



California Sportfishing
Protection Alliance

"An Advocate for Fisheries, Habitat and Water Quality"

March 23, 2009

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1243 N St
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Joe McGahan
San Luis and Delta-Mendota Water
Authority
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Re: Joint Comments on the Proposed Grasslands Bypass Project Extension for 2010 through 2019, including the Proposed Agreement for Continued Use of the San Luis Drain between the U.S. Bureau of Reclamation and the San Luis Delta Mendota Water Authority, and the Draft Environmental Impact Statement/Report for the Proposed Grasslands Bypass Project Extension

Dear Ms. Tapia and Mr. McGahan;

Thank you for the opportunity for the California Water Impact Network (C-WIN) and the California Sportfishing Protection Alliance (CSPA) to submit joint comments on the Grasslands Bypass Project (GBP) and the documents identified above that support this proposal to extend use of a portion of the San Luis Drain for another 10 years to discharge salty and seleniferous agricultural drainage water into Mud Slough, a tributary of the San Joaquin River, and to delay implementation 1996 Basin Plan Amendment to implement the selenium TMDL (CVRWQCB, 1999 and 2000). In accordance with the 1996 Basin Plan Amendment, Waste Discharge Requirements for discharges from the GBP were issued.. The Basin Plan selenium objective for Mud Slough effective October 1, 2010 is 5 ppb on a 4 day average. Mud Slough discharges are currently a **daily** average of 54 ppb, over 10 times the upcoming 2010 basin plan objective.

Continued use of the San Luis Drain for the GBP is the subject of the Use Agreement noted above, and whose parties are the U.S. Bureau of Reclamation (Bureau) and the San Luis Delta Mendota Water Authority (Authority). The proposed delayed implementation of the selenium objective for Mud Slough for this project will require amendment of the Water Quality Control Plan for the Central Valley Region (Basin Plan), which needs approval from both the Central Valley Regional Water Quality Control Board (CVRWQCB) and the State Water Resources Control Board (SWRCB).

The Authority seeks 10 additional years so that Authority member agencies in the Grasslands Drainage Area (GDA), including the Grassland Area Farmers (GAF) can develop technology and obtain funding (neither of which they currently have) to comply with the Regional Board's water quality regulations, which as noted above become much more stringent on October 1, 2010. The Authority hopes that a fully functional

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reverse osmosis treatment facility for concentrated drainage after multiple reuse on salt-tolerant crops within the San Joaquin River Water Quality Improvement Project (SJRIP) reuse area will be completed by the last two years of the extension period (2018 and 2019) so that drainage from the GDA will be treated fully and comply with the regulations for selenium and salts by that time.

Before summarizing our comments on the GBP Extension, the Use Agreement, and the Draft Environmental Impact Statement and Report (DEIS/R), we wish to express our sincere appreciation to representatives of the Grasslands Bypass Project for hosting a tour for Tom Stokely and Tim Stroshane (both representing C-WIN), Bill Jennings, Chairman of CSPA, as well as others from the concerned environmental community. We came away from the visit and tour with a deeper appreciation of what the Grassland Area Farmers and their water districts attempt to achieve with the Grasslands Bypass Project. We especially appreciate the hospitality, mutual respect, and collegiality shown our representatives by:

- Dennis Falaschi, General Manager of Panoche Water and Drainage District, Pacheco Water District, Mercy Springs Drainage District, and Charleston Water District, from Firebaugh;
- Joe McGahan, Panoche Water District's drainage coordinator, and president of Summers Engineering, Inc. in Hanford;
- Jeff Bryant, General Manager of the Firebaugh Canal Water District, a portion of whose District is within the GDA; and
- David Cory, attorney and farmer, whose lands are within the Camp 13 area of the Central California Irrigation District, and whose lands are within the GDA.

Other staff of the Panoche Water District were enlisted for the tour as well, and we recognize their contributions to our education and comfort while we visited.

In summary, we find the premise of the Grasslands Bypass Project Extension as contrary to established water quality and constitutional law in California. Because of this, we find that the DEIS/R is currently inadequate as a full disclosure of environmental impacts and reasonable alternatives for the benefit of public decision makers and the public because it fails to address the urgent water quality and reasonable water use and diversion issues that are matters of statewide interest and concern.

The proposed project is therefore inadequately specified because it does not address these larger concerns and therefore the environmental impacts and mitigations disclosed in the DEIS/R are necessarily of insufficient scope to provide adequate disclosure required under both NEPA and CEQA. We believe the DEIS/R should be revised along the lines we detail in our comments, and those of others incorporated by reference, and then recirculated for further review. Our main reasons for that recommendation are summarized below and elaborated in the attached specific comments:

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Project-specific Issues

- None of the alternatives (including No Action) considers permanent land retirement and a reduction in water supply to the GDA and larger San Luis Unit of the CVP as a method of reducing the production of selenium contaminated drainage water. Without consideration of such alternatives, the State Water Resources Control Board would lack sufficient information from this document which it would need to perform its duty to balance priority water rights, the Public Trust Doctrine. The SWRCB will also need to consider whether the uses involved in the GBP Extension would be wasteful and unreasonable method of diversion and use of water and broader economic considerations for use of this CEQA document in its deliberations over the Basin Plan Amendment to continue violation of the selenium and salt TMDL and Basin Plan water quality objectives and standards in Mud Slough and the San Joaquin River.
- The project area is improperly limited to the immediate area within and adjacent to the Grasslands area. The impacts of both water deliveries and toxic agricultural drainage discharges affects a much larger area as called for in comments by Felix Smith of March 16, 2009, which we hereby attach and incorporate by reference.
- The selenium load limits in the proposed Use Agreement for wet and above normal years fail to show continuous improvement in the first five years of the proposed extension and therefore conflict with the project purpose and need for continuous improvement of water quality in the San Joaquin River.
- The Proposed Use Agreement should not provide incentive credits for meeting an unrealistically generous selenium discharge program which does not provide continuous improvement of water quality during wet and above normal water years. We find this feature of the Use Agreement reminiscent of the “retention” bonuses paid to AIG executives after receiving federal bailout funding stemming from their self-safe financial mismanagement of AIG’s affairs.

DEIS/R-specific Issues

- The Sediment Management Plan to initially dispose of approximately 75,000 cubic yards of highly contaminated sediment deposited in the San Luis Drain in upslope areas is grossly inadequate to protect public health, water quality, fish and wildlife. The report by Zawislanski et al (2002) stated that “Comparisons with guidelines for maximum recommended daily selenium intake indicate that cantaloupe and wheat should not be grown in soils amended with very high selenium sediment, in the 50- to 100-mg/kg range.”
- There is little or no detail or review of the treatment plant or salt disposal system, the costs, or the environmental impacts such as brine/salt disposal. C-WIN and CSPA would support, at most, a two-year extension of the GBP, pending promising results for technical, economic and ecological feasibility of the treatment plant.
- No contingency plan exists for the GBP in the event that treatment does not work (it hasn’t worked yet). State and regional regulators will be asked to approve—and the public to accept—a vague plan waiving water quality requirements for

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ten years while the GAF and the GBP member agencies attempt to turn a sow's ear into a silk purse without proven technology or identifiable funding.

- The economic analysis does not consider water, crop and CVP Project Use power subsidies, offsite impacts and the overall costs to society of irrigating these drainage-problem lands with water from the Delta and Northern California. The San Luis Drainage Feature Re-evaluation (SLDFRE) Feasibility Report (USBR 2008) found the In Valley-Water Needs- Land Retirement Alternative (most similar to the proposed action) to have a negative cost/benefit ratio given the other repayment obligations of the San Luis Unit Contractors. This economic analysis falls far short of that prior analysis.
- The Proposed Action does not include connecting Delta-Mendota Canal (DMC) subsurface drains and six shallow groundwater pumps that discharge significant loads of selenium and mercury into the DMC. According to the San Joaquin Basin Mercury Study funded by CalFed (Stephenson et. al., 2005), Mud Slough contributes about 50 percent of the methylated mercury at Vernalis, but only provides 10 percent of the total flow volumes at that point during the September-March period.
- The project should conclusively connect into the proposed project/reuse area the 1,100 "other" acres and any other unregulated discharge areas which currently discharge into wetland supply channels, especially if the GBP is extended.
- The Proposed Action and its Use Agreement refuse to take responsibility for contaminated runoff from high rainfall events which cause periodic spikes in selenium to receiving waters. Instead, these pulse events are exempted from "drainage incentive fees" charged to the drainers in the Use Agreement in the event of selenium or salt load exceedances.
- There is no evaluation of impacts to fish, wildlife, air quality, etc. from use of contaminated subsurface drainage for road dust abatement. Cumulative impacts of selenium in particular are improperly limited to the Grasslands Drainage Area, not the larger CVP/Bay-Delta system which is the source of water for the GDA, and in which the GDA is a part and whose irrigation drainage pollutes disproportionately to its hydrologic contributions to the system. Even local cumulative impacts to the San Joaquin River Restoration Program and Chinook salmon are inadequately evaluated.
- There is a great deal of deferred mitigation in this document, including, but not limited to the lack of Biological Opinions, specifics on the treatment facility, and the Sediment Management Plan.

Claims by the lead agency (the Authority) for the efficacy of the GBP are not adequately substantiated. This undermines the thoroughness and reasonableness of the DEIS/R's alternatives analysis. We do not find conclusive evidence to show that the GBP is the primary reason for decreased discharges of salt, selenium and other contaminants from the Project Area. We do understand that the Grasslands Farmers have made great and sincere efforts toward water conservation and reduction of drainage. On tour of the GDA on March 11th, our representatives witnessed numerous orchards irrigated with drip equipment indicating strong efforts to use irrigation water efficiently in the GDA. However, these lands cannot be irrigated without creation of salty, seleniferous

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drainage and their efforts have admittedly resulted in storage and concentration of salts, selenium, and other contaminants in shallow groundwater.

It appears that the recent water quality improvements are a collective result of retirement of Broadview, Mercy Springs, Widren, and Centinella, and the redirected water allocations from those lands resulting in land fallowing, combined with efforts of the Grasslands farmers to concentrate salt, selenium and other contaminants in shallow groundwater through reuse and blending of water. For instance, the 2004 EA/FONSI on the Broadview contract "assignment" to Pajaro Valley Water Management District et al cites a load reduction of 17,000 tons of salt, 1,500 pounds of selenium, and 52,000 pounds of boron to the San Joaquin River each year (Reclamation 2004) from the cessation of irrigation with surface water.

We also incorporate our July 23, 2008, letter to Senator Feinstein regarding the Grasslands Bypass Project (attached).

C-WIN and CSPA look forward to receiving a copy of your responses to our comments. If you have any questions regarding these comments, please contact C-WIN Water Policy Coordinator Tom Stokely at (530) 926-9727 or Senior Associate Tim Stroshane at (510) 524-6313, or Bill Jennings of CSPA at (209) 464-5067.

Sincerely,



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Attachments:

1. C-WIN/CSPA Site Specific Comments on Grasslands Bypass Project 10 Year Extension DEIS/R
2. C-WIN/CSPA Letter to Dianne Feinstein of July 23, 2008
3. Felix Smith's comment letter of March 16, 2009

cc: Charles Hoppin, Chairman SWRCB
Karl Longley, Chairman CVRWQCB

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Rod McGinnis, NMFS

Ren Lohofener, USFWS

Don Koch, Department of Fish and Game

Lester Snow, Department of Water Resources

Interested parties

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ATTACHMENT 1

C-WIN/CSPA SPECIFIC COMMENTS ON GRASSLANDS BYPASS PROJECT 10 YEAR EXTENSION DRAFT EIS/EIR

C-WIN and CSPA find the premise of the Grasslands Bypass Project Extension (GBP) as contrary to established water quality and constitutional law in California. For this reason, we find that the DEIS/R is currently inadequate as a full disclosure of environmental impacts and reasonable alternatives for the benefit of public decision makers and the public because it fails to address the urgent water quality and reasonable water use and diversion issues that are matters of statewide interest and concern. In CEQA and NEPA terms, then, the proposed project is therefore inadequately specified because it does not address these larger concerns and therefore the environmental impacts and mitigations disclosed in the DEIS/R are necessarily of insufficient scope to provide adequate disclosure to decision makers and the public required under both NEPA and CEQA. We believe the DEIS/R should be revised along the lines we detail in our comments, and those of others incorporated by reference, and then recirculated for further review.

ALTERNATIVES ARE INADEQUATE—LAND RETIREMENT NOT CONSIDERED

CEQA and NEPA require lead agencies to analyze a reasonable range of alternatives. None of the alternatives considered includes any form of permanent land retirement or reduction in delivery of surface water to drainage-producing lands. However, the U.S. Geological Survey (USGS), in Open File Report No. 2008-1210 states that “*Land retirement is a key strategy to reduce drainage because it can effectively reduce drainage to zero if all drainage-impaired lands are retired.*”

Furthermore, USGS states in the same report that for the San Luis Drainage Feature Re-Evaluation EIS/Record of Decision treatment proposal (slightly different, but similar to the GBP process) that “*The treatment sequence of reuse, reverse osmosis, selenium bio-treatment, and enhanced solar evaporation is unprecedented and untested at the scale needed to meet plan requirements.*”

While the Proposed Project purports to utilize existing land retirement procedures in the “Westside Regional Drainage Plan” (2003), the land retirement policies included therein are only voluntary. Project proponents ignore the single most important factor in continuously improving water quality in the San Joaquin River and Mud Slough- land retirement.

Ignoring land retirement as an alternative is NOT within the authority of the State Water Resources Control Board (SWRCB) as it considers this project as part of the larger water quality and water supply issues in the Bay-Delta and San Joaquin River. Permanent land retirement must be addressed, either through the environmental review process now, or when it gets before the SWRCB. We contend that this CEQA document will be inadequate for the SWRCB to consider a full range of alternatives to meet the Selenium, Boron and Salt Total Maximum Daily Load’s (TMDL’s) for the San

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Joaquin River, meet the Public Trust Doctrine and consider Wasteful and Unreasonable Methods of Diversion and Use for the reasons discussed below.

Additionally, the No Action Alternative assumes improperly that unregulated discharges would occur. It would be just as reasonable, if not more so, to presume that there would instead be reduced or zero selenium and salt discharges under the No Action Alternative should the SWRCB rescind the **junior** water rights associated with irrigation of most drainage-problem lands as unreasonable methods of diversion and use of water, including those of the GDA, so as to implement and achieve effective water quality objectives for Mud Slough and the San Joaquin River.

