

Regional Water Quality Control Board
Central Valley Region
Board Meeting –21/22 June 2007

Response to Written Comments for California Department of Fish and Game
Lake Davis Pike Eradication Project
Tentative Waste Discharge Requirements

The following are responses to written comments received from interested parties in response to the Tentative Waste Discharge Requirements and NPDES permit for the California Department of Fish and Game, Lake Davis Pike Eradication Project issued on 19 April 2007. Written comments from interested parties on the tentative Order were required to be received by the Regional Water Quality Control Board (Regional Water Board) by 25 May 2007 in order to receive full consideration. Comments were received by the due date from the California Department of Fish and Game, Mr. Bob Baiocchi with the Anglers Committee, California-Nevada Chapter of the American Fisheries Society, Mr. Jim Gaumer, Dr. Edward Bruno, Mr. Lionel Valley, Mr. Kurtis Carman, and Mr. John Logan. Written comments from each entity are summarized below, followed by the response of the Regional Water Board staff (Staff).

Comments from the California Department of Fish and Game

1. The DFG has identified the northern pike as a detrimental invasive species. It is currently confined to Lake Davis, California. Northern pike have degraded the trout fishery at Lake Davis, as well as the associated local economy. Pike present a serious threat to aquatic ecosystems and sport and commercial fisheries in other parts of the state and region. This was recognized by the CALFED Bay-Delta Ecosystem Restoration Program, which identified as a strategic objective halting the unauthorized introduction and spread of potentially harmful non-native introduced species of fish, such as pike in Lake Davis, in the Bay-Delta and Central Valley.

Response

The urgency and necessity of the project is noted.

2. Number B5 of Page 3 of the Tentative Order initially describes Neutralization Options 3 and 4, then continues to state that variabilities in the residual concentrations of either rotenone or potassium permanganate could be outside of the target range which could “result in the death of fish and other aquatic life for a significant distance downstream.” This is not expected to occur. As such, this statement is unnecessary and may bias the reader to believe that the DFG would likely be in violation of receiving water limits should Neutralization Options 3 or 4 be necessary. Similar

logic could be used to prevent issuance of a discharge permit to any wastewater treatment plant, for the possibility that there may be a plant upset resulting in an exceedance of receiving water quality criteria, even though Best Management Practices are implemented. The neutralization methods proposed for this treatment of Lake Davis are superior to those in 1997 for several reasons, including the fact that water will be retained in the Lake for at least 5 days, allowing mixing before any discharge would occur, and because methods developed for application of potassium permanganate are superior than in the past. Ultimately, if the DFG were to exceed receiving water limits, we would be in violation of the discharge permit, so the statement is unnecessary. We request that the last sentence of item B5 on Page 3 be removed.

Response

The Findings in the tentative permit are to help support the requirements contained within the permit. Staff believes it is important for the Regional Water Board and other parties to have all the facts and understand the potential for downstream fish mortality should conditions be less than optimal. While we agree that shutting off the discharge from the dam for five days and the more sophisticated methods for application of potassium permanganate will reduce this possibility, the reality is that with the application of large quantities of rotenone to such a large lake, complete mixing is problematic and variations in rotenone and other organic constituents which may react with the potassium permanganate is a real possibility that must be discussed. Such a condition could result in downstream toxicity beyond the distance planned.

3. The Tentative Order states that the Regional Board is not able to prepare a permit including DFG’s proposed Neutralization Options 3 and 4 because the options would result in an acutely toxic mixing zone in Big Grizzly Creek downstream of Grizzly Valley Dam. Specifically, the Tentative Order states on page 3, item B6, “Allowing for acute in-stream toxicity and 100 percent mortality within and beyond the mixing zone of a permitted discharge as proposed in Neutralization options 3 and 4 is against the policy of the Regional Water Board as explained in detail in the Fact Sheet (Attachment F) and is not authorized by this Order.” However, the neutralization reach was identified as part of the project area in the EIR/EIS which states on page 2-1, “The EIR/EIS project area comprises the area directly affected by the project alternatives, including treatment and neutralization activities: Lake Davis, waters draining into Lake Davis that may contain pike, and a portion of Big Grizzly Creek below Grizzly Valley Dam. The project area is represented by the watershed of Lake Davis and the portion of Big Grizzly Creek below the dam that flows to the Middle Fork Feather River, as shown on Figure 2-3, Project Area.” Page 7-51 of the EIR/EIS considered several impacts that would result from in-stream Neutralization Options 3 and 4, including:

- **The impact to desirable fish species from rotenone or potassium permanganate under Options 3 and 4 would be less than significant, since the area affected would be relatively small and the fishery would quickly re-establish. No mitigation is required.**
- **There would be no impact to special status macroinvertebrate species from neutralization, as none of these species have been found in Big Grizzly Creek downstream of Lake Davis. No mitigation is required.**
- **The impact to macroinvertebrate communities from rotenone or potassium permanganate with Options 3 and 4 would be less than significant as the neutralization zone is short. Areas below this point and tributary springs would serve as sources of recolonization. As a result, no taxa are expected to be lost, and reestablishment is expected to occur with[in] a few months. No mitigation is required.**

These impacts are identified in the CEQA Findings for the Project. (See page 39, Exhibit A, CEQA Findings.)

To help ensure that pike do not escape Lake Davis, the Project must be implemented. Therefore, it is critical that Neutralization Options 3 and 4 be included in a NPDES permit as a contingency if for some reason, beyond the control of the DFG, Options 1 or 2 are not able to be implemented. The DFG requests the Regional Board permit all four options notwithstanding the Regional Board staff's decision to not prepare an Order that includes Neutralization Options 3 and 4.

Response

Staff has evaluated Options 1 and 2 and believe they are adequate to proceed with the project. However, we agree Neutralization Options 3 and 4 should be included in the permit. Neutralization Options 3 and 4 will be proposed as late revisions and conditioned to be implemented only if Options 1 and 2 are infeasible due to circumstances beyond the Department of Fish and Game's control.

4. In the event the Regional Board decides not to permit Options 3 and 4, the DFG has requested preparation of a separate NPDES permit by the State Water Resources Control Board to allow neutralization of the rotenone by Options 3 and 4. We request concurrence from the Regional Board that this is a necessary process.

Response

If the Regional Water Board chooses not to include Options 3 and 4, then the Department of Fish and Game has the right to petition the State Board to include Options 3 and 4 into a permit.

5. Page F-7, sixth sentence regarding the description for Neutralization Option 2 includes the incomplete phrase, “Regional Water Board agrees this option” which should be removed.

Response

The phrase has been removed.

6. Implementation of the Project will include application of rotenone in the tributary streams to Lake Davis approximately 15 days prior to application in the reservoir. Based on current dry hydrologic conditions, we estimate that approximately 5.1 gallons of CFT Legumine or Noxfish (the rotenone formulations that may be used) could feasibly enter Lake Davis reservoir from the tributaries flowing into Lake Davis (Big Grizzly Creek, Cow Creek, and Freeman Creek). The other tributary streams to Lake Davis are anticipated to be dry in fall 2007 or contain minimal water that does not flow into the reservoir at the time of year when the treatment will occur. The concentration of any formulation constituent has been calculated to be well below the detection limits (Table 1) due to the considerable dilution from the untreated water in Lake Davis. The dilution calculations are based on the anticipated Lake Davis volume in September 2007 of 41,500 acre-feet. The calculated concentration of methyl pyrrolidone in Lake Davis is 0.03173 ppb following the stream treatment and mixing of the chemical in the lake. The diethylene glycol ethyl ether calculated dilution concentration at the anticipated 2007 tributary treatment level would be 0.21004 ppb.

In addition to the considerable dilution in Lake Davis, we also expect degradation of the rotenone formulation as it travels downstream by dilution, sunlight, vegetation and organic matter. The three flowing tributary streams are at the opposite end of the lake from the dam. The chemical would have to be transported the entire length of the lake to reach the outlet structure. Therefore, there should be no need to shut off the dam to contain rotenone from the stream treatments until just prior to the treatment of the reservoir begins. While the chemical calculations provided here are not a complete model of hydrologic conditions between the tributaries and the reservoir, they also do not account for any expected significant amount of degradation of all formulation constituents as they pass through the reservoir. Due to the inherent uncertainty with predicting stream flows, water temperature, hydrologic functions, and chemical degradation, the DFG will implement monitoring for the formulation constituents of concern at the INF-001 location as directed by the Regional Board. If any formulation constituents are detected at Grizzly Valley Dam (monitoring location INF-001), the DFG will implement monitoring at sites downstream in Big Grizzly Creek to ensure that receiving water limits are not exceeded and take appropriate measures should they be needed.

