APPENDIX P4

State Agency Comments and Responses

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ALPHABETICAL TABLE OF COMMENTERS

COMMENT S-01. CALIFORNIA COASTAL COMMISSION (1 OF 2), MARK DELAPLAINE

STATE OF CALIFORNIA – THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, *Governor*

CALIFORNIA COASTAL COMMISSION
45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200

June 3, 2005

Claire Jacquemin
Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825

Re: Coastal Commission staff comments, Draft EIS, Bureau of Reclamation, San Luis Drainage Feature Re-evaluation

Dear Ms. Jacquemin:

Please accept these comments on your Draft EIS and place us on your mailing list for the final EIS and any hearing notices regarding the above-mentioned activity. It would appear from the following discussion in the DEIS that the preferred option to be identified in the FEIS is unlikely to be the ocean disposal option which would include a drain at El Estero in San Luis Obispo County. The DEIS (pages 2-94 to 2-95) states:

> **2.15 PREFERRED ALTERNATIVES**
>
> Two "preferred alternatives" are discussed in this section: the agency-preferred alternative and the environmentally preferred alternative.
>
> **Reclamation's preferred alternative** is the one that completes the action of providing drainage service and best meets the purpose of and need for this action. At this stage in the SLDFR Feasibility Study and its environmental review, Reclamation anticipates that its preferred alternative will be one of the three In-Valley/Land Retirement Alternatives or some variation of one of the three In Valley/Land Retirement Alternatives. Two of these three alternatives have been identified as having distinct advantages:
>
> • The National Economic Development (NED) analysis completed to date for the SLDFR Feasibility Study indicates that the alternative with the greatest net benefit (benefits minus costs) to the United States as a whole, commonly called the NED alternative, is the In-Valley/Drainage-Impaired Area Land Retirement Alternative.
>
> • The In-Valley/Water Needs Land Retirement Alternative, with its nearly 194,000 acres of land retirement primarily in Westlands Water District, is the closest to a "locally developed" alternative because it is consistent with key elements of the proposed Westside Regional Drainage Plan (SJREC WA et al. 2003).
>
> All of the In-Valley Alternatives allow for flexibility in implementation including a phased approach for construction and mitigation (with the Northerly Area having collection and disposal components completed first) and the ability to evaluate and incorporate new technologies. Complete drainage service can begin sooner than for the Out-of-Valley Disposal Alternatives, which require completion of extensive pipelines for disposal to the Delta or Ocean. This flexibility is the principal reason for selection of one of the In-Valley Alternatives. Reclamation's preferred alternative will be selected for the Final EIS, following review of public comments on this Draft EIS and additional results from the pilot studies.

The **environmentally preferred alternative** is defined as the one that promotes the national environmental policy and causes the least damage to the biological and physical environment and that best protects, preserves, and enhances historic, cultural, and natural resources. Each of the action alternatives has some significant negative environmental effects; no single alternative is superior to the others. The In-Valley Alternatives would have major effects to migratory waterfowl from the evaporation basins, while the Delta Disposal Alternatives would cause some increases in salt and Se in the Delta. The Out-of-Valley Disposal Alternatives also have greater potential impact on cultural resources. Selection of an environmentally preferred alternative involves balancing effects on different resources, a judgment that would place higher value on some resources than others. (See Table ES-10 for a comparison of adverse effects.) Reclamation will continue to investigate the feasibility of mitigation and consider comments on the Draft EIS prior to designation of an environmentally preferred alternative no later than in the Final EIS.

S-01-1 We agree with the DEIS' tentative conclusion that the ocean disposal would be more environmentally damaging that inland alternatives. In the event the ocean disposal is selected as the preferred alternative, we wish to point out that the Bureau of Reclamation would need to submit a consistency determination to the California Coastal Commission for that alternative, because it would be located within and would clearly affect the coastal zone. This requirement arises under Section 307 of the Coastal Zone Management Act.[1] A consistency determination is a finding that a proposed activity is consistent to the maximum extent practicable with the California Coastal Management Program, combined with information necessary to support that

S-01-2 conclusion, including an analysis of the project's consistency with Chapter 3 of the Coastal Act.[2] (You can view sample consistency determinations on the Internet at http://www.coastal.ca.gov/fedcd/fedcndx.html.) Any such determination would need to evaluate the project's effect on coastal zone resources and to establish that this alternative is the least environmentally damaging feasible alternative. Based on the information in the DEIS, selection of one of the inland alternatives would not trigger the need for a federal consistency submittal to the Coastal Commission.