PUBLIC TRUST -The SWRCB (as the responsible agency for the State of California in this case, has an affirmative duty to protect trust resources. See *Illinois Central Railroad v. Illinois*, 146 U.S. 387; and *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419 (The state may not abdicate its supervisory role any more than the state may abdicate its police power); see also Stevens, *The Public Trust: A Sovereign's Ancient Prerogative Becomes the People's Environmental Right*, 14 U.C. Davis Law Review 195, 223.

Over the years and continuing to the present time, the SWRCB's permitting process and Reclamation's methods of diversion caused there to be insufficient instream flow and Delta outflow to support the environmental needs of the estuary which has caused injury to the Central Valley and Bay-Delta ecosystems and to members of the public, including C-WIN and CSPA.

Since 2000, Bay/Delta exports have been substantially increased to meet water demands for San Luis Unit, Delta Mendota Canal, and San Joaquin Exchange contractors within the Grasslands Drainage Area (GDA). As a result of increased exports, both the pelagic salmon fisheries there have abruptly and dramatically declined. With increases in export pumping since 2000, the mid-water trawls that monitor species population data indicate a sharp drop in population totals for salmon, Delta smelt, split tail, striped bass, long-fin smelt and the food web that supports them.

Present ecological conditions in the Bay/Delta have contributed to the ongoing closure of the commercial and sport-fishing fishing salmon seasons off the California Coast, as well as much of the Oregon Coast resulting also in complete loss of recreational fishing opportunities for anglers in 2008 and very likely for 2009.

The present condition of the fisheries and the Bay/Delta estuary mandates SWRCB enforcement of its selenium Total Maximum Daily Load (TMDL) and Basin Plan water quality objectives for salt and selenium. Specifically, C-WIN and CSPA contend that the SWRCB's lack of enforcement of the conditions of the CVP water rights permits of the Bureau of Reclamation violates the Public Trust and injures many interested parties statewide.

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VIOLATION OF ARTICLE 10, SECTION 2 OF THE CALIFORNIA CONSTITUTION, UNREASONABLE METHOD OF DIVERSION- Article X, Section 2 of the California Constitution states that “*the right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water.*” Water levels in some Delta channels are drawn by operation of the CVP project pumps to unacceptably low levels harming fish and riparian agricultural diverters in the process.

The CVP/SWP Method of Diversion from the Bay/Delta at the export pumps to provide water to the larger western San Joaquin Valley, including the Grasslands Drainage Area (GDA), is unreasonable, as export pumping has overwhelmingly contributed to the pelagic fish and organism declines, and the listing of several species as endangered—all in the service of delivering irrigation water south of the Delta, including but not limited to the GDA.

Over the years and continuing to the present time, the SWRCB’s permitting process and the Bureau of Reclamation’s methods of diversion in the service of junior water rights and junior water service contracts caused there to be insufficient instream flow and Delta outflow to support the environmental needs of the estuary which has caused injury to the ecosystem and to members of the public, including C-WIN and CSPA.

Reclamation and its water contractors have used this unreasonable method of diversion of water from their facilities in the Bay/Delta in violation of Article 10, Section 2 of the California Constitution by continuing to increase volumes of water drawn from the Bay/Delta ecosystem, and limiting and ignoring research and information that indicated this method of diversion causes collapse in the pelagic fisheries and aquatic ecological structure in the Bay/Delta and harm to the listed salmonids and other fish and wildlife. Water diverted from the Bay-Delta is delivered to western San Joaquin Valley water contractors, including the GDA, for irrigation of these crop lands affected by selenium and salt contamination. The Grasslands Bypass Project DEIS/R has not identified and evaluated impacts on salmon, steelhead and other fish which migrate and live in the Delta and San Joaquin River. Beckon et al (2008) identified that selenium in concentrations found in the San Joaquin River downstream of Mud Slough can be deleterious to salmon.

VIOLATION OF ARTICLE 10, SECTION 2 OF THE CALIFORNIA CONSTITUTION: UNREASONABLE USE- Article X, Section 2 of the California Constitution states that, due to the conditions prevailing in the State “*the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.*” Further, Article X, Section 2 specifically states that “*the right to water or to the use or flow of water in or from any natural stream or water course in this*

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State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water.”

We do not believe that the purpose of the GBP Extension adequately surmounts the constitutional prohibition on waste and unreasonable use of water. The Bureau of Reclamation has delivered Delta water to unsuitable soils in the western San Joaquin Valley since 1951 via the Delta-Mendota Canal, and since 1967 through the federal portion of the State Aqueduct. The GDA consists of three of the four CVP San Luis Division contractors (Panoche, Pacheco, and San Luis water districts), as well as lands within the boundaries of water districts among the San Joaquin Exchange Contractors (Central California Irrigation District and Firebaugh Canal Water District) and the Delta-Mendota Canals Unit of the CVP (Widren, Broadview, Mercy Springs). All imported surface water delivered to the larger Grasslands area comes from the Delta. (Westlands Water District, the remaining San Luis Unit contractor, is not a participant in the Grasslands Bypass Project, but is located immediately south and upslope of the GDA.)

High levels of selenium in western San Joaquin Valley biota were first documented in the mid-1980s, when species, including small mammals, fish, and birds living in habitats around evaporation ponds and canals on the west side of the San Joaquin Valley began exhibiting deformities associated with selenium poisoning.

Tests conducted in the area by the Central Valley Regional Water Quality Control Board and the United States Geological Survey discovered toxic amounts of salts, selenium, mercury, lead, nickel, molybdenum, and boron, coming from Bureau water applied to contractors' lands on the western part of the San Joaquin Valley.

As a result, the Kesterson Reservoir, which impounded drainage water and served irrigators in the west side of the San Joaquin Valley (Kesterson National Wildlife Refuge is within the Grasslands Project Area) was ordered closed by the SWRCB in 1985.

In its decision to close Kesterson Reservoir (Order 85-01), the SWRCB declared the contaminated drainage water a “public nuisance.” Despite this acknowledgement, the SWRCB has taken no action to halt the irrigation of these high selenium lands for over 23 years and the San Luis Drain now discharges into Mud Slough instead of Kesterson Reservoir.

We note that the Central Valley Regional Water Quality Control Board (CVRWQCB) is proposing to eliminate selenium as a pollutant impairing Salt Slough and the San Joaquin River (Merced River to Tuolumne River, Tuolumne River to Stanislaus River, Stanislaus River to Delta) in the current update to the Clean Water Act 303(d) list of impaired waterways. Selenium is a bioaccumulative toxin. The Fact Sheets in Appendix F of the staff report identifying the rationale for delisting these waterways appear to be limited to selenium concentration in the water column. However, the staff

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report ignores the bioaccumulative nature of selenium in fish tissue and the fact that lethality to salmonids has been found to occur at concentrations below the 5 µg/L Basin Plan numerical limit. While the percentage of water column samples exceeding the present Basin Plan limit may not be large, selenium concentrations in Salt Slough, Mud Slough, and the San Joaquin River clearly exceed levels identified as harmful to salmonids and thus represents an illegal “take” of a listed species requiring consultation pursuant to federal and state endangered species acts. We reference a presentation given by Dr. William Beckon of the U.S. Fish and Wildlife Service at the CalFed Science Conference on 24 October 2008 that demonstrates that the 5-µg/L standard does not protect of fish, including listed salmonids.

No disposal site, method, or funding has been established for the millions of tons of salts, selenium, mercury, lead, nickel, molybdenum, and boron coming from Bureau of Reclamation water delivered under water contracts serving irrigators in the western part of the San Joaquin Valley. Due to lack of proper disposal, these toxins continue to seep into groundwater and flow into sloughs, streams, and creeks leading to the San Joaquin River (including Mud Slough in the case of the Grasslands Bypass Project) and ultimately to the Bay/Delta estuary and Suisun Marsh for over twenty-three years.

These contaminated agricultural drainage flows from lands within the GDA enter the San Joaquin River where they are transported to the South Delta, and San Francisco Bay, violating water quality standards in Mud Slough, the San Joaquin River and the South Delta waterways, as described in C-WIN and CSPA’s letter to Senator Dianne Feinstein in 2008 (attached, and incorporated by reference). Much of the marginal irrigated upslope lands on the west side yield high levels of selenium and other trace elements and/or heavy metals.

Continued irrigation of poor quality upslope lands insures continuing contamination and eventual destruction of downslope lands through bare soil evaporation that were once very high quality farmlands (i.e. the area around Mendota and along both sides of the San Joaquin River flood plain).

Since at least 1967, the Bureau of Reclamation has caused and continuously enabled an unreasonable use of water in violation of Article X, Section 2 of the California Constitution by delivering Bay/Delta water to drainage impaired lands on the west side of the San Joaquin Valley including the Grasslands Drainage Area (GDA). The Bureau ignores research and information indicating this application of water contributes to collapse in Bay-Delta pelagic fisheries and ecosystems and harm to listed salmonids.

Over the years and continuing to the present day, the SWRCB consistently fails to enforce the provisions of Article 10, Section 2 of the California Constitution against the Bureau of Reclamation for its unreasonable delivery of irrigation water to drainage impaired land (including lands within the Grasslands Area) on the west side of the San Joaquin Valley, and also ignores research and information indicating this application of water contributes to collapse of Bay-Delta pelagic fisheries and ecosystems in the Bay/Delta and harm to listed salmonids. Allowed to continue any further, these irrigation and regulatory practices place listed salmonid species at imminent risk of extinction.

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PROJECT AREA INADEQUATE

We incorporate by reference the March 16, 2009, comments by Felix Smith on this project. In general, the project area is much too narrow and does not adequately reflect the impacts that use of water from the Trinity River, Sacramento River, American River and the Delta has on those areas of origin for water used to irrigate lands of the Grasslands area, nor does it contain an analysis of impacts to downstream areas such as the Bay-Delta from the bioaccumulation of selenium and other contaminants on biota of those areas.

The project area should be expanded to include evaluation of the impacts to the sources of water for the project such as the Trinity, Sacramento and American rivers and the Delta, as well as the downstream areas such as the San Joaquin River and the Bay-Delta where selenium continues to bioaccumulate. For instance, how does the Bureau of Reclamation's diversion of water from the Trinity River to the project area affect the Tribal Trust assets (salmon and steelhead) of the Hoopa Valley and Yurok tribes? Only then can this project be fully and accurately evaluated by the Bureau of Reclamation under its federal responsibilities and the SWRCB in the context of the Public Trust and Article 10, Section 2 of the California Constitution regarding wasteful and unreasonable methods of diversion and use of water.

USE AGREEMENT—PURPOSE

We reiterate here that the purposes of the GBP as specified in the Use Agreement fail to include purposes that would address the GBP squarely to the matters of statewide and public interest we described above. The Use Agreement's purposes are narrowly defined and circumscribed, but that does not excuse either the Bureau or the GAF drainers from situating the Use Agreement in the larger regulatory context, since neither of the parties are exempt from state water rights and water quality law.

We would also point out, even within the narrow framework of the Use Agreement's purposes, that the "critical purpose" identified on Section VII. F., page 22, should be added to Section II.A. of the Use Agreement, to read "A critical purpose of this Agreement is the removal of drainage water from the channels utilized to provide water to wetland habitat in the Grassland Water District and state and federal wildlife refuges." This perhaps states more concretely what Section II.A.1 is trying to describe.

USE AGREEMENT—SELENIUM GOALS

One of the project objectives calls for "...*continuous improvement in water quality in the San Joaquin River.*" However, examination of the allowable selenium loads for above normal and wet years shows in Appendix C of the proposed Use Agreement (UA) absolutely no improvement in water quality for the first five years of the proposed 10 year extension in wet and above normal water years. Given that there are times when monthly selenium loads from the Grasslands Drainage Area (GDA) are below allowable

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limits already, allowing higher discharges with no improvement in wet and above normal years for the first five years is inconsistent with the project objectives. Clearly, lower selenium load limits can often be met and should be included in the proposed Use Agreement for wet and above normal years.

The Use Agreement should be amended to show continuous improvement in water quality for wet and above normal water years. This would necessitate revisions to the DEIS/R to reflect changes to project impacts. Once revised, the DEIS/R should be recirculated to the public.

USE AGREEMENT—INCENTIVE CREDITS

The Proposed Use Agreement (UA) contains incentive credits for achieving monthly and annual load values for selenium and salts below UA load limits because monthly and annual load values are not always achieved (less selenium discharges). Unfortunately, the UA's load limits will still allow exceedances of the Basin Plan water quality objective of 5 ppm selenium in Mud Slough beginning October 1, 2010. However, there should be less selenium going into Mud Slough in the first place because new discharge limits would otherwise go into effect in the absence of the proposed project on October 1, 2010. It is therefore disingenuous to create artificially high load limits (see above), and then give incentive credits for going below those artificially high load limits. It's basically an incentive to pollute more, not less. It is certainly a disincentive for continuous improvement in San Joaquin River water quality, contrary to the project purpose. This is reminiscent of the AIG bonuses given to executives after the federal government bailed out the company with billions of dollars.

This proposed change in the Use Agreement would actually reduce water quality in the San Joaquin River, rather than continuously improve it, especially given that load limits have more than been met in recent years.

The Use Agreement should be amended to delete incentive credits.

USE AGREEMENT—DRAINAGE INCENTIVE FEE (DIF) ACCOUNTING

The UA empowers the Authority not only to establish a drainage incentive fee account (arranged for by the Grasslands drainage agencies) but sets up an unclear line of authority for spending Drainage Incentive (DIF) funds. On one hand, the UA specifies that only the Drainage Oversight Committee (OC) can decide on what drainage improvement or restoration projects may be funded with DIF funds. However, the OC has no fiscal responsibility for controlling disbursement of DIF funds which are deposited to an account at the Authority's fiscal office. Other federal and state agencies require far more stringent accounting practices to assure arm's length treatment of funds, especially where substantial sums are likely to be involved. We recommend that DIF funds be deposited to an independent and reputable escrow company in the area instead of with accounting divisions of either the Authority or the Bureau. This is

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standard practice for many such transactions involving large sums of money, ensuring the funds will be available when and where they would be needed.