Response

Findings have been added to describe the treatment of the tributaries up to 15 days prior to treatment of Lake Davis. Monitoring of INF-001 may not be appropriate to detect any rotenone constituents due to lake stratification and flow pattern. Monitoring should take place at immediately below the discharge from Lake Davis Dam (BGC-1). The Section D has been added to the Monitoring Program to include this monitoring.

7. Section IV of the Findings on page 10 of the Tentative Order, Item D states, “Potassium permanganate shall be used, as per label instructions, to detoxify rotenone before it escapes the treatment area.” The item should be in reference to escape from the neutralization area instead of the treatment area.

Response

The requested change has been made.

8. Tables 6a and 6b on page 12 include numeric receiving water limits in Big Grizzly Creek for two constituents in the CFT Legumine rotenone formulation proposed for use in Lake Davis that are overly conservative and focus on beneficial use criteria that are not applicable due to elements implicit in the project action that already address the concerns. We request consideration of alternative receiving water limits for this permit.

Methyl pyrrolidone (MP; CAS 872504) is anticipated to achieve concentrations in Lake Davis waters immediately after treatment of approximately 88 µg/l (see Final EIS, Table J-15), based on past lot analyses of the formulation, and proposed treatment concentration. The receiving water limit of 30 µg/l for methyl pyrrolidone in the Tentative Order is not reflective of the inherent low toxicity of the compound, its ready degradability in aquatic systems, or language identified elsewhere in the permit. Specifically, the permit states the intent of the Regional Board to assure residual formulation components “do not escape Lake Davis and enter Big Grizzly Creek where they may be toxic to fish and other aquatic life or otherwise impact beneficial uses” (Attachment F, page 6). Even at the maximum treatment concentration that would be realized in the reservoir, toxic concentrations of methyl pyrrolidone will not be approached. Following the five day degradation in the reservoir before discharging to Big Grizzly Creek, any residual concentrations of methyl pyrrolidone would be below toxic concentrations. It will be readily oxidized by sunlight, and is hygroscopic (readily degrades in contact with water). Thus, the receiving water limit of 30 µg/l methyl pyrrolidone in Big Grizzly Creek does not reflect a scientific basis for impact to narrative aquatic life

standards and ignores the recognition in the permit that any potential degradation (pursuant to Resolution 68-16) will be transitory (see pg 8 of Order).

A search of the AQUIRE database identified only one other toxicity metric for the compound: a 48 hour LC₅₀ of 1,230 µg/l in daphnia (Lan et al. 2004), which would rank the compound as moderately toxic to pelagic aquatic invertebrates. Table F-3 in the Fact Sheet (Page F19) of the Tentative Order, footnote number 3, describes that 1/10th of the calculated 96 hour LC₅₀ was used to develop the criteria. A multiplier of 0.10 to the LC₅₀ is a very conservative safety margin. Extrapolation from the 48 hour LC₅₀ to a 96 hour LC₅₀ further reduced the receiving water limit. This method of calculation resulted in a criterion that is unnecessarily low. A 48 hour acute toxicity test is standard for a short-lived invertebrate so a safety factor is not necessary. Based on established aquatic life criteria, and the aquatic toxicity information available for this compound, methyl pyrrolidone would be considered *not acutely toxic* based on a NOEL of 5 g/L (i.e., 5,000,000 µg/l) in freshwater algae, bacteria and protozoa, as reported in the EIS (see Table J-15). No aquatic toxicity information has been identified in fish; however, the MSDS sheet of one manufacturer, BHS Marketing, states, “this material is expected to be non-hazardous to aquatic species.” Since a 48 hour toxicity test is standard for daphnids and limited other data is available, the DFG recommends that the receiving water limit be set at not less than 1/10th of the 48 hour LC₅₀ for *Daphnia magna*, or 123 µg/l.

Response

Staff has evaluated the available information and the receiving water limit for methyl Pyrrolidone will be changed to 123 ug/l.

