of rotenone formulation and potassium permanganate neutralizing agent are not feasible, because in this case there is no definable "effluent" upon which limits can be placed. Rotenone and potassium permanganate are commercial products of formulated chemical composition, rather than an effluent waste stream from a controllable process or activity.

After being mixed with receiving waters and achieving their intended effect, these materials may be considered pollutants. This permit requires that the Discharger implement BMPs to control or abate pollutants in the receiving water and comply with numeric receiving water limitations. Those BMPs constitute BAT and BCT and will be implemented to minimize the area and duration of impacts caused by the discharge of aquatic pesticides in the treatment area. This approach will allow for restoration of water quality and the long-term protection of beneficial uses of the receiving water following completion of a treatment event.

18. California Toxics Rule

The U.S. Environmental Protection Agency promulgated the California Toxics Rule (CTR), CFR, Title 40, Part 131.38), establishing numeric criteria for priority toxic pollutants for the State of California. The State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP), which establishes procedures for implementing water quality standards in NPDES permits. Section 5.3 of the SIP allows the State Water Board/Regional Quality Control Water Boards to grant short-term or seasonal categorical exceptions from meeting the CTR priority pollutant criteria for resource or pest management projects conducted by public entities. In order to qualify for an exception from meeting priority pollutant standards, a public entity must fulfill the requirements listed in section 5.3. Among other requirements, entities seeking

an exception to complying with water quality standards for priority pollutants must submit California Environmental Quality Act (CEQA) (CEQA, Public Resources Code Section 21000, et seq.) documents.

The Discharger prepared a Negative Declaration (see Finding No. 19, below) in compliance with CEQA. The Silver King Creek rotenone project meets the qualifications for an exception from meeting CTR priority pollutant criteria/objectives, and an exception is granted in the provisions of this permit. Therefore, effluent and receiving water monitoring for priority pollutants, as described in the SIP, is not required for this project.

State Water Board staff reviewed confidential proprietary information provided by the manufacturers of the rotenone formulations to be used for this project and found no evidence that the formulations contain ingredients that include priority pollutants.

19. CEQA Compliance

The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA in accordance with section 13389 of the California Water Code.

While adoption of this NPDES permit by the Lahontan Water Board is exempt from preparation of a CEQA document, public entities receiving exceptions from meeting CTR priority pollutant criteria/objectives, pursuant to section 5.3 of the SIP, are required to prepare a CEQA document. In 1994, the Discharger completed a Programmatic EIR titled *Rotenone Use for Fisheries Management, July 1994*. The Discharger completed an Initial Study and Negative Declaration (State Clearinghouse No. 2002052136) for the Silver King Creek project and filed a CEQA Notice of Determination for the project with the Governor's Office of Planning and Research on April 7, 2003.

20. Antidegradation

The Lahontan Water Board has considered antidegradation pursuant to 40 CFR section 131.12 and State Water Board Resolution No. 68-16. Discharges must be consistent with both the State and federal antidegradation policies. The conditions of this permit require compliance with water quality objectives for rotenone projects contained in the Basin Plan. The application of rotenone and potassium permanganate will temporarily degrade waters of exceptional quality. The degradation will be temporary, and it is in the best interest of the people of the State. The Basin Plan states:

> *The temporary deterioration of water quality due to the use of rotenone by the DFG is justifiable in certain situations. The Regional Board recognizes that the State and federal Endangered Species Acts require the restoration and preservation of threatened and endangered species . . . These resources are of important economic and social value to the people of the State, and the transitory degradation of water quality and short-term impairment of beneficial uses that would result from rotenone application is therefore justified provided suitable measures are taken to protect water quality within and downstream of the project area.*

Therefore, this permit is consistent with the State nondegradation and federal antidegradation policies.

21. Species Composition Considerations and Antidegradation

The Basin Plan rotenone policy requires that within two years following the last treatment for a specific project, a fisheries biologist or related specialist from DFG must assess the condition of the treated waters and certify in writing whether all applicable beneficial uses have been restored. Pursuant to the MOU, that assessment must consider the condition of fish and invertebrate populations in the affected waters.

The Basin Plan water quality objectives for rotenone include a species composition objective that states:

> "Where species composition objectives are established for specific water bodies or hydrologic units, the established objective(s) shall be met for all non-target aquatic organisms within one year following rotenone treatment [or within one year following the final rotenone application for multi-year projects]."

And:

> "Threatened or endangered aquatic populations (e.g., invertebrates, amphibians) shall not be adversely affected. The DFG shall conduct pre-project monitoring to prevent rotenone application where threatened or endangered species may be adversely impacted."

No species composition objective has been established in the Basin Plan specifically for Silver King Creek or for the East Fork Carson River Hydrologic Unit. However, antidegradation requires protecting non-target aquatic organisms so that aquatic species composition is not degraded over the long-term. DFG has included measures to protect threatened and endangered species, in compliance with the Basin Plan requirement. The Discharger will also conduct benthic macroinvertebrate monitoring to evaluate the assertion that rotenone treatment will not adversely affect populations of non-target aquatic organisms and beneficial uses of water over the long-term and to better establish the duration of short-term impacts.

22. Notification of Interested Parties

The State Water Board has notified interested agencies and persons of its intent to adopt an NPDES permit for the discharge and has provided them with an opportunity to submit comments.