USE AGREEMENT—UNFORSEEABLE AND UNCONTROLLABLE EVENTS

C-WIN and CSPA object to the rainfall-induced exemption from the waiver of the Drainage Incentive Fee. Rainfall-induced exceedances of selenium standards are considered totally unforeseeable and uncontrollable for purposes of the UA. Such events are more commonly known to hydrologists, engineers, and the public as intense storms that sometimes cause floods. Inclusion of this “unforeseeable and uncontrollable” (UU) fiction or device simply establishes a loophole that limits financial risk to the Grasslands drainers (from having to pay full drainage incentive fees) due to events that exceed the capacity of the GBP to handle storm events, more specifically used as a license to pollute when the system cannot process flows above 150 cfs to the San Luis Drain. The UU provision removes any incentive for the GBP capacity to be increased by the GAF, and to fund other means of addressing the 150 cfs limitation on flows to and within the San Luis Drain reach covered by the UA. This UU device defies common sense applied by most local governments to protect their populations from flood damage. It ignores research that shows clearly that storm events can cause pulses of high selenium and salt loads to be deposited throughout the hydrologic and hydraulic system of the GBP, Mud Slough, and the San Joaquin River.

Logically, to eliminate the UU device from the UA, capacity of the GBP would have to be expanded to handle major flood events so as to prevent pulses of high selenium and salt loads from entering the river and wetland systems, or add further to concentrations in SLD sedimentation. But this would have to assume that treatment and disposal of selenium and salt products are solved and the treatment plant is sized sufficiently to accommodate flows from upslope lands that help to generate the large pulse flows that make up the “UU” events, or that the San Luis Drain’s sediments were adequately disposed of in order to increase SLD flows from the GBP to exceed 150 cfs to accommodate storm flows. That said, neither C-WIN nor CSPA believe the capacity of the GBP can be greatly expanded since we see the technology as infeasible, funding continuing to be unavailable, disposal options for selenium and salt as unspecified for the project, and the project’s proposed extension to 2019 as contrary to law, as discussed above.

USE AGREEMENT—UPSLOPE DRAINERS

Upslope drainers are poorly specified or not identified at all in the Use Agreement, and essentially exempted from selenium management responsibilities in the UA. Why are they not included as parties to the UA? The Use Agreement’s Appendix A, which provides legal descriptions of the lands covered by the UA, should also provide a map showing included as well as excluded lands, but which still contribute UU drainage to the GDA.

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Upslope landowners whose runoff contributes to the problem should participate in the GBP financially and otherwise. Using contaminated water for dust abatement should be discontinued, especially if the UU exemption continues, as it may run off during storm events and the selenium it contains be improperly exempted from load requirements.

DEIS/DEIR-FOCUSED COMMENTS

PURPOSE AND NEED FOR THE PROJECT

As we have indicated in our previous comments about the project and the UA, C-WIN and CSPA believe the project, as presently framed, is contrary to law. Its purpose and need are too narrowly construed relative to vital water quality and constitutional matters of statewide interest as they stem from drainage issues in the GDA and beyond.

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A NEPA/CEQA document is required to be understandable by and judged as providing full disclosure to decision makers and the public. However, the comparison of alternatives in the summary document was not useful in assessing the relative performance of alternatives analyzed in the DEIS/R. Moreover, the range of alternatives is poorly handled, as described above in our critique of the GBP DEIS/R such that significant impacts and therefore appropriate mitigation measures identified are less than adequate.

SEDIMENT MANAGEMENT PLAN (SMP)

The DEIS/R provides a Sediment Management Plan as Appendix B. There is a significant lack of clarity in the document regarding the disposal of contaminated sediments in the San Luis Drain. The sediments are primarily a problem of flow restriction during storm events when higher volumes of contaminated water are moving through to Mud Slough and the San Joaquin River.

The SMP proposes initially to remove and dispose of 75,000 cubic yards (yards) of sediment from the San Luis Drain in unspecified upslope areas during an unspecified period of time. As noted in the impact analysis, the GBP accelerates contaminated sediment deposition in the San Luis Drain. It took 22 years to accumulate 62,000 yards without the GBP, while 162,000 yards have accumulated in approximately 11 years during the GBP. This is in itself a significant impact of continuing the proposed project, but the SMP contends removal of the 75,000 cubic yards adequate to mitigate this significant impact fully.

According to the SMP “*while none of the sediments samples have exceeded the human health criteria or hazardous waste criterion, approximately 72 percent have exceeded the ecological criteria.*” This is evidence of a significant and adverse effect that is unmitigated because of the vagueness of the SMP.

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According to Zawislanski et al (2002), there are risks to placing contaminated sediment on farm lands and canal embankments, with crucial implications for wherever emplaced sediments could be mobilized or their contaminants leached out by normal irrigation or percolation processes due to weathering. In both cases, contamination of surface and/or groundwater could occur and additional contaminated drainage water will be created. The growing of crops is problematic, especially for wheat and cantaloupes, and the ecological risk criteria may need to be lower than cited in the SMP.

The SMP does not consider an alternative disposal, such as landfill in a facility such as at the hazardous waste disposal site at Kettleman City, nor does the SMP identify specific prospective land disposal sites. It does not estimate the selenium loading risk to wildlife or water quality. It instead only offers monitoring measures to determine if there is a problem and putting off all future remediation actions to the discretion of the Central Valley Regional Water Quality Control Board.

The SMP does not contain an estimate of the total volume of selenium or other constituents to estimate the total loading to the region from ongoing disposal of the sediment. The SMP does not discuss specific disposal site locations, deed restrictions, future landowner notifications or other aspects of a program to dispose of a material such as selenium that poses significant risks for an extended period of time.

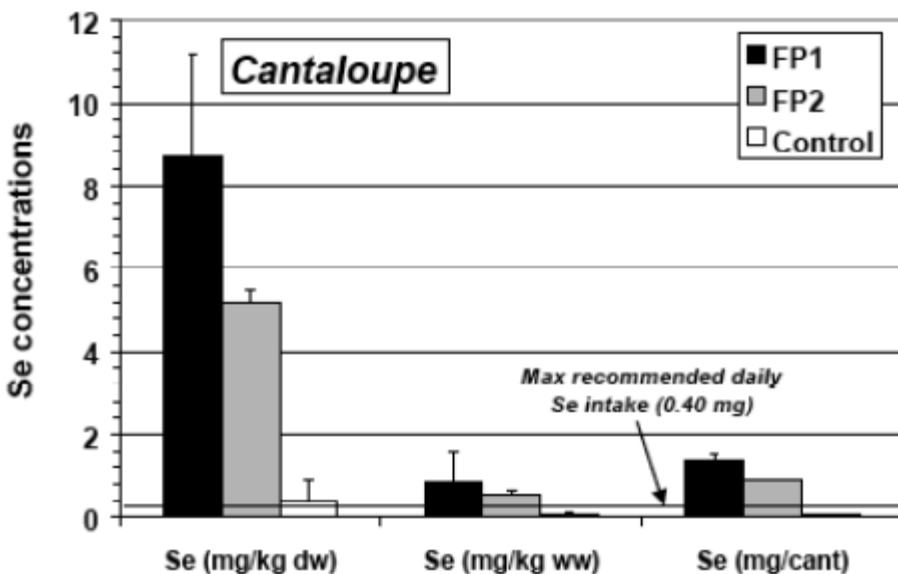
Given that this material is a byproduct of continued use of the San Luis Drain, there should be additional monitoring of the contamination of sediments up front and identification of specific disposal sites for varying levels of contamination. The 2-meter depth to groundwater appears inadequate to us, given that the goal is to reduce groundwater contamination and fish and wildlife exposure to selenium.

This is then deferred mitigation for this project. While presented as mitigation, this facet of the GBP masks the fact that it redirects impacts from GBP's deliberate concentration of selenium and salts to other sites that would have to bear the impacts of having selenium and salts leach into drain water or percolate into groundwater and eventually to wetlands channels and the San Joaquin River—essentially recycling a pollution problem elsewhere that originates in the Grasslands Drainage (GDA). Without full disclosure and meaningful mitigation protections, GDA drainers and the U.S. Bureau of Reclamation could be held liable if in the future environmental health and epidemiological issues arise that could be attributed to emplacement of contaminated sediments originally removed from the San Luis Drain, dating from the period in which either the 2000-2010 or the proposed 2010-2019 UA's were in effect.

There should be additional analysis and revision of the Sediment Management Plan (Appendix B) for disposal of San Luis Drain sediments in order to protect fish, wildlife, and public health from selenium contamination/poisoning. The current plan is deferred mitigation under CEQA and does not adequately address specifics of the dredging and disposal program such as specific locations, and additional remediation actions.

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Below is a chart from the Zawislanski report on melons grown in dredged soils as an example of how inadequate disposal and tracking of this contaminated sediment could create a public health problem.



From: Figure 44, Zawislanski et al 2002

TREATMENT PLANT

Project proponents ask for “time to acquire funds and develop feasible drainwater treatment technology to meet revised Basin Plan objectives (amendment underway) and WDRs by December 31, 2019.”

As noted above, neither funding nor feasible technology exist to treat the selenium and salt concentrated drainage water resulting from irrigation of the reuse area’s halophytic crops with drainage water. New selenium water quality requirements enforceable by state water regulators take effect October 1, 2010, that will force significant reductions in drainage discharges by GDA irrigators in the absence of GBP extension and the proposed Basin Plan Amendment for Mud Slough. Yet the public is being asked to allow continued discharge of highly contaminated materials into Mud Slough and the San Joaquin River for an additional 10 years, with no measurable improvement in water quality for the first five years during wet and above normal years (with possibly decreased water quality), as discussed above.

The DEIS/R states that additional NEPA and CEQA review would be required to implement the ultimate treatment facility, yet the pilot facility is only going in this year. And that pilot facility is not included in the scope of analysis in this DEIS/R. The document states “If Phase III is not fully implemented because treatment is not feasible, then the reuse area would operate as long as possible and more drainage would be recirculated on-farm with resulting impacts on production.” C-WIN and CSPA contend that this is not a good enough justification for 10 years more of selenium and salt discharges.

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In 2008, the US Geological Survey (USGS) studied a similar technology for San Luis drainage issues (USGS 2008) regarding the San Luis Drainage Feature Re-evaluation (SLDFRE). The USGS reviewers wrote that “*The treatment sequence of reuse, reverse osmosis, selenium bio-treatment, and enhanced solar evaporation is unprecedented and untested at the scale needed to meet plan requirements.*” Technological limitations, scarce funding, and energy requirements may prove the project is permanently infeasible.

No information is provided on the facility’s ultimate location within or outside the GDA. No information is provided on disposition of brine and salts that would be produced by the facility. No information is provided on the \$1,500 af cost of treatment—does this include brine/salt disposal and through what methods?

USGS (2008) notes that under Reclamation’s SLDFRE “Groundwater Quality Alternative”, an alternative similar to the GBP that only retires 100,000 acres within the larger San Luis Unit over 50 years, a 20 million ton pile of contaminated salt 50 feet high would accumulate on 311 acres (treating drainage from an area larger than the Grasslands Area). We recommend that some of that information in the SLDFRE EIS should be used in this document to provide some disclosure of impacts from the treatment facility.

Given huge financial and technical uncertainties regarding treatment options for the GDA, C-WIN and CSPA recommend that at most a two-year extension of the GBP by the CVRWQCB and the SWRCB be granted while results of the pilot project and funding search can be determined.

We also recommend that the CVRWQCB and the SWRCB should support an approach based on the Precautionary Principle in order to protect water quality, the Public Trust Doctrine, the California Constitution, and public health protection. To reiterate, these are matters going beyond simply enabling agriculture to continue in this location; they are matters of statewide and public importance involving the public’s waters, the Bay-Delta, and the deteriorating status of California’s anadromous fisheries too. A far greater scope for balancing the project’s merits is needed, greater than what the DEIS/R now provides.

ECONOMICS

We believe that the Economics section of the DEIS/R fails to reveal a full accounting of the net economic costs and benefits of the proposed action alternative. Because the DEIS/R’s alternatives analysis is also poorly specified (as discussed above), the economic analysis does not adequately capture the relative economic performance of realistic, representative, and reasonable alternatives that ought to have been analyzed. We urge the Bureau and the Authority to reconceive the alternatives along the lines we suggest above, and then revise the economic analysis as part of revising the DEIS/R and recirculating it to the public.

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The San Luis Drainage Feasibility Re-Evaluation (SLDFRE) Economic Analysis Benefit Cost Summary (Table N-10, Reclamation 2007) reveals a net economic loss of \$780,150,000 in 2050 dollars over the 50 year life of the project (negative \$15,603,000/year) for the “Groundwater Quality Alternative.” That alternative most closely resembles the Preferred Alternative for the GBP and contains minimal land retirement of 100,000 acres, including Broadview Water District which is within the Grasslands Project Area and has already been retired.

Conversely, the same table N-10 identifies that the “In Valley Drainage Impaired Land Retirement alternative, which retires 300,000 acres, has a positive net economic benefit of \$182,150,000 in 2050 dollars over the 50 year life of the project (positive \$3,643,000/year).

Reclamation requested and was approved a National Economic Development waiver for the SLDFRE preferred alternative, In-Valley-Water Needs Land Retirement, which had an annual net loss of \$10,149,000 (\$507,450,000 over 50 years) and only retired 194,000 acres. C-WIN and CSPA believe this was an economically unjustified decision to select an alternative which has a negative cost-benefit of over half a billion dollars over the 50 year life of the project compared to one that has a positive cost-benefit of over \$182 million.

While the GBP affected area is only the northern portion of the project area considered in the SLDFRE, it is entirely reasonable simply to interpolate from results of the SLDFRE economic analysis for this smaller area with similar drainage problems. However, the economic analysis contained in the GBP DEIS/R simply looks at costs to growers from the proposed action and concludes that the project is cost effective, although implementation costs will reduce farm profits.