9. The receiving water criteria applied to the Tentative Order for diethylene glycol ethyl ether (DEGEE) were for taste and odor (21 µg/l). The expected treatment concentration will be 581.1 µg/l (see Final EIS, Table J-15). Since the taste and odor criteria are a secondary drinking water standard, we request that long-term averaging be applied to the receiving water criteria. Other beneficial uses of Lake Davis waters that enter Big Grizzly Creek (i.e., drinking water supply) are not relevant because the DFG will be providing drinking water for all residents until all constituents are repeatedly undetectable. Impact PS-5, on page 13-8 of the Final EIR/EIS states, “On a temporary basis, downstream water users would be adversely affected during treatment and neutralization period as a result of reduced water flows from Grizzly Valley Dam under the Proposed Project/Proposed Action. This represents a significant, but mitigable, adverse water supply impact.” Mitigation PS-5 includes the requirement that the DFG shall survey Big Grizzly Creek (downstream from the dam) to identify all riparian

diversions potentially affected by the project. To implement this mitigation, DFG is contacting affected water users to determine the nature and amount of their water diversion. The DFG shall, in coordination with the land holders, temporarily provide alternative water sources to all water users along Big Grizzly Creek to meet their existing water demands until residues of *all* rotenone formulation constituents are repeatedly undetectable (See pages 76-79, Exhibit A, CEQA Findings). It is our understanding that none of these permitted water uses include domestic water use or drinking water. It is with this understanding, we believe, that the permit recognizes elsewhere that there will be “no effect on drinking water from the project” (see pg 3, number 8, of the Tentative Order).

Because the DFG will mitigate for impacts to downstream water users on Big Grizzly Creek as a result of any of the Neutralization Options, other criteria, such as toxicity, may be considered as an alternative if long-term averaging is not approved. Table 1 appended to this letter demonstrates the summation of aquatic toxicity metrics catalogued in AQUIRE, that document the ‘not acutely toxic’ nature of DEGEE, in a broad variety of fish and other aquatic life.

Response

The Receiving Water Limits have been changed to allow for a rolling annual average for DEGEE. Long term monitoring of Big Grizzly Creek for DEGEE has been added to the Monitoring Program to allow for the collection of data to establish the average annual concentration.

10. The receiving water limit for naphthalene is set at 21 µg/l based on a taste and odor threshold for domestic water. The DFG requests that long-term averaging be applied to this limit since it is a secondary drinking water standard.

Response

The Receiving Water Limits have been changed to allow for a rolling annual average for naphthalene and all “other VOCs and SVOCs”. Long term monitoring of Big Grizzly Creek for these constituents has been added to the Monitoring Program to allow for the collection of data to establish the average annual concentrations.

11. Page 12 of the Tentative Order, Table 6a, includes a footnote that states that the numeric limits are protective of aquatic life. Rather, the receiving water limit of 1.8 mg/L potassium permanganate would not be protective of aquatic life. Since the DFG will be conducting toxicological monitoring with live cars and sentinel fish, we request the numeric limit for potassium permanganate be removed, but monitoring and reporting of

potassium permanganate concentrations in the discharge will be conducted, along with the toxicity criteria based on live-car monitoring.

Response

The use of live cars for toxicity monitoring is only applicable for the species of fish contained within the live cars. Such monitoring does not address the potential toxicity to other aquatic life (i.e. invertebrates, algae, etc). Staff has reevaluated the toxicity of the potassium permanganate, its rapid dissipation in the environment, and the need to have some residual concentrations in the effluent of the treatment plant to assure complete neutralization of the rotenone and have determined a concentration of 1 mg/l is protective of aquatic life and achievable. The Receiving Water Limitations has been changed appropriately.

12. Page 19, item 3b states that the neutralization system shall be capable of removing rotenone formulation constituents to meet receiving water limits in Big Grizzly Creek at the point of discharge. This is inconsistent with the point of compliance established at BGC1.5b. We recommend that adding, “or downstream as provided in Section IX in the Monitoring and Reporting Program (Attachment E)” would resolve the inconsistency. Page F-14, A.3 should be similarly modified for accuracy.

Response

Changes have been made to clarify the compliance point.

13. The map on page C-1 should include the location for EFF-001.

Response

Eff-001 added to flow diagram.

14. Page E1, Item E states that EPA Method 8015b allows for the analysis of n-methyl-2pyrrolidone and diethylene glycol ethyl ether via a non-standard method. We request that the method reference for these compounds be revised to direct injection and analysis by LCMS, which the DFG laboratory is capable of performing. Validation of the method is ongoing. Currently, sample recovery using the method is superior to the recovery using EPA Method 8015b.

Response

Requested change has been made.

15. Page E-5 to E-7: We request that the sampling location for potassium permanganate be required for two sites instead of three. The Tentative

Order requires monitoring at EFF-001, BGC1.5a, and BGC 1.5b. Since BGC 1.5a is the compliance point, we recommend retaining that site for potassium permanganate monitoring but removal of site BGC1.5b.