If you have any questions about the need for or preparation of a consistency determination, please contact Larry Simon, the Commission's federal consistency coordinator, at (415) 904-5288.

Sincerely,

MARK DELAPLAINE
Federal Consistency Supervisor

cc: Santa Cruz Area Office, Charles Lester
Jack Gregg, CCC, Water Quality Unit
Larry Simon, CCC, Federal Consistency Unit
BCDC, Steve McAdam
EPA, Region IX, Tim Vendlinski

1 16 U.S.C. Section 1456, with implementing regulations at 15 CFR Part 930.

2 See CFR Section 930.39 for a full listing of the information required for a complete consistency determination.

RESPONSES TO COMMENT S-01

S-01-1

The comment is noted; however, an environmentally preferred alternative is not identified in the Draft EIS. The preferred alternative has been identified in the Final EIS as the In-Valley/Drainage-Impaired Area Land Retirement Alternative, as discussed in Section 2.15.

S-01-2

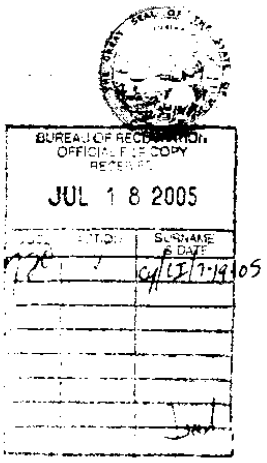
The commenter is correct. As shown in Section 4, Table 4-1, the Ocean Disposal Alternative would be subject to approval of the California Coastal Commission. A consistency determination would be sought if the Ocean Disposal Alternative is selected for further consideration.

COMMENT S-02. CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE, STEVE SHAFFER

STATE OF CALIFORNIA — ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF FOOD AND AGRICULTURE — A. G. KAWAMURA, Secretary

Office Of Agriculture and Environmental Stewardship
1220 N Street, Room A-400
Sacramento, CA 95814
Phone: (916) 657-4956
Fax: (916) 657-5017



July 15, 2005

Ms. Claire Jacquemin
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Re: **Comments on the Bureau of Reclamation's Draft Environmental Impact Statement (EIS) for the San Luis Drainage Feature Re-evaluation**

Dear Ms. Jacquemin:

The Department of Food and Agriculture (CDFA) is pleased to provide comments on the Draft EIS for the San Luis Drainage Feature Re-evaluation. CDFA strongly supports the Bureau of Reclamation's (Bureau) approach in considering all of the options advocated by various stakeholders in providing sustainable drainage service solutions to the San Luis Unit. Currently, there are no favored approaches (In-Valley, Ocean disposal, and Delta disposal) among the several alternatives evaluated in the draft EIS. However, it is anticipated that the Bureau will be recommending an in-valley solution as the preferred alternative in the Final EIS. CDFA shall therefore, focus on this drainage alternative and specifically the land retirement component of this alternative for our written comments.

The In-Valley Alternative considers several options ranging from no additional land retirement to retirement of all impaired lands within the Westlands Water District (WWD) boundaries. CDFA strongly supports an option that minimizes or eliminates the need to retire farmland, while providing the drainage services necessary to keep productive land productive. Certainly, there are drainage-impaired lands along the west side of the San Joaquin Valley that are no longer arable. There are also a number of growers and their families who no longer find farming these marginal lands a viable proposition. In these situations land retirement could be a practical option. However, there are also a number of growers who want to continue to farm and contribute to their communities. In these cases, growers should be provided technical and financial assistance to continue their operations. USDA has a number of programs such as EQIP, which can facilitate the transition to alternative and sometimes nontraditional crops that could thrive under reduced irrigation scenarios or dry land farming. There are also incentives for growers to retire marginal or environmentally sensitive to wildlife habitat or habitat friendly agricultural management scenarios. There are also agronomic practices such as

S-02-1 integrated on-farm drainage management, which the farmer can adopt to increase water use efficiency and reduce discharges of irrigation water off the farm. We recommend that the ultimate approach to these drainage-impaired lands be multi-faceted, based on current farming technologies and management alternatives, as well as on land capability. We recommend that the Bureau also fully inform affected growers of the options available to them in addition to permanent land retirement.