23. Consideration of Public Comments

The State Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

24. NPDES Permit

This Order shall serve as an NPDES permit pursuant to section 402 of the CWA and amendments thereto, and as Waste Discharge Requirements pursuant to California Water Code Section 13263, and shall take effect upon the date of adoption. The Lahontan Water Board shall administer this permit.

IT IS HEREBY ORDERED that:

I. DISCHARGE SPECIFICATIONS

A. Receiving Water Limitations

The Discharger shall comply with the following receiving water limitations. The discharge of rotenone formulation and potassium permanganate to surface waters shall not cause or contribute to a violation of the following water quality objectives contained in the Basin Plan rotenone policy:

Color

The characteristic purple or brown discoloration resulting from the discharge of potassium permanganate shall not be discernible more than two stream miles downstream of project boundaries at any time. Twenty-four hours after shutdown of the detoxification operation, no color alteration(s) resulting from the discharge of potassium permanganate shall be discernible within or downstream of project boundaries.

2. Pesticides

a. The concentration of naphthalene outside of project boundaries shall not exceed 25 µg/L at any time.

b. The concentration of rotenone, rotenolone, trichloroethylene (TCE), xylene, or acetone (or potential trace contaminants such as benzene or ethylbenzene) outside of project boundaries shall not exceed the detection levels[2] for these respective compounds at any time.

c. After a two-week period has elapsed from the date that rotenone application was completed, no chemical residues resulting from the treatment shall be present at detectable levels within or downstream of project boundaries.

d. No chemical residues resulting from rotenone treatments shall exceed detection levels in ground water at any time.

[2] "Detection level" is defined as the minimum level that can be reasonably detected using state-of-the-art equipment and methodology.

3 Toxicity

Chemical residues resulting from rotenone treatment must not exceed the limitations listed above for pesticides.

B. Application Specifications

The Discharger shall use only the two rotenone formulations, which it has previously identified and characterized for this project (specifically, Nusyn-Noxfish and CFT Legumine).

2. Rotenone applications shall be made in accordance with label specifications

3 Applications must be conducted by a licensed applicator in accordance with regulations of the DPR.

4 Applications of rotenone and potassium permanganate must be made in compliance with the MOU, the project Negative Declaration, and the Programmatic EIR.

5 The Discharger shall implement the Spill Contingency plan submitted with the 2002 Rotenone Application received on July 16, 2002.

C General Requirements

As an alternative to numeric effluent limits, the Discharger is required to implement BMPs. Required BMPs include, but are not limited to: applying rotenone in accordance with label instructions by a licensed applicator; using potassium permanganate to detoxify rotenone before it escapes the treatment area; applying the minimum concentration of chemicals determined necessary to achieve an effective rotenone treatment; maintaining and implementing a suitable spill prevention and response plan; applying rotenone only when ambient water temperatures are sufficiently high (greater than 5°C) to promote its rapid post-treatment breakdown; and conducting water quality monitoring inside and outside the treatment area.

2 All project operations shall be conducted consistent with plans and management practices contained in documents submitted by the Discharger prior to the adoption of this permit, including the Discharger's Negative Declaration for the project, the July 2002 project information document submitted pursuant to the MOU (and any submitted updates or revisions thereto).

3 The Discharger shall provide the public with adequate notice of the treatments, and post signs in the project area prior to treatment with appropriate warnings against public contact with water and fish while chemical residues are present, and shall direct wilderness users to alternative potable water sources as appropriate.

4 Mechanical disturbance of soils (for example, to construct earthen spill containment berms) in wetland or riparian habitats is prohibited.

5. The Discharger shall notify the Lahontan Water Board in writing or by phone at least fourteen **(14) days** in advance of each planned treatment event.

6. Prior to chemical application, the Discharger shall capture fish within the treatment area by electroshocking and shall relocate the fish to suitable nearby habitat, to the extent feasible.

II. PROVISIONS

A. Standard Provisions for NPDES Permits

The Discharger shall comply with the "Standard Provisions for NPDES Permits," (Attachment B), which is made a part of this Order.

B. Monitoring and Reporting

1 Pursuant to California Water Code Section 13383, the Discharger shall comply with Monitoring and Reporting Program, which is made a part of this Order, and with any revisions thereto.

2. The Lahontan Water Board Executive Officer may require additional monitoring pursuant to California Water Code Section 13267, as necessary, to establish the recovery of aquatic macroinvertebrate communities following treatment, or to ensure compliance with other requirements and conditions of this NPDES Permit.

C. General Provisions for Monitoring and Reporting

The Discharger shall comply with the "General Provisions for Monitoring and Reporting," (Attachment C), which is made a part of this Order.

D. Expiration

This Order expires on July 6, 2010.

III. EXCEPTION FROM PRIORITY POLLUTANT CRITERIA

An exception from meeting priority pollutant criteria is hereby granted subject to the provisions of SIP section 5.3. The Discharger shall comply with all provisions of section 5.3.

IV. ATTACHMENTS

A. Project Location Map
B. Standard Provisions for NPDES Permits
C. General Provisions for Monitoring and Reporting
D. Monitoring and Reporting Program
E. Fact Sheet

DRAFT

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Board held on July 6, 2005.

AYE:

NO:

ABSENT:

ABSTAIN:

_____

Debbie Irvin
Clerk to the Board