Reclamation’s subsequent San Luis Drainage Feature Re-Evaluation (SLDFRE) Feasibility Report (Reclamation 2008) concludes for Panoche, Pacheco, San Luis and Westlands water districts that *“None of the four water districts have the ability to fully repay its assigned capital costs of drainage service facilities. The implementation of either action alternative would far exceed their ability to repay the associated costs of the project when coupled with their existing obligations...”* and adding that, *“None of the San Luis Unit contractors would be able to pay the Restoration Fund charges if [the] action alternative is implemented.”*

An adequate economic analysis should include all costs to society of the proposed action, including, but not limited to water subsidies, loss of water-related resources elsewhere (salmon, recreation, etc.), crop subsidies, CVP Project Power Use subsidies, realistic reverse osmosis treatment costs, California Water Bond subsidies (Props 50 and 84), sediment management and disposal, and the costs of offsite environmental pollution such as the need for and cost of freshwater dilution flows from New Melones to meet SJR salinity requirements. This level of accounting and analysis would provide the fullest accounting of the costs of alternatives associated with Grasslands Drainage Area

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problems, and would meet the requirements of NEPA and CEQA. As presented in the DEIS/R, however, we contend that the economic analysis fails to meet the NEPA and CEQA requirement to provide full disclosure of proposed project impacts, including economic effects, to decision makers and the public.

Even Reclamation's limited economic analysis of the San Luis Drainage Feasibility Re-Evaluation (SLDFRE), demonstrated that continued irrigation of these drainage problem lands cannot be economically justified. The SLDFRE economic analysis did not include costs of water, power and crop subsidies or externalized costs in the areas of origin or the Delta. Nonetheless, even the SLDRFE reports found similar treatments to that proposed in the GBP DEIS/R to be economically. A more thorough economic analysis for the GBP Extension we believe would reinforce that finding.

The SWRCB should consider the economics of continued irrigation of these lands as it balances Public Trust Doctrine issues with the Grassland drainers' request of the SWRCB for continued delay in having to meet Mud Slough and San Joaquin River water quality standards for salt, boron and selenium.

SIX SUMPS AND MERCURY

Methylated mercury contamination in Grasslands area groundwater is also a significant water quality and ecological concern. The DEIS/R has no discussion whatsoever regarding the source or fate of mercury under any project alternative. The San Joaquin Basin Mercury Study funded by CalFed (Stephenson et. al., 2005), found that Mud Slough contributes about 50 percent methylated mercury loads measured in San Joaquin River water at the Vernalis monitoring station, but contributes just 10 percent of the total water volume during the September-March period. Thus, water draining from the Grasslands Drainage Area into Mud Slough and the San Joaquin River has not only high selenium loads, but high mercury loads as well.

This concern extends as well to subsurface water draining into the Delta Mendota Canal (DMC), the Bureau's primary water supply facility in this region of California. Hydrostatic pressure from high groundwater elevations in Grasslands Drainage Area (GDA) lands builds up along the alignment of the DMC. Soon after completion of the DMC, a number of subsurface drains leading to six sumps were installed to relieve this pressure against the DMC's walls to prevent structural failure and consequent flooding. These sumps also discharge the contaminated groundwater into the DMC. According to the Bureau's Monthly DMC Water Quality Reports, there are fairly substantial concentrations and volumes of both mercury and selenium in the discharged water, given the relatively low water volumes discharged from the sumps.

C-WIN and CSPA recommend instead that water volumes handled by these six sumps and any other sources of contaminated surface and subsurface water should all be diverted into the Grasslands Bypass Project reuse area—the 6,700 acres of lands at the northern edge of the Grasslands Drainage Area. The GBP Extension, if it goes forward should provide additional monitoring for mercury and pesticides as part of this project.

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Clearly, there is an under-recognized mercury problem plaguing water ways and water supply facilities which must be addressed through this project. Only additional targeted monitoring for mercury contaminants will help scope out the problem and identify potential solutions.

Scoping of a monitoring and remediation program for mercury discharges should be included in a revised DEIS/R and recirculated to decision makers and the public.

1,100 ACRES AND OTHER AREAS THAT DISCHARGE

The project Use Agreement and DEIS/R discuss an area of 1,100 acres and other lands “*from which lands drainage waters historically entered channels utilized to provide water to wetlands habitat in the Grassland Water District and state and federal refuges.*” The DEIS/R is however, vague about the status of these lands. Are they to be included within the proposed project? Are there other lands which should also be included, but are not? These lands should all be clearly identified and mapped in the DEIS/R, with an estimate of the drainage discharges associated with those lands such as depth to groundwater, monthly and annual loading of selenium, salt, boron, etc.

If there are areas which continue to discharge into wetland water supply channels, they too should be redirected into the reuse area. The project should conclusively connect the Poso/Rice drain area of 1,100 acres and any other unregulated discharge areas which currently discharge into wetland supply channels, into the proposed project/reuse area. The Proposed Use Agreement talks about the possibility of inclusion of those lands, but they are not definitively included.

At a minimum, the 1,100 acres and any other identifiable lands which currently drain into wetland supply channels should be included in the GBP.

ROADWAY DUST CONTROL WITH CONTAMINATED DRAINAGE

At our tour on March 11th, GBP staff took us to an intersection of local roads where sumps, tile drains, water table floats, and roadside sprinkler systems were visible and in use. GBP staff explained that a portion of subsurface drainage water is supplies the roadside sprinkler system to spray fine mists of the drain water on roadside shoulders to keep dust down during dry times of the season.

The DEIS/R notes that one of the new features in the proposed Use Agreement is use of subsurface drainage for dust control on roadways. However, there is no analysis whatsoever of the impacts of such a use of subsurface drainage. We are concerned that continued use of contaminated drainage water to abate roadside dust could create unnecessary and harmful selenium exposure to people, fish, and wildlife in the GDA and downstream. Given the “unforeseeable and uncontrollable” storm discharge exemption, roadside dust control may also be a way to improperly obtain exemptions for otherwise controllable discharges of selenium.

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There should be an evaluation of the air quality, fish, and wildlife and water quality impacts of using drainage water for dust abatement.

CUMULATIVE IMPACTS

The DEIS/R's limited project area establishes a cumulative impacts analysis scope that is unreasonably narrow and is therefore inadequate. At present it violates the spirit and letter of NEPA and CEQA standard cumulative impacts analyses. The report's cumulative impact analysis is inadequately scoped, as we described above, because the proposed Grasslands Bypass Project and its regulatory extension inadequately account for the full scope and importance of the project's impacts. Cumulative impacts include the areas of origin for the GDA's irrigation water, as well as the impacts of selenium loading by GDA drainage water reaching the San Joaquin River, the Bay-Delta Estuary, and San Francisco Bay are unfortunately absent. Selenium bioaccumulates readily, and in the presence of selenium-tolerant species such as the Siberian shrimp identified in our letter to Senator Dianne Feinstein last July (and here attached for the record), there should be an analysis in the DEIS/R of the mass loading of selenium in the Grasslands area, the San Joaquin River, South and Central Delta and the San Francisco Bay. There should be a determination of the water quality and biological fate of selenium spikes during irrigation season and storm events.

The past, present, and reasonably foreseeable cumulative effects section should include an evaluation of several other programs, including, but not limited to the San Joaquin River Settlement Act and the impacts on Chinook salmon and steelhead restoration efforts. The DEIS/R should, at a minimum, also compare selenium and mercury toxicity levels for salmon found Beckon et al (2008) and how the proposed project might affect Chinook salmon and steelhead restoration efforts in the San Joaquin River. Beckon and Maurer's work (2008) indicates that the selenium levels in the San Joaquin River may contribute to mortality of salmon and steelhead. Absence of these analyses means that currently this section of the DEIS/R is inadequate and in violation of both NEPA and CEQA. We urge the Bureau and the Authority to revise the cumulative impacts analysis, together with other revisions needed to the DEIS/R and recirculate the report to decision makers and the public.

WILDLIFE MITIGATION FOR USE OF MUD SLOUGH

The project action alternative states that some 75 acres of newly constructed wetlands will be provided to offset (and therefore mitigate) wetlands compromised at Mud Slough due to discharge of GBP water from Site B, the mouth of the San Luis Drain at Mud Slough.

This mitigation measure is deferred mitigation under CEQA (see *Sundstrom v. County of Mendocino* (1st Dist. 1988)), as several issues related to wildlife mitigation on federal and State lands remain unresolved and there cannot be a determination that the impact will be fully mitigated. The specific location of the federal lands is undisclosed, and the sources of water to support these new wetlands have not been clearly identified. We

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contend that supplies should be reliable fresh water supplies of reasonably good quality, not sources from GBP facilities or potentially contaminated groundwater from a well. Will the 2 ppb selenium standard for refuge water be met?

The recirculated DEIS/R should include details on wildlife mitigation water supplies, such as source and water quality, as well as specific locations where the federal mitigation lands would occur.

REASONS BEHIND REDUCED SELENIUM LOADING FROM GRASSLANDS AREA

Project proponents claim that significant reductions in selenium loading through the San Luis Drain and Mud Slough have resulted since project implementation began in 1996. While the Grasslands Area Farmers make substantial progress in reducing the amount of drainage created in order to reduce discharges, other sources of information suggest a more complex picture. For instance, the environmental assessment (Reclamation 2004) on the “contract assignment” of Broadview’s 27,000 AF water contract to Pajaro Valley Water Management Agency, Westlands Water District and Santa Clara Valley Water District indicated that the retirement of Broadview **“would result in the elimination of approximately 17,000 tons of salt, 1,500 pounds of selenium, and 52,000 pounds of boron to the San Joaquin River each year...”** as well as 2,600 AF/year of contaminated drainage water (Table 4-1 on page 4-2).

Other water contract assignments have also been made in the area for Widren Water District, Centinella Water District, Mercy Springs Water District, Eagle Field and perhaps others unknown to us. The cumulative impact of moving that water elsewhere is surely reducing selenium, salt, boron and other contaminant loading into the GDA and GBP. Full disclosure of the performance of the GBP relative to these other sources of withdrawn drainage source water would be essential in ensuring that decision makers and the public receive the benefit of full and accurate information. This is essential to ensure a full and fair evaluation of the merits of extending the Grasslands Bypass Project by means of state water regulators amending the Water Quality Control Plan for the Central Valley (Basin Plan) to allow it to proceed. Such an analysis may show that other actions are more effective and therefore a better use of public and private funds.

As an aside, CSPA and C-WIN object to the use of “contract assignments” to transfer water permanently from one water district to another, especially from one drainage problem area to another, in this case from Broadview, Widren and Mercy Springs to Westlands Water District. We believe that the assignments should have had a more thorough examination of the impacts of providing additional water to lands which by their nature, create toxic drainage when irrigated.

Therefore, we believe that the claims that all benefits in water quality have been the result of various water conservation, reuse and blending actions taken by the GAF are actually only part of a much larger picture. The evidence points to land retirement and cessation of irrigation of some problem lands as at least part of the reason for reduced discharges. We recommend the revised and recirculated DEIS/R provide this drainage

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source analysis of selenium and salt load reductions, especially since it so clearly can inform the recasting of alternatives for addressing drainage issues here.

The revised DEIS/R should provide a more detailed description of actual benefits of actions other than land retirement, and what role each can play in solving this problem. Specifically, what are the components of what water quality gains that have been achieved in the Grasslands Drainage Area, and what lessons do they hold about what works in the area? C-WIN and CSPA contend that permanent land retirement with transfer of the water to non-drainage problem areas and other beneficial uses, along with selective groundwater pumping is certainly the primary and probably the only feasible and cost effective solution to the problem.

Biological Opinions are also not yet part of the Draft EIS/EIR. The document simply states that a Biological Opinion is “to be issued” from the U.S. Fish and Wildlife Service (USFWS). Any mitigation measures to reduce impacts to listed species which would be a major change to the project should be disclosed as part of the DEIS/EIR, not after the environmental review process is completed or only as part of the FEIS/R (see Ninth Circuit opinion on Westlands Water District et al v. U.S. Department of Interior et al on the Trinity River case (No 03-15194, D.C. No. CV-00-072124-OWW). C-WIN and CSPA hereby request that Biological Opinions from both U.S. Fish and Wildlife Service be included in a recirculated DEIS/R and that consultation be initiated with the National Marine Fisheries Service for listed Central Valley salmon and steelhead which may be affected by selenium, as indicated by Beckon (2008).

CONCLUSION

In summary, we find the environmental analysis for the Grasslands Bypass Project Extension contrary to NEPA, CEQA and established water quality and constitutional law in California. The DEIS/R is currently inadequate as a full disclosure of environmental impacts and reasonable alternatives for the benefit of public decision makers and the public when it fails to address the urgent water quality and reasonable water use and diversion issues that are matters of statewide interest and concern. The proposed project is therefore inadequately described and analyzed since it does not address these larger concerns. As a consequence, the environmental impacts and mitigations disclosed in the DEIS/R are necessarily of insufficient scope to provide adequate disclosure required under both NEPA and CEQA.

The ultimate approval of this project lies not with Reclamation or the San Luis Delta Mendota Water Authority, but with the State Water Resources Control Board (SWRCB) for the proposed Basin Plan Amendment (BPA). C-WIN and CSPA intend to request and participate in a Public Hearing on the proposed Amendment to the Water Quality Control Plan for the Central Valley Region (Basin Plan Amendment) and Waste Discharge Requirements (WDR's). This document will be an inadequate CEQA document for the SWRCB to use as a responsible agency and would certainly require a full Public Hearing prior to approval.

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Because of these inadequacies and the fact that we believe it to be contrary to established law, the DEIS/EIR should be revised and recirculated to provide a fuller and more realistic range of alternatives, a broader project area, more details on mitigation and a much more robust economic analysis of the overall costs and benefits of delivering water to these drainage-problem lands. The logical conclusion is that given the limited amount of water in California, the collapse of various fisheries, the drought and the planned implementation of selenium and salt water quality objectives in Mud Slough and the San Joaquin River, approval of this project for 10 years cannot be justified.

Given good faith efforts of the Grasslands Area Farmers, C-WIN and CSPA might be willing to accept a two-year extension of the project (with a new NEPA/CEQA document at that time) to determine results of the pilot treatment plant, if the project were appropriately modified per our suggestions above.