Response

Requested change has been made.

16. Page E-10, Item C, states that the applications of rotenone “must be conducted by under the supervision of a licensed applicator...”. This should read “under the supervision of a licensed applicator” (remove “by”).

Response

Requested change has been made.

17. Page F-6, at the top of the page, describes the tributary and lake application of rotenone formulation. The volume of rotenone formulation expected to be applied to the tributaries that will likely be flowing into Lake Davis during September 2007 is approximately 5.1 gallons rather than 200 gallons, provided the treatment occurs in 2007 which is a dry water-year. The total volume of rotenone formulation applied to all tributary waterbodies to Lake Davis may be about 100 gallons. This is a reduction from the anticipated volume identified in the FEIR/EIS because we wanted to be conservative in the FEIR/EIS regarding the amount of chemical that might be applied. We took this approach because the amount of precipitation that would be received during the wet season of 2007 was unknown when the EIR/EIS was being drafted and finalized..

Response

Requested change has been made to reflect changes in rotenone formulation volume due to dry water year.

18. The second paragraph of Part A, Description of Treatment or Controls on Page F-6, states that Options 3 and 4 are prohibited. We request that the language be modified to state that the Options are “not authorized”, which would be consistent with the current language in the Findings section of the Tentative Order.

Response

Requested change has been made.

19. Page F-7, first two sentences includes a reference to legal and practical considerations for water rights and downstream water users. The DFG is mitigating impacts to downstream water users as identified in DFG's CEQA Findings. Evidence of this is being provided to the State Water Resources Control Board, Division of Water Rights, and the Department of Water Resources. Since the water rights issue is not a subject of this Tentative Order, we request that the language be removed.

Response

It is important for the Fact Sheet to contain adequate information to support the conditions of the permit, including the need to include neutralization options other than Option 1. Since all criteria for the implementation of Option 1 have not been definitively approved, the verbage has been changed to reflect that all conditions necessary for implementation of Option have not yet been met.

20. Page F-17, Item 3 has a reference to an ND Receiving Water Limit for methyl pyrrolidone. The Receiving Water Limit cited in the Tentative Order is not ND.

Response

The appropriate change has been made.

21. Page F-24, Item B.3 includes the assertion that residual rotenone will continue to be neutralized by potassium permanganate during shipment of the sample to the lab, resulting in false negative results. DFG requests that the assertion be removed due to lack of evidence that this has occurred in the past or that this may occur with the discharge for this Project. According to the labels for the rotenone formulations that may be used for the treatment, rotenone is oxidized by potassium permanganate in 15 to 30 minutes. Since sample collection for compliance monitoring would occur after at least a 30 minute contact time with potassium permanganate, there would not be any residual rotenone expected in the sample. However, DFG concurs with the remainder of the justification for Whole Effluent Toxicity Testing Requirements. The numbering of the justifications needs to be corrected as number 3 appears twice.

Response

Requested change has been made.

COMMENTS FROM THE DEPARTMENT OF WATER RESOURCES

1. The Department of Water Resources (DWR) strongly supports the proposed pike eradication project, citing the adverse impacts on the local trout fishery, potential adverse impacts to downstream biological resources should the pike escape Lake Davis.

Response.
Comment noted

2. DWR has made every effort to operate Lake Davis in a manner to accommodate the Department of Fish and Game's pike management measures, including controlling lake levels to prevent uncontrolled releases of the spillway, installation of fish graters on the outlet of the dam, and most recently, installation of high volume strainers at the dam outlet.

Response.
Comment noted.

3. DWR agrees to operate Lake Davis during the project to accommodate any of the four neutralization options, and will file a Petition for Temporary Urgency Change with the State Water Resources Control Board to authorize the reduction or cessation of releases to Big Grizzly Creek as necessary to implement each of the neutralization options.

Response
Comment noted.

4. DWR states it is essential that the project proceed this year and that DFG have the flexibility to employ the most effective alternatives.

Response
Urgency of the project noted. Staff has included all neutralization options in the proposed permit.

COMMENTS FROM MR. BOB BIAOCCHI, THE ANGLERS COMMITTEE

1. We are requesting the trout fishery (all life stages and their habitat) below Lake Davis in Big Grizzly Creek is protected at all times (Fish and Game Code 5937) as a result of the proposed project. Protection means with adequate hourly and daily flows (water) and adequate and meaningful water quality protection measures.