S-02-2 Taking a "toolbox" approach to the problem will also help affected communities whose services depend on tax revenues generated by agriculture and agriculture-dependent recreation. Conversely, land retirement could have significant economic impacts on these communities. Local businesses, local governments, school districts, regional employment will all be affected, the extent of which is dependent upon the acreage retired and the importance of agriculture to the local economy. In addition, land retirement could result in significant loss of jobs resulting in environmental justice concerns. Thus, we recommend that the Bureau also investigate any environmental justice issues associated with the displacement of farm workers resulting from land retirement.

S-02-3 The handout distributed at the July 5th public hearing in Sacramento for the draft EIS specified that with respect to retired lands there is the assumption "that retired lands would be fallowed or managed as dryland farming or grazing lands". Management strategies for different plots of retired land will of course vary on a case-by-case basis, but the Bureau should provide much more detail on the long-term implementation of these strategies. Remediation of saline sodic soils and shallow water tables and control of agricultural pest including weed, invertebrate, and vertebrate pests would be among several actions needed to restore and maintain permanently retired drainage impaired lands. Conversion of large acreages of agricultural land to wildlife habitat will be a costly and time consuming process and finding a government agency or private entity willing to embrace these land use planning and financial responsibilities will be challenging.

CDFA is aware that agricultural entities such as Westlands Water District (WWD), the Exchange Contractors, and other affected districts have advocated land retirement as a drainage service component in the publication "Westside Regional Drainage Plan (WDRP)". WWD in particular has developed the documents "Land Retirement in Westlands Water District" which attempt to respond to the concerns raised in this letter, among others. WWD proposes several beneficial uses for lands which no longer receive Central Valley Project water such as dryland farming, wildlife habitat restoration, and even economic development. Again, CDFA supports the multi-faceted approach advocated by WWD, but stresses that it is important to maintain the agricultural sustainability of the land either through modified farming practices or different cropping strategies. CDFA does not support permanent conversion of potentially productive agricultural land along highway corridors to development that closes all future options for food production on these lands.

Ms Jacquemin
June 15, 2005
Page 3 of 3

Thank you for the opportunity to comment on the Draft EIS for the San Luis Drainage Feature Re-evaluation. If you have any questions, please contact Matthew Reeve of my staff at (916) 651-9446.

Sincerely,

Steve Shaffer, Director
Office of Agricultural and Environmental Stewardship

RESPONSES TO COMMENT S-02

S-02-1

See Master Response ALT-S1 regarding source control assumptions for the project alternatives.

S-02-2

Economic impacts of project alternatives are discussed in Section 17.2. Environmental justice issues are described in Section 18.2.

S-02-3

Long-term management planning of retired lands is discussed in Master Response ALT-L1.

COMMENT S-03. STATE WATER RESOURCES CONTROL BOARD, GITA KAPAPHI

State Water Resources Control Board

Division of Water Rights
1001 I Street, 14th Floor ♦ Sacramento, California 95814 ♦ 916.341.5300
P.O. Box 2000 ♦ Sacramento, California 95812-2000
Fax: 916.341.5400 ♦ www.waterrights.ca.gov

Alan C. Lloyd, Ph.D.
Agency Secretary

Arnold Schwarzenegger
Governor

JUL 18 2005

Gerald Robbins
U.S. Bureau of Reclamation
Mid-Pacific Region
2800 Cottage Way
Sacramento, CA 95825

Dear Mr. Robbins:

COMMENTS ON THE MAY 2005 DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE SAN LUIS DRAINAGE FEATURE RE-EVALUATION

This letter concerns the Draft Environmental Impact Statement for the San Luis Drainage Feature Re-Evaluation (DEIS) dated May 2005. The State Water Resources Control Board (State Water Board), Division of Water Rights (Division) provides the following comments on the DEIS pursuant to the June 3, 2005 public notice of a 60 day public comment period. The Division's comments pertain to Section 5 of the DEIS concerning surface water resources.