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July 23, 2008

Hon. Dianne Feinstein
331 Hart Senate Building
United States Senate
Washington, D.C. 20510

Subject: Grasslands Bypass Project and Irrigation Drainage in the San Joaquin Valley

Dear Senator Feinstein:

The California Water Impact Network (C-WIN) and the California Sportfishing Protection Alliance (CSPA) finds that the letter Karl Longley, ScD, P.E., chair of the Central Valley Regional Water Quality Control Board (CVRWQCB), wrote in reply to a letter from you concerning western San Joaquin Valley irrigation drainage proposals provides too rosy a picture of the Grasslands Bypass Project (GBP).¹

We respectfully disagree with his characterization of the GBP as “very successful” management of agricultural drainage water. His letter contains no documented specifics or scientific data related to its positive assessment. By what performance standards, benchmarks, and outcome measures does GBP qualify as successful agricultural drainage management? How is an active adaptive management program applied that it might succeed? Seven years later, success of the GBP is hardly certain. It should at least be measured against existing water quality standards and TMDLs, as C-WIN and CSPA do in Attachment 1 to this letter. Because water quality standards in the Grasslands, San Joaquin River Basin, and the Delta continue to be exceeded, we believe that the GBP cannot be viewed as an unqualified “success.”²

¹ The Grasslands Bypass Project (GBP) is a regional drainage facility undertaken by the San Luis and Delta Mendota Water Authority (SLDMWA, of which participating irrigation and drainage districts are members of the GBP) that shunts selenium and salt-laden subsurface irrigation drain water from agricultural lands in the west side of the San Joaquin Valley around national wildlife refuges (also known as Grassland Marshes) and the Grassland Water District into a 19-mile reach of the San Luis Drain that subsequently empties into Mud Slough (North). Mud Slough (North) then drains into the San Joaquin River just upstream of the River’s confluence with the high-quality waters of the Merced River. The GBP was initiated in 1996 as a four-year project, and then was extended through 2009 when SLDMWA and the US Bureau of Reclamation executed in 2001 a use agreement for a 19-mile reach of the Bureau’s San Luis Drain.

² Letter of Karl Longley, ScD, P.E., Chair California Regional Water Quality Control Board, Central Valley Region, to Senator Dianne Feinstein, June 30, 2008, p.1. In particular, Mr. Longley asserts,

We currently regulate drainage management projects being conducted by the Grassland Bypass Project, Tulare Lake Drainage District and others. The Grassland Bypass Project specifically involves an adaptive management program to address high concentrations of salts and selenium in the drainage, and has been a very successful regulatory program for the Board. The drainage project being proposed by Westlands Water District and the other San Luis Unit Contractors would be subject to similar regulation by the Regional Water Board.

The Regional Water Board uses a variety of regulatory tools and measures, such as benchmarks, performance standards, limitations, provisions, and prohibitions required in its WDRs [waste discharge requirements] or Water Quality Plans to ensure our regulatory programs are successful and achieve full protection of water quality and beneficial uses. We require extensive monitoring and reporting to ensure our regulatory standards and measures are met. Therefore, we agree with you that the Contractors should be held accountable through

The US Geological Survey's initial comments on the 2001 EIS/EIR for the Grasslands Bypass Project questioned its long-term viability, noted that the GBP's "*control activities are largely a redistribution of a constant load among groundwater, surface water, and land disposal. It remains to be seen how long selenium sequestration can be continued without significantly limiting farming capability or returning to surface water disposal of drainage.*"

We encourage you and your staff to examine relevant facts in the agencies' literature and online monitoring data, and you will see that by the CVRWQCB's own measures, and those of other federal agencies, the GBP is closer to failure than success. From recent GBP monitoring data analyzed by C-WIN and CSPA, you should note that:

- While limitations on Se loads are decreasing, they do so only slowly because the water year classifications in this decade have been largely wet or above normal, thereby allowing higher overall fate and transport through dilution of Se loads. Only since January of 2007 have critical or below normal water year Se load thresholds been applied to the GBP.
- Even with these generous water year classifications, *the GBP's actual selenium loads **increased significantly** in 2005 in relation to its load limitations from 2001 to 2007, with 2007 being reduced primarily because of dry conditions and resulting lower drainage flows.*
- Heavy rainfall and runoff in the Grasslands watershed led to exceedences of Se load limits in the GBP during January through March 2005, resulting in the GBP exceeding its 2005 annual Se load. The use agreement between SLDMWA and the Bureau of Reclamation requires monetary penalties (payment into a "drainage incentive fee") when exceedences occur, with loopholes, which we discuss below.

While the GBP reduced selenium discharges directly through the Grassland Marshes since the 1980s, the bypass channel continues to pour selenium and salts into the San Luis Drain, rerouting problem waters while continuing to burden water bodies downstream in several ways:

- In 2006 the State Water Resource Control Board continued listing as impaired the Grassland Marshes, Salt Slough, and the San Joaquin River (from the Merced River to Delta Boundary) for selenium and electrical conductivity. Downstream, Carquinez Strait and Suisun Bay were also designated as impaired for selenium in their 2006 CWA Section 303(d) List of Water Quality Limited Segments.³
- Carquinez Strait and Suisun Bay are also listed as impaired for selenium. (See Attachment 2, below.)⁴
- Waters of the Grasslands and San Joaquin River listed as impaired by the State Board from chlorpyrifos, diazinon, and Group A Pesticides.
- Excessive concentrations of salt and boron enter the San Joaquin River from the Grassland Subarea in.

Dr. Longley also stated in his letter that the CVRWQCB supports adaptive management as described by the USGS in its recent Technical Report on in-valley drainage in the western San Joaquin Valley. He states that

performance standards, benchmarks, and other requirements as appropriate for their proposed program. The success of the Grasslands Bypass Project was achieved through the implementation of performance standards, benchmarks, and other requirements established in the WDRs and we would use a similar approach with the Contractors.

³ Available at: http://www.waterboards.ca.gov/tmdl/303d_lists2006approved.html.

⁴ As the 303(d) list noted with respect to impairment in Carquinez Strait and Suisun Bay for selenium: "*Affected use is one branch of the food chain; most sensitive indicator is hatchability in nesting diving birds, significant contributions from oil refineries (control program in place) and agriculture (carried downstream by rivers); exotic species may have made food chain more susceptible to accumulation of selenium; health consumption advisory in effect for scaup and scoter (diving ducks)...*"

adaptive management “*would ensure that [the GBP] is based on the best information available while providing for prompt response to unanticipated or unacceptable impacts from any future drainage management efforts.*”

Adaptive management proceeds within a regulated context. C-WIN and CSPA believe the GBP achieved limited success primarily because its parties to its operation use adaptive management in the context of the CVRWQCB’s 2001 WDRs, despite the laxity of these requirements. The GBP’s adaptive management practice is compromised when it comes to monetary incentives to avoid selenium pollution. A requirement of monetary penalties is written into the San Luis Drain use agreement between SLDMWA and the Bureau of Reclamation to induce SLDMWA to keep Grassland Drainage Area discharges below WDR thresholds. Discharged flows are just barely below lax Se load thresholds (see Attachment 1). CSPA and C-WIN believe this is because the penalties—referred to as “drainage incentive fees” in the agreement—are weak at best (see Attachment 4). Like the Regional Board’s WDRs for the GBP, clearly the “incentive fees” are insufficient to motivate the Grassland Area Farmers to reduce selenium loads well below established thresholds. *This is a holding pattern at best, hardly an environmental management best practice, especially in light of the impaired status of downstream water bodies and the large contribution the Grasslands Area makes to their condition. The GBP’s WDRs need to tie discharge requirements to outcomes that include delisting of impaired water bodies for the criteria elements and toxins we described above.*

CSPA and C-WIN acknowledge that the GBP improved water quality in the Grassland Wetland Channels compared with pre-project conditions when wetlands water supplies were routinely commingled with agricultural drainage discharges. But C-WIN and CSPA believe the impaired status of downstream water bodies can and must be improved much further, which means tightening WDRs and adaptive management practices beyond what little has been achieved to date. *We urge you to press USBR, the EPA, and the US Fish and Wildlife Service to collaborate with the CVRWQCB and the State Board to apply the precautionary principle when revising the GBP’s WDRs and adaptive management activities, and to regulatory programs for other drainage-impaired lands in the western San Joaquin Valley as soon as possible.* After all, the drainage problems in the Grasslands Area originates in the drainage-impacted irrigated lands on the west side of the San Joaquin Valley, which ultimately contaminates water supplies used by State and federal wildlife refuges and private wetlands in the Grasslands. Dealing effectively with those lands will help deal with Grasslands’ drainage issues.

Successful adaptive management of irrigation drain water is driven by waste discharge requirements. But WDR enforcement takes money and personnel. The State Water Resources Control Board acknowledges that the state budget process deprives the CVRWQCB of sufficient resources to control discharges of toxic and other pollutants into the state’s waters (see Attachment 5). Given serious staffing shortages, the water boards have embraced more intractable stakeholder or voluntary programs such as the Grasslands Bypass Project, an administrative strategy it plans to use even more in its recently adopted Bay Delta Estuary Strategic Workplan. Ironically, stakeholder driven voluntary programs like GBP require far more staff resources and considerably longer timeframes to assess performance than direct regulatory permit issuance and enforcement. Despite this institutional under-achievement, our organizations nonetheless believe the water boards—properly staffed and renewed of purpose—are still the institutions to meet these challenges.

Ultimately, C-WIN and CSPA believe that the only sustainable solution is land retirement of the 379,000 acres of drainage-impaired lands in the San Luis Unit upstream of the GBP. The USEPA, US Fish and Wildlife Service, and various citizen and environmental groups acknowledge that full land retirement is the only

feasible and cost-effective alternative, as does the analysis of the Bureau of Reclamation's newly released *San Luis Drainage Feature Re-Evaluation Feasibility Report*. However, the Bureau's report inexplicably recommends a \$2.7 Billion *In-Valley/Water Needs Land Retirement Alternative* drainage scheme that would rely on expensive and unproven drain water treatment technology for keeping impaired lands in production. Unfortunately, the federal agencies' ambiguous and contradictory comments and recommendations contribute to governmental and public inaction by confusion. This allows the San Luis Contractors to operate in a business-as-usual mode, yet the salt and selenium-laden environmental degradation grows worse as a result.

In sum, we urge you to undertake these actions:

- Insist the EPA and the US Fish and Wildlife Service work with the CVRWQCB and the State Board to tie discharge requirements to larger regional outcomes of GBP management that include delisting of impaired downstream water bodies for the criteria elements and toxins we described above.
- Urge the EPA and the US Fish and Wildlife Service to collaborate with the CVRWQCB and the State Board to apply the precautionary principle through GBP's waste discharge requirements and adaptive management activities to managing irrigation drain water in the Grasslands Area, and apply this approach to the 379,000 acres of drainage-impaired lands southwest of the Grasslands Area too.
- Urge US Bureau of Reclamation to retire all of the 379,000 acres of drainage-impaired lands of the San Luis Contractors to end the upstream and upslope discharge of highly concentrated selenium and salt-laden waters into the San Joaquin River system. This would be the single most important action that would have the most direct benefit to all presently impaired downstream water bodies, including the troubled Bay-Delta Estuary.

We hope you find our analyses and opinions of use as you reach a position on permanent retirement of the drainage-impaired lands in the western San Joaquin Valley. We urge you to resist the temptation to look at instances of highly questionable outcomes as examples of success in this region of California.

Sincerely,



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Attachments

cc: Karl Longley, ScD, P.E., Chair, Regional Water Quality Control Board, Central Valley Region
Environmental Water Caucus
Senator Barbara Boxer
Interested parties
Interested media

Attachment 1
Water Discharge Requirements and Performance
Grasslands Bypass Project

The water quality objectives and compliance time schedule that apply to the waste discharge requirements established for the Grasslands Bypass Project in September 2001 by the California Regional Water Quality Control Board, Central Valley Region (Mr. Longley's agency), are shown in the table below:

**Compliance Time Schedule for Meeting the 4-day Average
 and Monthly Mean Water Quality Objectives for Selenium**

Selenium Water Quality Objectives (in **bold**) and Performance Goals (in *italics*)

Water Body/Water Year Type	10 January 1997	1 October 2002	1 October 2005	1 October 2010
Salt Slough and Wetland Water Supply Channels listed in Appendix 40 of the Basin Plan	2 µg/L monthly mean			
San Joaquin River below the Merced River. Above Normal and Wet Water Year types ¹		<i>5 µg/L monthly mean</i>	5 µg/L 4-day average	
San Joaquin River below the Merced River; Critical, Dry and Below Normal Water Year types		<i>8 µg/L monthly mean</i>	<i>5 µg/L monthly mean</i>	5 µg/L 4-day average
Mud Slough (north) and the San Joaquin River from Sack Dam to the Merced River				5 µg/L 4-day average

¹ The water year classification will be established using the best available estimate of the 60-20-20 San Joaquin Valley water year hydrologic classification (as defined in Footnote 17 for Table 3 in the State Water Resources Control Board's *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary*, May 1995) at the 75% exceedance level using data from the Department of Water Resources Bulletin 120 series. The previous year's classification will apply until an estimate is made of the current water year.

The Central Valley Basin Plan Amendment for the control of Agricultural Drainage Discharges in the 1990s prohibited discharge of selenium in amounts exceeding 8,000 pounds per year for all water year types for the Grasslands Watershed (an area reaching south to the northern edge of the Westlands Water District).⁵ The CVRWQCB's 2001 WDR treated this as an overly generous threshold, observing that in Water Year 2000 (October 1, 1999 to September 30, 2000) only 4,595 pounds of selenium were discharged from the San Luis Drain to Mud Slough. The Regional Board, recognizing the need for a more fine-grained approach to regulating selenium discharge for the Grassland Drainage Area established monthly thresholds in the 2001

⁵ California Regional Water Quality Control Board, Central Valley Region, 1996, *Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Agricultural Subsurface Drainage Discharges; Staff Report*; March, 1996.

WDR, and varied them by the type of water year (i.e., wet to critically dry), in recognition that selenium waste discharge is significantly determined by how much water passes through the Grasslands area:

**Monthly Load Allocations (pounds of selenium) for the Grassland Drainage Area
 Based on Applicable Selenium Water Quality Objectives
 for the San Joaquin River at Crows Landing**

Month	Effluent Limits which apply no later than					
	1 October 2005			1 October 2010		
	Above Normal ¹	Wet	Critical	Dry/Below Normal	Above Normal	Wet
October ²	260	328	55	233	260	328
November	260	328	55	233	260	328
December	398	211	152	319	398	211
January	398	211	151	319	398	211
February	472	488	93	185	472	488
March	472	488	92	184	472	488
April	490	506	101	193	490	506
May	497	512	105	197	497	512
June	212	354	69	130	212	354
July	214	356	70	131	214	356
August	225	366	75	137	225	366
September	264	332	57	235	264	332
Total	4162	4480	1075	2496	4162	4480

- 1 The water year classification will be established using the best available estimate of the 60-20-20 San Joaquin Valley water year hydrologic classification (as defined in Footnote 17 for Table 3 in the State Water Resources Control Board's *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary*, May 1995) at the 75% exceedance level using data from the Department of Water Resources Bulletin 120 series. The previous year's classification will apply until an estimate is made of the current water year.
- 2 The monthly load limits are based on the water year classification for October through September applied to the following calendar year, January to December. For example, the October through December 2005 load limits are based on the water year classification for October 2004 through September 2005.