Response

The permit contains receiving water limits for all potential waste constituents that are protective of aquatic life, including fish, downstream of Grizzly Valley Dam. In the Final EIS/EIR, Fish and Game has included a plan to minimize and mitigate potential harm to fish downstream of the dam (section 7.1.2.4, Mitigation AR-23 and Appendix E of the EIS/EIR), including capture and relocation of fish where stream flows may not be adequate to support the fish. Fish and Game has also conducted stream flow studies to assure adequate stream flows from side tributaries and accretion are adequate for fish survival.

2. We are requesting the Department of Fish and Game monitor all effects to the trout fishery below Lake Davis in Big Grizzly Creek and also in the Middle Fork Feather River below Big Grizzly Creek. Monitoring means fulltime monitoring throughout the watershed and the main river and documenting all direct and cumulative harm and effects that may occur to the trout fishery and aquatic resources resulting from reductions in flows (hourly - daily) and water quality impacts (water temp, chemicals, et al). Because of the low water year type, flows in the Middle Fork Feather River may be extremely low and the effects from reducing flows in Big Grizzly Creek could cause harm and damage to the fishery and aquatic resources of the Middle Fork Feather River below the confluence of Big Grizzly Creek and the MFFR. We recommend that DWR be require to release additional flows from Frenchmen Reservoir via Little Chance Creek into the MFFR to supplement reductions in any hourly and daily flow reductions from Lake Davis into Big Grizzly Creek.

Response

See response to Item 1 above. The Department of Fish and Game has consulted with the Department of Water Resources (DWR) concerning the possibility of increasing flows from Frenchmen Reservoir to off-set reductions in flow from Grizzly Valley Dam to the Middle Fork Feather River. According to DWR, hydrologic conditions in Little Last Chance Creek restrict the volume of flows from Frenchmen Reservoir and thus into the Middle Fork Feather River. Regardless, Fish and Game has determined flows in the Middle Fork Feather River will be adequate to protect the fishery.

3. In the event the trout fishery is adversely harmed, in part or wholly, we recommend to the Water Quality Board that fines and mitigation measures should be imposed against the DFG. In the event fines are imposed, license money should not be used to fund fines for damage and harm to the trout fishery of Big Grizzly Creek below Lake Davis. The State of California must find other sources of money other than the license money from California anglers to mitigate for any damage to the trout fishery of Big Grizzly Creek and the MFFR as the result of a mistake. i.e. Pike Eradication Project in 1997. i.e. fines and dead trout fishery.

Response

If the conditions of the proposed permit are violated, the Regional Water Board will determine appropriate enforcement and penalties. However, if an administrative civil liability [fine] is imposed, the Regional Water Board does not have the authority to designate the source the funds to pay the liability or implement appropriate mitigations.

4. Because of a lawsuit against the Department of Fish and Game for the planting of rainbow trout into the state's waters and a proposed EIR, we believe the DFG should rescue native rainbow trout from the upper Big Grizzly Creek watershed before the treatment of the lake, rear them at another location, and plant the native rainbow into Big Grizzly Creek below Lake Davis following the treatment when it is safe. This issue was not disclose and evaluated in the EIR/EIS for the project because the court ruling has just occurred. However, we also support the planting of Eagle Lake Trout into Lake Davis following the treatment of the lake when it is safe, provided Eagle Lake Trout are available, does not affect Eagle Lake, and the courts do not deny said planting. Eagle Lake Trout have been planted into Lake Davis in past years.

Response

Management of the State fisheries, including the selection of which fish are suitable to plant at a particular location, is under the jurisdiction of the Department of Fish and Game and not the Regional Water Board and is outside the scope of the proposed permit.

5 To protect the people's water and water quality in Lake Davis following the treatment of the lake, cattle grazing should not be allowed near the lake to protect water quality. As I recall the body waste of one (1) cow is equal to more than 10 human beings or more. Water and its quality flows down Big Grizzly Creek thence the Wild and Scenic Middle Fork Feather River thence Oroville Reservoir, a major public drinking and water supply reservoir, in conjunction with about 67 proposed cattle grazing allotments

and managements areas in the Plumas National Forest. i.e. cumulative effects to the people's water quality and the people's water.