S-03-1 The DEIS does not include any discussion of the impacts of the various alternatives on flows in the San Joaquin River and the Delta. State Water Board Decision 1641 (D-1641) requires the U.S. Bureau of Reclamation (USBR) to meet specified flows from February through April 14 and May 16 through June. USBR has not met these flows on several occasions from 2002 through 2004 and indicates that it will have difficulty meeting the flows in the future. The DEIS should disclose how the various alternatives may affect USBR's ability to meet the flow objectives and should propose appropriate mitigation for any impacts to flows. In addition, the DEIS should disclose what, if any impacts the various alternatives may have on meeting the Delta Outflow Objectives included in D-1641 for which the Department of Water Resources (DWR) and USBR are responsible for meeting. Further, the DEIS should discuss what if any, impacts the various alternatives may have on water levels in the southern Delta, and consequently southern Delta agriculture.

S-03-2 The DEIS generally states that the two Delta disposal alternatives will not violate water quality objectives. However, the DEIS does not specifically discuss the impacts of the alternatives on meeting the 0.7 mmhos/cm Electrical Conductivity (EC) objective for the protection of agricultural uses at the following locations in the southern Delta: the San Joaquin River at Brandt Bridge (Station C-6); Old River near Middle River (Station C-8); and Old River at Tracy Road Bridge (P-12) (the interior southern Delta sites) that DWR and USBR are responsible for meeting pursuant to D-1641. The Division understands that DWR and USBR will not be able to meet the 0.7 mmhos/cm EC objective at the interior southern Delta locations during the summer of most years without construction of physical facilities (and may have difficulty meeting the objective at the Brandt Bridge site even with construction of physical facilities). Accordingly, the DEIS should discuss how the Delta disposal alternatives will affect water quality at the interior

southern Delta sites, including when and if the objectives are already being violated and if physical facilities are or are not constructed.

Thank you for the opportunity to comment on the DEIS. If you would like to discuss these comments, please contact Diane Riddle, the Environmental Scientist assigned to this matter, at (916) 341-5297.

Sincerely,

Gita Kapahi, Chief
Special Projects Unit

cc: Carl A. Torgersen, Chief
Front Office
California Department of Water Resources
P.O. Box 942836
Sacramento, CA 942836

Donna E. Tegelman
Regional Resources Manager
U.S. Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Ronald Milligan
Mid-Pacific Region Office
U.S. Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Cathy Crothers
California Department of Water Resources
1416 9th Street
Sacramento, CA 95814

Rudy Schnagl
Central Valley Regional Board
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114

RESPONSES TO COMMENT S-03

S-03-1

Section 5 has been revised to include a discussion of changes to flows in the San Joaquin River and Mud Slough. A new Appendix D2 has been included in the Final EIS and provides results from CALSIM II modeling conducted to evaluate changes in flow at Vernalis. Appendix D4 has also been modified to include an evaluation of changes in flows in Mud Slough. As shown in the appendices and the revised Section 5, changes in flows are not significant for the action alternatives as compared to No Action. Therefore, changes in water levels in the South Delta (further downstream from Vernalis) are, by inference, also not significant.

S-03-2

The incremental maximum monthly contribution to electrical conductivity (EC) from the Delta Disposal Alternatives at Clifton Court Forebay (the modeled station nearest to the San Joaquin River at Brandt Bridge, Old River near Middle River, and Old River at Tracy Road Bridge) was calculated to be 13.6 mg/L or 18.1 μmhos/cm (see Table 5.2-7 on page 5-69 of the Draft EIS).

COMMENT S-04. CALIFORNIA DEPARTMENT OF FISH AND GAME, ANDY GORDUS

Andy Gordus
DFG - Fish & Game
Fresno, CA

The EIS was well written and presented a number of conceptual ideas such as:

landscape designs, land retirement plans, project site designs, management plans, and mitigating factors for the operation of a Federal drainage system.

Our primary concern is the **lack** of information in the document.

S-04-1 Providing **mitigation compensatory habitat** was mentioned but no conceptual locations, design plans, management plans, land ownership, or economic analysis.

S-04-2 The purpose of an EIS/CEQA document is for full public disclosure for the entire project, including all mitigation concepts, not wait until later to discuss. The EIS provided start-up and annual costs for each of the alternatives, but without including mitigation habitat cost estimates, the current cost estimates could be significantly skewed.