The GBP is the object of an ongoing and continuous water quality monitoring effort. Reports are readily available online, as the San Francisco Estuary Institute (SFEI) has been retained to conduct and report on the monitoring results on a monthly basis at <http://www.sfei.org/reports/index.htm>. The table to the right is based on data from this website. Since 2001, when the Regional Board's waste discharge requirement took effect, the following is occurring through the GBP:

Water Year	Selenium Load Limitation	Selenium Load Calculated	Gap Between Actual Load and Load Limit	Water Year Type	Percent of Calculated to Limitation
2001	5,661	4,377	1,284	Wet	77%
2002	5,360	3,939	1,421	Wet	73%
2003	5,027	4,029	998	Above Normal	80%
2004	4,696	3,871	825	Above Normal	82%
2005	4,585	4,284	301	Above Normal	93%
2006	3,088	3,563	475	Wet	115%
2007	3,489	2,295	1,194	Wet	66%
2008 (partial)	3,662	NA	NA	Dry to Critical	NA
Totals	35,568	26,358	NA		NA
Averages	4,446	3,765	928		84%

Source: Grassland Bypass Program, U.S. Bureau of Reclamation, online at <http://www.sfei.org/reports/index.htm>; California Water Impact Network.

- First, while limitations on Se loads are decreasing, they do so only slowly because the water year classifications for the limitations have been generous because of largely wet or above normal classification, thereby allowing higher overall discharges and Se loads. Only since January of 2007 have critical or below normal water year Se load thresholds been applied to the GBP.

- Even with these generous water year classifications, *the GBP's actual selenium loads **increased** in 2005 in relation to its load limitations from 2001 to 2007, with 2007 being reduced because of dry conditions and resulting lower drainage flows.*
- Heavy rainfall and runoff in the Grasslands watershed led to exceedences of Se loads in the GBP during January through March 2005, resulting in the GBP exceeding its year-long Se load for water year 2005. The use agreement between SLDMWA and the Bureau of Reclamation requires monetary penalties (payment into a drainage incentive fee) when exceedences occur, with loopholes, which we discuss below.

Attachment 2 Exotic Species and Selenium Bioconcentration

The State Board's comments in its 303(d) list of impaired water bodies on exotic species and selenium bioconcentration (see footnote 4 of the main letter) are borne out in recent monitoring data from the Grasslands area. The Grasslands Bypass Project Monitoring report for 2004-2005 found that:

"The overall selenium hazard...to the Salt Slough ecosystem rose from low to moderate. In Mud Slough [further north] below the outfall of the San Luis Drain, selenium concentrations in fish and invertebrates continued generally to exceed thresholds of concern; average concentrations have not dropped as loads and concentrations of selenium in water in Mud Slough have declined.

*"After dramatically increasing in numbers at some sites in 2003, the invasive Siberian freshwater shrimp (Exopalaemon modestus), became firmly established as a major component of aquatic ecosystems at all monitoring sites in 2004 and 2005. This species evidently bioconcentrates selenium more efficiently than other aquatic invertebrates, and may be contributing to the persistence of elevated concentrations of selenium in the biota as loads of selenium discharged into Mud Slough have been generally declining."*⁶

The recent USGS technical analysis of in-valley drainage management strategies (U.S. Geological Survey Open-File Report 2008-1210, available at <http://pubs.usgs.gov/of/2008/1210/>) speaks to this. Operational problems associated with drainage disposal in the Panoche Drainage District, just south of the public and private wetlands of the Grassland Water District, have resulted in excessive selenium contamination of several bird species' eggs, more than enough to cause deformed chicks. Experience to date reveals technical problems and unacceptable environmental impacts from various aspects of treatment-oriented approaches to agricultural drainage management. *This USGS report expresses concern about elevated levels of selenium in wildlife and cites previous studies with similar solutions as proposed in the Bureau's "In-Valley/Water Needs Land Retirement Alternative" and the "In-Valley/Drainage-Impaired Land Retirement Alternative"*

Over 42 species of birds have been found to use this drainwater reuse pilot area. The average selenium concentration in avocet and stilt eggs was 58 µg/g dry weight, which exceeds the threshold for substantive risk by approximately six fold (a factor of six; high risk is regulated at concentrations of >10 µg/g selenium). A reduction of hatchability and increased deformities of bird embryos would likely occur at these concentrations.⁷ (See also Skorupa, 1998.⁸) Concern is also warranted because selenium concentrations in bird eggs from the majority of reference sites sampled were also above the high-risk threshold, suggesting a landscape effect larger than the reuse area as management and storage of concentrated drain water takes place over several years. Selenium concentrations in avocets and stilts in 2006 exceeded 90 µg/g dry weight, a nine-fold rate higher than the substantive risk threshold for bird eggs. Deformed embryos would be expected.

⁶ Grasslands Bypass Project Monitoring Report, 2004-2005, Chapter 7, p. 94.

⁷ U.S. Department of the Interior, 1998, Constituents of concern: selenium, in Guidelines for interpretation of the biological effects of selected constituents in biota, water, and sediment, National Irrigation Water Quality Program Information Report No. 3: National Irrigation Water Quality Program, U.S. Department of the Interior, Washington, DC, p. 139-184.

⁸ Skorupa, J.P., 1998, Selenium poisoning of fish and wildlife in nature: lessons from twelve real-world examples, in Frankenberger, W.T., Jr., and Engberg, R.A., eds., Environmental Chemistry of Selenium: New York, New York, Marcel Dekker Inc., p. 315-354.

Attachment 3 Salt and Boron Discharges

While the Grassland subarea of the San Joaquin River basin accounts for 6 percent of the river's total discharge (flows) at Vernalis, it contributes 400,000 tons of salt and 490 tons of boron per year to the lower San Joaquin River, about 36 percent of the River's total salt load and 50 percent of its total boron load measured at Vernalis.

Attachment 4 “Incentive Fees” for Improving Irrigation Drainage

A requirement of monetary penalties is written into the use agreement for the San Luis Drain between SLDMWA and the Bureau of Reclamation to induce SLDMWA to keep Grassland Drainage Area discharges below WDR thresholds. As we have shown so far, the discharged flows are just barely below lax Se load thresholds. CSPA and C-WIN believe this is because the penalties—referred to as “drainage incentive fees” in the agreement—are weak at best. According to the Agreement, two fees are called for, an Annual Drainage Incentive Fee and a Monthly Drainage Incentive Fee, both not to exceed \$250,000 per year. The Agreement's Oversight Committee can determine how the funds from these penalties are used, but they must be used by the Grassland Drainers to “assist in meeting Selenium Load Values, Salinity Load Values and Discharge Goals, water quality objectives in the Drainage Area, and/or will enhance wildlife values in the Drainage Area or adjacent areas.”⁹ These penalties are to be determined whenever Se loads in GBP drainage flows exceed WDR thresholds, as they did in early 2005. Despite the well-known drought or flood character of California's climate—especially in January 1997, just 8 years prior, when the San Joaquin Valley was raked by massive flooding—the Oversight Committee used the loophole of “unforeseeable and uncontrollable event” to excuse the Grassland Area Farmers from paying the penalties that were otherwise called for.¹⁰ Like the Regional Board's WDRs for the GBP, clearly the “incentive fees” are also weak, and fail to motivate the Grassland Area Farmers to reduce selenium loads well below established thresholds. This is a holding pattern at best, not environmental progress.

⁹ San Luis & Delta Mendota Water Authority and the United States, Department of the Interior, Bureau of Reclamation, September 28, 2001, *Agreement for the Use of the San Luis Drain*, Agreement No. 01-WC-20-2075, Attachment A to Grasslands Bypass Project Technical and Policy Review Team, *Determination of Incentive Fees for Winter 2005 Floods*, March 2, 2006, accessed July 4, 2008, at <http://www.usbr.gov/mp/grassland/documents/index.html>.

¹⁰ Grasslands Bypass Project Technical and Policy Review Team, *Determination of Incentive Fees for Winter 2005 Floods*, March 2, 2006, p. 16; accessed July 4, 2008, at <http://www.usbr.gov/mp/grassland/documents/index.html>.

Attachment 5
Staffing Shortages at the Central Valley Regional Water Quality Control Board

The Executive Officer of the Central Valley Board, Ms. Pamela Creedon, acknowledged in a August 2007 presentation to the State Board title *State of the Central Valley Region* that the Board has only: a) 12% of the staff minimally necessary to regulate stormwater discharges (NPDES), b) 37% of those necessary to control municipal wastewater discharges (NPDES), c) 26% of those necessary to issue WDRs and d) 16% of those required to regulate dairies, e) 22% of the staff crucial to enforcing conditions of the controversial agricultural waivers, and f) only 11 of the 38 people necessary for the basin planning unit to update the Basin Plans that are fundamental to all Board actions. The Board's surface water ambient monitoring program has only 2 person-years (PYs), its enforcement unit is assigned only 3.5 PYs, the water quality certification unit has only 2.6 PYs to process more than 400 certifications annually. Further, the underground storage tanks unit has only 17 of 41 staff needed for several thousand cases, the timber harvest unit has only 9.2 PYs to regulate and monitor discharges from thousands of timber projects covering 45% of the state's harvested timber and the Title 27 unit has only 40% of those needed to regulate leaking landfills and surface impoundments. And finally, the Board has only 16 PYs to develop, implement and monitor TMDLs covering over 300 water body/pollutant combinations identified as "impaired" throughout the Central Valley.

Attachment 3

March 16, 2009

Joseph C. McGahan
Drainage Coordinator
San Luis & Delta-Mendota Water Authority
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Subject: Draft Environmental Impact Statement / Environmental Impact Report for Continuation of the Grassland Bypass Project, 2010 –2019, SCH# 2007121110. Noticed by letter of December 19, 2008 to the State Clearinghouse, agencies and interested parties.

Attached are my comments on the Draft Environmental Impact Statement / Environmental Impact Report for the Continuation of the Grassland Bypass Project, 2010 –2019. The Draft EIS / EIR addresses the potential environmental effects / impacts that would result from implementing a new Use Agreement for the Grassland Bypass Project (GBP) for the period 2010 to 2019.

Use of the Drain allows the separation of drainage water from the supplies to Nation Wildlife Refuges, State wildlife management areas and private wetlands. An agreement allows the Drainers to continue to irrigate about 97,000 areas of uplands. The associated salt and selenium-contaminated drainage would be conveyed to the San Luis Drain from where the drainage would flow north and discharged to Mud Slough, then flow to the San Joaquin River and on to the Sacramento- San Joaquin Delta.

Please include these comments in to the record of the subject project / activity.

Sincerely,

Felix E. Smith
4720 Talus Way
Carmichael, CA 95608
916-966-2081
cc: interested parties.

Comments of Felix E. Smith on the Draft Environmental Impact Statement / Environmental Impact Report for the Continuation of the Grassland Bypass Project, 2010 –2019, SCH# 2007121110. Noticed by letter of December 19, 2008 to the State Clearinghouse, agencies and interested parties.

The Draft EIS / EIR addresses the potential environmental effects / impacts that would result from implementing a new Use Agreement for the Grassland Bypass Project (GBP) for the period 2010 to 2019.

The purpose and objectives of the project are:

1. To allow the use of the Drain by the Grassland Drainers so they can continue to farming about 97,400 acres plus an adjacent 1,100 acres and have more time to develop a water treatment technology or obtain a federal buy out.
2. Continue to use the Drain to separate unusable selenium contaminated drainage from the water being supplied to National Wildlife Refuges and State Wildlife Management Areas and private wetlands of the Grassland Water District.
3. To facilitate drainage management to improve the water quality of the San Joaquin River.

This agreement allows the irrigation of uplands and the continued disposal of selenium contaminated drainage in the San Luis Drain, a Central Valley Project facility. This drainage would then flow north and discharged into Mud Slough where it will then flow to the San Joaquin River and on to the Sacramento- San Joaquin Delta.

The subject analysis is focused on what is called the “zone of primary influence”. This primary zone includes Mud Slough north to the San Joaquin River and then to Crows Landing for the selenium drainage water impacts. The socioeconomic analysis includes Fresno, Madera and Merced Counties.

The focus of the biological impacts and the socioeconomic analysis is too narrow. The water that becomes “Drainage” has biological and water quality impacts that occur far from the “zone of primary influence” of Fresno, Madera, and Merced Counties. Resource and socioeconomic impacts extend over hundreds of miles and impact many resources, uses and environmental values protected by the public trust.

One can follow the water from its watershed of origin to its place of use. Some of the water delivered to the San Luis Unit originates in the Trinity County (Trinity River watershed, Trinity Dam and Clair Engle Lake). It then flows to and through Whiskytown Lake and then to the Sacramento River and to the Sacramento / San Joaquin Delta Estuary. This water is then pumped out of the Delta. It then travels many miles in a canal, is delivered to lands of the San Luis Unit on the west side of the San Joaquin Valley. A portion of the water applied to the land becomes agricultural runoff and drainage contaminated with selenium and salts. This selenium-laced drainage

manifests itself in a contaminated aquatic ecosystem and food chain for both fish and wildlife of the San Joaquin River and Delta as well as contaminating the ground water of the area. (See Presser and Luoma –2006.) Because of the integrated operations of the Central Valley Project, one can trace water delivered to the San Luis Unit not only Trinity County and Trinity River, but to Shasta Dam -Sacramento River watershed and Folsom Dam and American River watershed.

The selenium and contaminated drainage impacts at both the local and watershed level, requires considering the unique characteristics of the water's area of origin, the route of this to the service area and associated resources, uses and values in route. The watersheds of origin include those of the Trinity, Sacramento and American Rivers. Such watersheds are habitat for a multitude of wildlife species including threatened and endangered birds, mammals, fish, plants and other wildlife. In the Trinity River watershed, Clair Engle Lake (Trinity Reservoir) severely impacted resident and migratory deer herds. The CVP reservoir operations have impacted and continue to impact such unique species such as steelhead, spring and winter-run Chinook salmon and silver salmon.