Response

The potential impacts of cattle grazing on water quality in the watershed is beyond the scope of the proposed NPDES permit for the eradication of pike in Lake Davis.

COMMENTS FROM THE CALIFORNIA-NEVADA CHAPTER OF THE AMERICAN FISHERIES SOCIETY

The California-Nevada Chapter (Cal-Neva) of the American Fisheries Society (AFS) supports the California Department of Fish and Game's (DFG) proposal to chemically eradicate northern pike from Lake Davis. Cal-Neva requests that the Central Valley Regional Water Quality Control Board (CVRWQCB) adopt waste discharge conditions that will allow the Lake Davis Pike Eradication Project to proceed.

The Cal-Neva Chapter is the largest chapter of AFS with over 500 active members from the fishery science profession, including employees in Federal, State, and local governments, academia, and private consulting firms. The mission of AFS is to improve the conservation and sustainability of fishery resources and aquatic ecosystems by advancing fisheries and aquatic science and promoting the development of fisheries professionals.

We believe a well-planned chemical treatment utilizing a formulation of rotenone provides the best chance for eradicating the pike from Lake Davis. Rotenone is commonly used throughout the world by fishery scientists for the purpose of fisheries management. AFS has published a number of books addressing the safe and proper use of rotenone including, *Rotenone use in Fisheries Management: Administrative and Technical Guidelines Manual* published in 2000. Additional AFS publications on this subject can be viewed at <http://store.afsbooks.org/x55032xm.html>. Only complete eradication of northern pike from Lake Davis would end the threat of the spread of non-native pike to waters downstream of Lake Davis that would jeopardize the multi-million dollar native fish restoration efforts in the Sacramento-San Joaquin Delta.

The ecological harm likely to occur from the downstream spread of northern pike would far exceed any possible harm from a well-planned chemical treatment of the reservoir.

Again, the Cal-Neva Chapter of AFS requests that the CVRWQCB adopt waste discharge conditions that will allow the Lake Davis Pike Eradication Project to proceed. If you have questions concerning this request, please contact me at (209) 366-2424 or at Jeff_McLain@comcast.net.

Response

Comment noted.

COMMENTS FROM MR. JIM GAUMER

I send this email in support of eradicating pike from Davis Lake. It is way past time to treat Davis Lake to remove this voracious predator. To delay this effort any further could result in catastrophic consequences if the pike somehow escape Davis Lake and spread downstream to the central valley's rivers and impoundments.

If the eradication effort is not performed and the pike escapes downstream, those that were responsible for delaying the eradication will be vilified, and justifiably so, by the majority of Californians.

Response
Comment noted.

COMMENTS FROM DR. EDWARD BRUNO

Lake Davis pike eradication is a no-brainer and opposition is based solely on emotion and pseudo-science, which, frankly, is worse than total ignorance. The possibility of introducing another efficient salmon predator into the Sacramento River system is to be avoided so long as the compromises are reasonable. The system is already seriously compromised by loss of spawning habitat due to dams, importation of water to the south, previous introduction of exotic predators such as striped bass, and entrainment of smolting salmon in agricultural pumps. The proposed treatment has essentially no downside except in the emotional/political arena.

Response
Comment noted.

COMMENTS FROM MR. LIONEL VALLEY

I am very concerned about the northern pike in Davis Lake and would like for them to be eradicated as soon as possible.

I support the California Department of Fish and Game (DFG) proposed action in their recently prepared Environmental Impact report to eradicate the pike. This is necessary for the long-term benefit of native California fish as well as to protect other important trout fisheries such as Lake Almanor, Butte Valley reservoir, and Frenchman Lake.

Please do everything possible to get this task done as effectively as possible without delay.

Response
Comment noted.

COMMENTS FROM MR. KURTIS CARMAN

I am very concerned about the northern pike in Davis Lake and would like for them to be eradicated as soon as possible. I support the California Department of Fish and Game (DFG) proposed action in their recently prepared Environmental Impact Report. to eradicate the pike. This is necessary for the long-term benefit of native California fish as well as to protect other important trout fisheries such as Lake Almanor, Butte Valley Reservoir, and Frenchman Lake.

Please do not delay this very important project.

Response
Comment noted.

COMMENTS FROM MR. JOHN LOGAN.

Mr. Woodward, I am very much in favor of getting rid of the pike in Lake Davis. I support the Ca. Department of Fish & Game in their proposed action. Let's get rid of these critters as soon as possible.

Response
Comment noted.