S-04-3a **Wintering impacts.** Recommend that an avian wintering impact analysis section be added to the document.

S-04-3b **Retired lands.** Planned for continued agricultural use.

The Department recommends that some of these retired lands be restored back to native upland habitats.

Costs. The federal project will require intensive management and monitoring to operate and to protect the environment.

S-04-4 Will the Federal Government commit to providing the staff and funding, in perpetuity, to properly operate these facilities, especially during lean times and under changing political philosophies?

Water flows to Mud Slough and the San Joaquin River.

S-04-5 Another concern is the loss of flows to Mud Slough and the San Joaquin River. Over the years, fish and wildlife have become dependent on current water flows and the Department recommends that Reclamation provide mitigation flows to this system for fish and wildlife.

RESPONSES TO COMMENT S-04

S-04-1

See Master Response MIT-2 in regard to mitigation planning.

S-04-2

The EIS is a NEPA document, not a joint CEQA/NEPA document. The depth of analysis required in an EIS should be commensurate with the decision that is the subject of consideration. The purpose of this EIS is to provide an environmental analysis among drainage service alternatives. Sufficient information has been provided to allow for an environmental comparison of those alternatives.

Reclamation has developed mitigation cost estimates for each alternative based on the revised Section 20 and included them in the Appendix O of the Final EIS. A review of these cost estimates indicates that mitigation costs for each alternative are of a similar magnitude and would not significantly change the relative costs among alternatives.

S-04-3a

See Master Response BIO-3 in regard to impacts to wintering birds.

S-04-3b

See Master Response ALT-L3 regarding future uses of retired lands.

S-04-4

See Master Response ALT-M1 in regard to project funding.

S-04-5

Section 5 has been revised to include a discussion of changes to flows in the San Joaquin River and Mud Slough. A new Appendix D2 has been included in the Final EIS and provides results from CALSIM II modeling conducted to evaluate changes in flow at Vernalis. Appendix D4 has also been modified to include an evaluation of changes in flows in Mud Slough. As shown in the appendices and the revised Section 5, changes in flows are not significant for the action alternatives as compared to No Action. Because the effects are not significant, no mitigation is required.

COMMENT S-05. DELTA PROTECTION COMMISSION, LORI CLAMURRO

STATE OF CALIFORNIA - THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, Governor

DELTA PROTECTION COMMISSION
14215 RIVER ROAD
P.O. BOX 530
WALNUT GROVE, CA 95690
Phone (916) 776-2290
FAX (916) 776-2293
E-Mail: dpc@calpark.net Home Page: www.delta.ca.gov

July 28, 2005

Ms Claire Jacquemin
U.S. Bureau of Reclamation
2800 Cottage Way, MP 700
Sacramento, CA 95825

Subject: San Luis Drainage Feature Re-Evaluation Draft Environmental Impact Statement (DEIS) (May 2005)

Dear Ms Jacquemin,

I am writing to submit comments on the aforementioned DEIS. I was in attendance at a scoping meeting held January 31, 2003, in Sacramento regarding the project, and have been monitoring the progress of the project for several years. The Delta Protection Commission itself has not had the opportunity to review the DEIS or these comments, so these are staff comments only. As the proposed project is sponsored by a federal agency, these comments are advisory only.

The Delta Protection Commission is a State land use planning agency with appeal authority over certain local government actions in the Primary Zone of the Delta; both the Commission and the Primary Zone portion of the Legal Delta were created by the Legislature under the Delta Protection Act of 1992. Since its inception, the Commission has been very interested in San Luis Drain and Grassland Bypass Project issues, and has been active in participating in these projects, due to their possible impacts to the Delta and its waterways. In 1995, the Commission adopted Resolution 95-3 regarding the San Luis Drain; I have enclosed a copy of the resolution for your information. The resolution states that the Commission would take positions on the development of options addressing disposal of agricultural drainage from the San Joaquin Valley, with the intent of ensuring that any preferred alternative would enhance the natural value of the State's aquatic habitats and maintain or enhance Delta water quality.