In the Delta, the Delta smelt is listed as threatened under the Federal Endangered Species Act, the Green sturgeon is listed as threatened and the Sacramento Splittail is a species of concern. The Longfin smelt was recently listed as threatened while the Delta smelt as endangered under the California Endangered Species Act. The Delta smelt and the longfin smelt are lived and are impacted by reduction of outflows, export pumping as well as poor water quality. The Green sturgeon and the Sacramento Splittail are relatively long lived. Because of this and the assumption that sturgeon are as sensitive to selenium as aquatic birds and other fish, it is highly probable that this species are reproductively impaired due to selenium uptake via their diet. This is amplified by their long life and because a portion of the population spawn and rear in the Delta leaves them exposed to selenium, heavy metals and pesticides. Splittail are also likely to be vulnerable to selenium contamination because of their bottom feeding habits and the bioaccumulation of selenium food sources, i.e. Asian clams and mollusks (U.S. Fish and Wildlife Service –1995, Beckon and Maurer, March –2008.)

Within the San Luis Unit impacts to natural resources, associated uses and values can be tied to unwise land use practices. Impacts to water quality occur from agricultural runoff and drainage carrying various salts and trace elements (selenium, boron, etc.) that are and will continue to impact down slope surface and ground water resources and aquatic ecosystems. Impacts to water quality also occur from the use of agricultural chemicals. Impacts to trust resources, uses and values, such as fish and wildlife and associated terrestrial and aquatic ecosystems; impacts to scenic and line of sight, to ecosystems, to water quality impacting the use of water, the limitation on recreational uses, health warnings or other restrictions on eating sport caught fish and wildfowl all must be considered as important public values.

It is recognized that a forest fire destroys other societal values than just trees (i.e. watershed, fish and wildlife habitat, water quality and recreational values, etc.)

However such values are usually not captured in any socio-economic analysis of losses. In the same sense selenium-contaminated drainage can damage or destroy a multitude of resources, uses, unique resource, ecosystems and societal values that are not fully appreciated in the commodity / market place, nor are captured in the socio-economic analysis for this project. The associated societal and public trust values lost or foregone as a result of this project and related activity must be considered and included in any socioeconomic analysis (Smith-1996.)

The State Water Resources Control Board (State Water Board), in 1984 stated, "Failure to take appropriate measures to minimize excess application, excess incidental losses, or degradation of water quality constitutes unreasonable use of water." In 1985 the State Water Board found that agricultural drainage and wastewater reaching Kesterson Reservoir resulted in dead and deformed hatchlings of migratory birds. The State Water Board then stated that the agricultural pollution "is creating and threatening to create conditions of pollution and nuisance" at Kesterson. The State Water Board warned if Kesterson like situations continue to occur, irrigating saline seleniferous soils could constitute an unreasonable use of water. The State Water Board, both staff and Board members, realized the potential damage selenium contamination could do to surface and ground water and especially aquatic ecosystems. The noted scientist, Dr. Joel Hedgpeth stated to me, "That selenium could kill the Valley".

Selenium in the aquatic environment

Studies by the State Water Board and others have demonstrated that considerable agricultural drainage and wastewater has entered and continues to enter San Joaquin Valley groundwater and surface waters. Salt Slough and Mud Slough (north) are the major carriers agriculturally polluted drainage, wastewater and spillage water to the San Joaquin River. These Sloughs accounted for 57% of the salt load, 71% of the boron load and 86% of the selenium load per year to the San Joaquin River during water years 1993 and 1994. During the years 1987 –1992 a drought period, selenium loading to Mud Slough and the San Joaquin River decreased from the 1986 peak of 14, 601 pounds as measured at Vernalis. With near full irrigation and a return to normal rainfall, selenium loading from the Drainage Project Area increased to 11,875 pounds with a peak load at Vernalis measured at 17,238 pounds. While there has been a decrease in selenium loading there still are 1,000's of pounds of organically active selenium being added to the San Joaquin River and Delta ecosystem each year. (See CRWQCB – CVR, 1998 and 1999 Water Quality Monitoring, and Crader –2003, CRWQCB-CVR. Also see Beckon, et. al.-2008.) Selenium loading tends to be lowest fall through mid winter with the highest selenium loading during March through May, starting with pre-irrigation and lasts through the summer. A drought period usually results in lower selenium loading. Rains add to the drainage amounts. Spring and summer are biologically active months for selenium uptake although it occurs throughout the year.

During water years 1993 and 1994 the mean monthly selenium concentration of 5 ppb (Federal EPA Standard) in the San Joaquin River was violated 21 of the 24 months of record or 87% of the time (CRWQCB-CVR, January 1995.) Grader –2003, reports that

selenium concentrations regularly exceed the 5 ug/L in the reach of Mud Slough (north) downstream of the Drain outfall.

In 1997 follow-up studies of selenium in fish tissues from the Greater Grassland Area were conducted by the USGS. The highest concentrations of selenium in green sunfish and bluegill sampled were found in the San Luis Drain (in green sunfish 12-23 ppm Se) where seleniferous drainage is most concentrated. The second highest was in North Mud Slough at Highway 140, (Se in green sunfish was 7.6 to 17 ppm, while bluegill was 14 to 18 ppm). This site is, downstream of the San Luis Drain outfall. An unexpected findings was the relatively high body burdens of selenium found in fish from South Mud Slough (in bluegill 7.7 to 8.8 ppm Se), Salt Slough at the San Luis NWR (in green sunfish 3.4 to 6.4 ppm Se; in bluegill 2.1 to 4.1 ppm Se) and North Mud Slough upstream of the San Luis Drain outfall (in green sunfish 2.4 to 11 ppm Se; and in bluegill 9.2 ppm Se). It was at these locations that selenium concentrations in fish were expected to decrease after the Grassland Bypass Project was implemented in September 1996. Also selenium concentrations in bluegill sampled from the San Joaquin River at Hiway 140 were expected to decline, instead data show selenium concentrations increased. Fish samples containing selenium body burden exceeding 4 ppm (Saiki 1998) may be at increased risk of suffering from selenium toxicity (i.e. mortality of juveniles and reproductive failure) as well as being hazardous to fish and wildlife that feed on them (Lemly-1993.) Plankton and clam samples taken show selenium contamination up to 5-ppm selenium (CSWRCB 1991.)

Chinook salmon and steelhead (also rainbow trout) are among the most sensitive fish species to selenium. Steelhead young generally spend one to two years in freshwater before immigrating to the ocean. Chinook salmon usually spend up to 3 months in fresh water, but can spend 2 years in the freshwater environment. Selenium toxicity is the accumulation of selenium in tissue of fish from the selenium in their diet. They are especially vulnerable during juvenile life stages when they are migrating thru or rearing in selenium-contaminated habitat such as the Lower San Joaquin River and Delta on their way to the Ocean. The longer these young salmon and steelhead rear in selenium-tainted habitat, the greater the risk of selenium bioaccumulation to levels of concern. Selenium apparently can affect smoltification. It is realized that the Delta is a black hole for Central Valley Chinook salmon and steelhead migrating to San Francisco Bay on their way to the Pacific Ocean feeding grounds. Selenium in the San Joaquin River remains above the salmon effect level of about 3.3 ug/L at Hills Ferry (Beckon and Maurer- Nov. 2008.)

Selenium in Chinook salmon from the Stanislaus, Tuolumne and Merced Rivers was .65 to 1.4 ug/g and while in the Lower San Joaquin River the selenium concentration increased to 1.2 to 3.2 ug/g. Saiki (1991) indicated that bioaccumulation to levels about 3 ug/g whole body weight these fish would suffer 25 percent mortality or die off.

Selenium concentration in drainage and the San Joaquin River has decreased since the peak years of 1995 when the loading was estimated at 17,238 pounds at Vernalis (CRWQCB-CVR – 2001.) Given the relationship between selenium in water and young salmon and steelhead there remains a substantial ongoing risk to migrating juvenile

Chinook salmon and steelhead in the San Joaquin River and Delta (Beckon and Maurer –2008). The mortality may be 10 to 20 percent today with a 1.84 ug/g selenium whole body dry weight (Beckon and Maurer, Nov. 2008.) Mud Slough Mosquito fish continue to accumulate selenium to a higher concentration than the toxicity threshold of 4 mg/kg with concentrations ranging from 4.0-to 16.4 mg/kg selenium (Beckon, et.al. –2008.)

A population that suffers 10 to 25 percent mortality attributed to contaminated habitat and food chain cannot be called “in good condition” nor can such a population be called sustainable. **A population / ecosystem collapse will surely follow. The most sensitive specie / organism must become the standard for resource protection, not the most tolerant species / organism.**

Research findings indicate that the dietary toxicity threshold for selenium in fish and wildlife is only 3 ppm. Because of this, food chain organisms containing 3 ppm dry weight or more should be viewed as potentially lethal to fish and aquatic birds that consume them (Lemly 1993.) Therefore selenium residues in fish tissues and that of other aquatic life in excess of 3 ppm should be considered hazardous to the health of fish life and aquatic life and should be considered as presumptive evidence of significant contamination of the aquatic ecosystem.

Research indicates that waterborne selenium of 2 ppb or greater is considered hazardous to the aquatic ecosystem and to the health and long-term survival of fish and wildlife populations because of bioaccumulation of selenium in food-chain organisms. The extremely narrow margin between "safe" and "toxic" selenium levels in tissue, along with the propensity for it to accumulate in the aquatic food web, underscores the biological importance of even slight increases of selenium in the environment (Lemly 1993). The most sensitive indicator of selenium toxicity in fish and aquatic birds is partial or complete reproductive failure. Such failure can occur with little or no mortality or visible symptoms in adults (Lemly et al. 1993.) The subtle effects of reduced or failed reproduction can have devastating long-term consequences for aquatic biota (LeBlanc-1995, Skorupa, et al 1996.)

The thought process to justify the Grasslands Bypass Project appears to be about how much selenium there can be in an aquatic ecosystem before there is specie die off / kill or ecosystem collapse. The question should not be, “What is an acceptable risk for public trust resources, uses and values to suffer so the Westside drainers can continue to use the Drain and the San Joaquin River to dispose of selenium contaminated drainage? That question should not be part of the equation. The question must be refocused to “How best can the stress, harm and toxicity / mortality to Chinook salmon, steelhead, other fish and wildlife and impacts to beneficial uses of water, be prevented?”

In drainage and runoff water that carries selenium, selenium contaminates the food chain from the lowest algae and plankton to invertebrates (mollusks and insects), to prey and forage fish to predator fish and wildlife (birds and mammals). Concentration of selenium can commonly reach levels that have killed embryos, deformed young and killed adults. There could a loss of millions of Chinook salmon fingerlings or striped bass larva and no one would see any visual sign or evidence. Young salmon and

steelhead moving through such waters are exposed to selenium-contaminated foods. They are also suffering metabolic stress from a low level of toxicity, or suffering low level but on going mortality. In addition, the continued heavy selenium loading of the Lower San Joaquin River could impair the efforts to restore the Chinook salmon run in the San Joaquin River upstream of the Merced River.

The number of pesticides present along with selenium may have importance from a toxicological standpoint. The U.S Geological Survey found concentrations of 33 pesticides (25 herbicides and 8 insecticides) found in Salt Slough (Dubrovsky et al. 1998.) Salt and Mud Sloughs are composed mostly of agricultural drainage including both surface irrigation return flows and sub-surface drainage (shallow ground water). The number of pesticides detection is consistently high in Mud and Salt Sloughs during the irrigation season when such waters receive irrigation return flows and drainage (SWRCB –2000.) The synergistic effects of some pesticides could result in greater toxicity when combined with other toxic compounds and selenium than when individually present. Researchers from the Northwest Fisheries Science Center and Washington State University (Laetz, et al. 2009) report study findings that when salmonid fishes are exposed to carbamate (carbaryl and carbofuran) and organophosphate (diazinon, malathion and chlorpyrifos) agricultural chemicals, the affect is “synergistic” rather than additive, meaning that when test salmon were exposed to combinations of pesticides, the effects were more lethal than could be anticipated from simply adding the effects of the separate chemicals together. These chemicals are known to inhibit the enzyme “acetylcholinesterase” thereby interfering with cholinergic neurotransmission in fish as well as humans. Impacts to the immune system require long-term studies that to my knowledge have not been done.

About 29 miles of Mud and Salt Sloughs and the lower 100 miles of the San Joaquin River are impaired in quality and have a toxicity the source of which is unknown according to the 2000 California 305 (b) Report on Water Quality (SWRCB-October 2000) and remain so today. The findings by Laetz, et al. (2009) should shed light on a possible source of the unknown mortality in Salt and Mud Sloughs and the lower San Joaquin River. The above waters are the defacto San Joaquin Valley drain. These waters are a witch's brew of agricultural chemicals, trace elements and various chloride and sulfate salts carried by drainage and wastewater. Elevated concentrations of many elements and salts including selenium, boron, molybdenum and chloride and sulfate salts are commonly observed. Water quality was a concern then and remains a concern in the south Delta as poor water quality from the San Joaquin River impacts the entire Delta ecosystem. Agricultural chemicals and selenium-contaminated drainage no doubt is playing a roll in the Delta's Pelagic Organism Decline.

Because of selenium's bioaccumulation properties via the aquatic food chain, Presser and Piper (1998) strongly argue that the assimilation capacity of receiving water for selenium cannot be based on a dilution model. Allowable selenium loading needs to be determined by using a mass balance approach that recognizes the cumulative loading of selenium in water, sediment and biota, including past loading (e.g. in bed sediments). Although not all the ramifications of selenium cycling are known, a mass balance approach to understanding selenium transport and fate would contribute to establishing

limits of bioaccumulation of selenium in relation to such important variables as flow and speciation. These data are necessary for the design of management strategies that try to optimize selenium concentrations and loading and also comply with regulatory commitments that adequately protect the environment and assure the renewability of aquatic resources and other interests covered by public trust protection.

Bureau of Reclamation public trust obligations.

The Bureau of Reclamation delivers water to the San Luis Unit of the Central Valley Project. It is well recognized that the Central Valley Project and the water it delivers to agriculture is subsidized by the Federal taxpayer (LeVeen-1986, Rennie – 1996.)

Drainage and wastewater resulting from irrigating saline seleniferous soils is a pollutant. With continued irrigation the selenium leachate will continue to move through the soil, and into the groundwater and to surface water causing new and continuing damage each day creating a nuisance. The Reclamation Act of June 17, 1902, states in Section 8, that the Secretary of the Interior, in carrying the provisions of this Act, shall proceed in conformity with State law. Because of selenium's toxic effects and its ability to bioaccumulate in biota, such discharges are expressly prohibited by at least 3 state statutes, Fish and Game Code sections 5650 and 5937 et seq.; Health and Safety Code section 5410 et seq.; and Water Code section 13000 et seq. Fish and Game Code section has remained fundamentally unchanged since 1870. This law was a way to protect streams and rivers from the destructive effects of the gold miners.

Today corporations and their board of directors, the land owners, water purveyors and farm operators responsible for the selenium-laden drainage and wastewater, should be held accountable for the toxic wastes and nuisance impacts. This would include administrators from US Bureau of Reclamation (and all water right permits and licenses) and the Department of Water Resources. It includes managers of Westlands Water District and other irrigation or drainage districts receiving CVP water, such as Broadview Water District, Firebaugh Canal Water District, Pacheco Water District, Panoche Drainage District, Camp 13 Drainers within the Central California Irrigation District, Widren Water District, and Charleston Drainage District. This should also include landowners (including lending institutions) and farm operators irrigating highly saline - seleniferous soils or otherwise causing drainage problems. These people are known or can be quickly identified. They are the responsible parties and should be held accountable for their actions and damages to water quality, trust resources and beneficial uses. (See *Newhall Land and Farming Co. v. Superior Court*, 19 Cal. App. 4th; 23 Cal. Rptr. 2d 377 Oct. 1993.)

Water borne selenium is the single and best predictor of pollution of the aquatic system. The continued irrigation of saline / seleniferous soils of the San Joaquin Valley with its selenium contaminated discharges to the San Joaquin River constitute a waste and unreasonable use of the State's water and is also a nuisance. When a use of water that so degrades the sustainability of a downstream ecosystem or a component of that ecosystem making it unsuitable for sustaining viable agriculture, populations of wildlife,

fish and other aquatic life, or which results in fish unsuitable for human consumption, or which is a hazard to other fish and wildlife, or which degrades ecological, aesthetic, recreational uses, and scenic values; it is inconsistent with public trust protection and the reasonable use of water, it is a waste of water and is therefore a nuisance. When selenium enters the bodies of mothers of childbearing age or children, or enters the domestic or wildlife food supply to toxic levels without our consent, it is a trespass.

State Water Resources Control Board

A public trust duty of the State Water Board is not only to protect the beneficial uses of water, but also to also protect and preserve the State's waters as habitat for fish, wildlife, for fishing, swimming, recreation and ecological values as well as a water supply. This in essence was the rulings in the Federal and State Court decisions in the hydraulic mining cases in 1884, i.e. *Woodruff v North Bloomfield Mining Co.*, 18 F – 1884, and *People v Gold Run Ditch and Mining Co.*, 66 Cal.138 -1884.

The 1884 Federal and State rulings were followed by a 1895 ruling by a California Court in *People ex rel Ricks Water Co. v Elk River Mill and Lumber Company* (40 Pac Rpt 486-1895.) In this case the owner of a lumber mill and ranch enterprise was allowing filth from cows, hogs, stables, other debris and fetid matter to enter and contaminate Elk River which was a water supply for people and other interests downstream including the City of Eureka. Clearly this was not a wholesome setting. The *Court* found the pollution a nuisance and an unreasonable use of the waters of the stream. The *Court* reasoned that the acts enjoined are equivalent to actually putting the polluting material directly into the water. The *Court* further stated if the conformation of the defendant's land is such that he cannot carry on a dairy without putting such filth directly into the water, then he must find some other use for the land (emphases added.)

Casting the meaning of the *Gold Run* and the *Elk River Mill* decisions in an agricultural drainage and wastewater context, the decision could read "Farming and other agricultural entities / corporations did not gain any right through custom, to dump their wastewater, drainage or other material, sediment, debris, etc., into State waterways. The disposal of such agricultural wastewater and other wastes is a public nuisance, an invasion of public rights, and therefore unlawful. The act of disposing of such agricultural drainage, wastewater and other wastes can be enjoined. The ruling would impact the entire agricultural community and associated corporations. Each entity can continue to farm, but cannot dump or allow their wastewater, drainage and other debris to enter the waters and waterways of the State.

The *Audubon Court* (*National Audubon Society v. Department of Water and Power, City of Los Angeles*, 1983, (also called Mono Lake decision) 33 Cal 3d 419, 658 P2d 709, 189 Cal Rpt 346, modified at 22 Cal 3d 426.) discussed the taking issue. The Court stated, "Once again we reject the claim that the establishment of the public trust constituted a taking of property for which compensation was required-". Holders of water rights (either permit or license) hold them subject to the public trust (189 Cal Rpt. 346 at 360- 1983.) Since protecting the public trust was a pre-condition of any water

right permit or license issuance, the water necessary to protect the public trust was never transferred and therefore there is no taking issue.

Protecting the public trust interests and beneficial uses of water is a pre-condition of any discharge permit issuance. Therefore any discharge that is found to be or result in an unreasonable use of water or a nuisance, the discharge permit can be withdrawn, the discharge enjoined and there is no taking issue (*Audubon* – 1983.)

Water Management and Policy

The following questions regarding public policy and water management must be openly answered regarding this project and similar project that discharge selenium contaminated drainage and wastewater that enters California's aquatic ecosystems, surface and groundwater.

1. Is it good public policy and a good investment of public and private funds to irrigate saline - seleniferous soils?

Response. No. With today's knowledge about the extent of selenium in soils on the Westside of San Joaquin Valley and the long-term environmental impacts resulting from selenium contaminated drainage and wastewater on beneficial uses of water and the public trust, it is not good public policy. It is also not a good investment of public and private funds to continue to irrigate saline seleniferous soils that are the source of the selenium drainage and wastewater because of its toxic impacts and destruction of beneficial uses of water, associated resources, uses and values.

2. Is it good public policy to dam Northern California Rivers and divert massive amounts of such waters to irrigate selenium containing lands, when the drainage and wastewater from this activity results in poisoning fish, birds, mammals, reptiles and other wildlife and renders their habitats toxic; killing the soil thru salinization as well as degrading or destroying beneficial uses of water?

Response. No. It is not good policy nor is it wise use of our water resources to dam Northern California rivers and divert massive amounts of water to irrigate saline seleniferous soils which results in drainage and discharges that degrade water quality, poison the soil, kill fish and wildlife and render wetland habitats toxic and destroying beneficial uses of the State surface and groundwater.

3. Is it a reasonable and wise use of our limited water resources to continue to irrigate saline-seleniferous soils to grow surplus crops in a near desert environment when other options are available?

Response. No. It is not reasonable to use our limited high quality water resources to irrigate saline seleniferous soils to grow surplus crops. In addition with today's knowledge such an irrigation use is not sustainable. In addition

species listed under the Federal Endangered Species Act are being impacted in the area of origin as well as in the area of use, i.e. the San Joaquin Valley.

4. Have we pushed the assimilative capacity of Central Valley rivers and the Delta to the point where the water quality is detrimental to the sustainability of fish and other aquatic life, water dependent species, migratory birds, recreation and other beneficial uses of such waters?

Response. Yes. From the evidence the State Water Board may have pushed the assimilative capacity of the San Joaquin River, its valley tributaries and the Delta beyond its ability to recover. The synergistic effects and the safe limits of selenium coupled with boron, molybdenum, and a variety of salts and dozens of agricultural chemicals (many herbicides, insecticides, volatile organic compounds and fertilizers) found in Valley waters are unknown. The Pelagic Organism Decline in the Delta may be a real warning sign.

This EIS / EIR and the San Luis and Delta Mendota Water authority should refer to the California Court's *Audubon* decision and to State Water Board's Mono Lake Basin Water Right Decision 1631 for guidance in how to manage public trust assets. The *Audubon* Court stated that the public trust is more than affirmation of State's power to use public property for public purposes with any surrendering that right of protection only occurring in rare cases when abandonment of that right is consistent with the purposes of the trust. The *Audubon* Court also said parties acquiring rights in trust property (in *Audubon* it was freshwater), hold those rights subject to the public trust and can assert no vested right to use those rights in a manner harmful to the trust. One must conclude that protecting the public trust is a pre-condition of any water right permit or license or any discharge permit issued by the State.

Racanelli (U.S. v. State Water Resources Control Board, 227 Cal Rptr. 161, at 195) ordered the State Water Board to set water quality standards to protect all beneficial uses. *Racanelli* also told the State Water Board that it must take a global view, i.e. watershed and consider all storage, diversions and discharges. The *Racanelli* decision (at 200) also stated the State Water Board has a mandate under state and federal law to set water quality standards to protect fish, wildlife and ecological values.

The *Audubon* Court tied public trust protection to the maintenance of natural resources for the innate value and not to private beneficial uses of water. Under *Audubon* the Water Board's first task was to determine the water requirements necessary to protect trust uses in the Mono Lake Basin. In the State Water Board's Mono Lake Decision 1631, the effort was to establish standards to protect Mono Lake and tributaries for many natural values and beneficial uses before water could be exported out of the Basin (Koehler, Cynthia L.-1995.) The continued irrigation of the seleniferous soils of the Grassland Drainers with water imported from northern California Rivers apparently requires the continued use of the Drain to dispose of the selenium contaminated drainage. It doesn't correct the problem; it just moves the toxic problem to another area to Mud Slough and the San Joaquin River to the Delta.

The availability of subsidized CVP water encouraged Westside farmers to develop lands that could not be farmed for lack of water and to irrigate marginal lands that could not be farmed at a profit (LeVeen-1986, Rennie- 1996.) In 1978, the Federal subsidy (public investment) was put at \$770 million, or a value of \$1,540 per acre for the San Luis Unit, CVP. The value of the land has increased about \$800.00 per acre while the project cost was \$1,540.00 per acre. This is about a \$2.00 dollar cost to \$1.00 dollar benefit ratio. This does not include the annual subsidized cost of water and power that is used to pump water through the various pump lifts and canals. The annual water and power subsidy per acre of Westlands was estimated at \$217.00 per irrigated acre (see pages 38 & 39 – Task Force Report -USBR 1978.) Using the Cost of Living Calculator, the \$1,540.00 value in 1977 is \$5,227.00 per acre in 2007.

This does not include the damages to public trust resources (several races of Chinook salmon, Coho salmon and steelhead), uses and ecological values in the watersheds of origin of the water supply such as the Trinity, Sacramento and American Rivers. The subsidy value does not include damages to trust interests of the Grasslands, degraded surface and ground-water supplies, the cost of replacement water supplies or any clean-up and allied costs associated with selenium damages, or the more than \$150 million drainage water studies.

Today the value of the uplands containing selenium source or the contaminated bottomlands would be far less than the \$800.00 figure of 30 years ago. Without Federally subsidized water along with crop subsidies, much of the developed farmed land, the source of the selenium drainage, would not be irrigated. Such lands on the open market would be nearly worthless without subsidized water and crop subsidy payments (LeVeen -1985, Rennie – 1996.) Madera, Merced and Fresno Counties (which includes the Drainers), received about \$132 million in farm subsidies in 2006. Trinity County received \$585.00. (USDA data in Environmental Working Group Website, Feb. 16, 2009.)

Human health advisories have been issued yearly against consuming selenium contaminated fish tissues (bluegill and largemouth bass) and of migratory birds (ducks and coots) from the Grasslands. Women of childbearing age and children are cautioned against eating any such tissues.

Waterborne selenium is the single best predictor of pollution that it can and will continue to have an adverse affect on the aquatic ecosystem, associated fish and wildlife resources, uses and values (Saiki, et al-2001.) While the selenium loading of the San Joaquin River has decreased in the past few years, there is still a substantial loading occurring. The continued use of the San Luis Drain to carry drainage and then dumping this drainage into Mud Slough where it can flow to the San Joaquin River and on to the Sacramento- San Joaquin Delta is just another taxpayer subsidy to those farming seleniferous soils.

Summary

Public trust properties and interests have been degraded and the viability of aquatic ecosystems tributary to the San Joaquin River and the River itself are impaired. This pollution has degraded public trust assets and beneficial uses. Such pollution has multiple long-term problems for water supply, water quality and the sustainability of aquatic resources and ecosystems. A least a partial cause of the Delta's Pelagic Organism Decline could be traced to selenium and pesticide contaminated environment.

Central Valley Chinook salmon and steelhead are among the most sensitive of fish and wildlife to selenium exposure. They are especially vulnerable during juvenile life stages when they migrate and rear in selenium-contaminated Central Valley Rivers and the San Francisco Bay/Delta estuary. Rivers and sloughs that carry agricultural drainwater, concentration of selenium in invertebrates (insects and mollusks), small (prey) fish, and larger predatory fish commonly reach levels that could kill a substantial portion of young salmon. If Chinook salmon and steelhead young are exposed to selenium-laden food supply long enough on their downstream migration, they could bioaccumulate selenium to toxic levels. Based on existing water quality data for selenium in specific reaches of the San Joaquin River, there remains a substantial ongoing risk to migrating juvenile Chinook salmon and steelhead in the San Joaquin River. The continued selenium loading of the Lower San Joaquin River plus the effects of agricultural chemicals could impair the efforts to restore the Chinook salmon run in the San Joaquin River upstream of the Merced River as well as impacting existing runs in the Stanislaus, Tuolumne and Merced Rivers.

A use of water that so degrades the sustainability of a aquatic ecosystem or a component of that ecosystem to make it unsuitable for sustaining viable agriculture, wildlife, fish and other aquatic life, or which makes fish unsuitable for human consumption, or which is a hazard to other fish and wildlife, or which degrades ecological, aesthetic, recreational uses, small craft navigation, and scenic values, is inconsistent with public trust protection, the reasonable use of water and is therefore a nuisance. When chemicals enter the bodies of adults or children, or enter the domestic or wildlife food supply to toxic levels without our consent, it is a trespass.

Respectively Submitted

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