The DEIS outlines seven alternatives that the U.S. Bureau of Reclamation is considering regarding the San Luis Drain project: one involving ocean drainage disposal, four involving in-valley drainage disposal, and two involving drainage disposal in Delta locations (Chipps Island and Carquinez Strait). The DEIS identifies two "preferred alternatives" – the agency-preferred alternative and the environmentally preferred alternative. The DEIS states that at this time, the Bureau of Reclamation anticipates that its preferred alternative will be one of the in-valley/land retirement alternatives (or some

variation of them); it also states that no environmentally preferred alternative has been identified because all alternatives have significant negative environmental effects.

S-05-1

It appears that the Bureau's initial preferred alternative (one of the in-valley disposal/land retirement alternatives) would conform to the Commission's goals of maintaining or enhancing Delta water quality. The Delta disposal alternatives would increase the amount of salt and selenium in Delta waterways; the CALFED Bay-Delta Program has invested large quantities of money in water quality and wildlife habitat improvements in the Delta that may be jeopardized if drainage waters are released into the Delta. Additionally, retirement of the drainage-impaired lands in the San Luis Unit provides the opportunity for a one-time cost (land acquisition), with long-term water quality benefits (from the reduced drainage coming off those acquired lands) overall.

In summary, the Commission supports drainage management options that do not degrade the quality of water entering the Delta, as well as options that allow the Bureau to address San Luis Unit drainage problems in-valley. You may contact me at (916) 776-2290 or loridpc@citlink.net with any questions on the Commission or these comments.

Sincerely,

Lori Clamurro,
Delta Protection Commission Staff

Cc: Mike McGowan, Chairman

STATE OF CALIFORNIA — PETE WILSON, Governor

DELTA PROTECTION COMMISSION
14219 RIVER ROAD
P.O. BOX 530
WALNUT GROVE, CA 95690
PHONE: 916/ 776-2290
FAX: (916) 776-2293

RESOLUTION 95-3

REGARDING THE SAN LUIS DRAIN

WHEREAS, the Sacramento-San Joaquin Delta (Delta) is a natural resource of statewide, national, and international significance, containing irreplaceable resources, and it is the policy of the State to recognize, preserve, and protect those resources of the Delta for the use and enjoyment of current and future generations; and

WHEREAS, the basic goals of the State for the Delta include protecting, maintaining, and where possible enhancing and restoring the overall quality of the Delta environment; and

WHEREAS, the Delta's wildlife and wildlife habitats, including waterways, vegetated unleveed channel islands, wetlands, and riparian forests and vegetation corridors are highly valuable providing critical wintering habitat for waterfowl and other migratory birds using the Pacific Flyway as well as certain plant species, various rare and endangered wildlife species of birds, mammals, and fish, and numerous amphibians, reptiles, and invertebrates, that these wildlife species and their habitat are valuable, unique, and irreplaceable resources of critical statewide significance and that it is the policy of the State to preserve and protect these resources and their diversity for the enjoyment of current and future generations; and

WHEREAS, the resource values of the Delta have deteriorated and that further deterioration threatens the maintenance and sustainability of the Delta's ecology, fish and wildlife populations, recreational opportunities, and economic productivity; and

WHEREAS, the Delta Protection Commission has prepared and adopted a Land Use and Resource Management Plan for the Primary Zone of the Delta which recommends that programs to enhance the natural values of the State's aquatic habitats and water quality will benefit the Delta and should be supported, and recommends that water quality at Delta drinking water intakes should be maintained or enhanced; and

WHEREAS, historically, Central Valley agricultural wastewaters were released into the Kesterson Reservoir resulting in loss of wildlife and ultimately resulting in the closing of both the San Luis Drain and the Kesterson Reservoir in 1985; and

WHEREAS, the U.S. Bureau of Reclamation has been working with landowners to minimize the volume of agricultural drainage water and develop other methods to address this matter "in-Valley"; and

WHEREAS, on December 2, 1994 Judge Oliver Wagner of the U.S. District Court found that the Bureau of Reclamation has an obligation to provide drainage to the San Luis Unit and directed the Bureau to apply for a discharge permit for the San Luis Drain; and

WHEREAS, the Commission strongly considered adopting a position of absolute prohibition of Delta disposal due to concerns related to water quality impacts; and

WHEREAS, the Bureau of Reclamation will develop a range of options to address disposal of agricultural drainage generated by the San Luis Unit; and

WHEREAS, the State Water Resources Control Board will hold hearings on options developed by the Bureau of Reclamation; and

WHEREAS, other public agencies may hold hearings, workshops, and other public negotiations and meetings regarding long-term resolution of agricultural drainage generated by the San Luis Unit;

THEREFORE BE IT RESOLVED, the Delta Protection Commission will participate in and take positions on various proposed options to address disposal of agricultural drainage from the San Luis Unit before the State Water Resources Control Board or any other body holding similar deliberations, with the intent of ensuring that any preferred option will enhance the natural values of the State's aquatic habitats and maintain or enhance water quality of the Delta, especially at drinking water intakes.

Adopted on July 27, 1995.

Patrick McCarty
Chairman

RESPONSES TO COMMENT S-05

S-05-1

The comment is noted. Reclamation does not propose to acquire land for retirement. Instead, non-irrigation covenants would be negotiated with landowners.

COMMENT S-06. CALIFORNIA DEPARTMENT OF FISH AND GAME, ANDY G. GORDUS

State of California - The Resources Agency ARNOLD SCHWARZENEGGER, Governor
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
San Joaquin Valley and Southern Sierra Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4014

July 29, 2005

Ms. Claire Jacquemin
United States Bureau of Reclamation
South-Central California Area Office
2800 Cottage Way, MP-700
Sacramento, California 95825

Dear Ms. Jacquemin:

Draft Environmental Impact Statement (EIS)
San Luis Drain Feature Re-evaluation

The United States Bureau of Reclamation (Reclamation) is under a court order to provide agricultural drainage on impaired lands for the San Luis Unit pursuant to the San Luis Act (Public Law 86-488) and as such, produced the above mentioned EIS under the National Environmental Policy Act (NEPA). Reclamation proposes a no action alternative plus seven action alternatives including: Ocean Disposal, Bay-Delta disposal at one of two sites, and four In-Valley Disposal alternatives. Reclamation has concluded that the Ocean and Bay-Delta Disposal alternatives were not feasible. The Department of Fish and Game (Department) concurs with this conclusion. All four In-Valley Alternatives include the same basic concepts of identifying lands that require: tile-drainage for crop production; tile-water reuse areas using salt tolerant plants; a tile-water treatment facility using reverse osmosis; a selenium removal facility using bioactivators; and up to four evaporation basins for saline water disposal. Three of the In-Valley Alternatives include a Land Retirement Program using three different sets of criteria: groundwater quality (lands with the worst groundwater quality), water needs (based on the amount of irrigation water available to the San Luis Unit), and Drainage-Impaired Area Lands (remove all poorly drained lands from irrigated agricultural production). Reclamation did not identify a Preferred Alternative in this EIS, but will identify one of the In-Valley/Land Retirement Alternatives in the Final EIS and will decide which Alternative to implement in the Record of Decision (ROD). Based on the Department's review of this EIS, the In-Valley/Drainage Impaired Lands Retirement Alternative appears to be the most economical based on the annual Operate, Maintain, and Replace annual cost analysis, but the In-Valley/Water Needs Retirement Alternative seems to be the most practical.

Because one of the In-Valley/Land Retirement Alternatives will be selected as the Preferred Alternative, the Department will concentrate our comments to these alternatives.

Conserving California's Wildlife Since 1870

S-06-1 Should Reclamation decide to propose one of the other Alternatives, the Department requests that we have the opportunity to review and comment on these other and/or any new proposed alternatives at a later date.

Overall the EIS was well written and presented a number of conceptual landscape designs, land retirement plans, project site designs, management plans, and mitigating factors for the operation of a Federal drainage system in the San Luis Unit. However, providing mitigation compensatory habitat was mentioned (see Page 7-118 "...detailed mitigation plan for the preferred alternative will be in the Final EIS."; Page 8-25 "...mitigation yet to be determined..."), but no conceptual locations, design plans, management plans, land ownership, or cost analysis was provided. The purpose of an EIS/CEQA document is full public disclosure for the entire Project, including all mitigation concepts, not wait until later to discuss. The EIS provided start-up and annual costs for each of the alternatives, but without mitigation compensatory habitat cost estimates, the current cost estimates could be significantly skewed. Below are some general comments to the EIS.

Costs: The re-use areas, evaporation basins, and mitigation compensatory habitats will require intensive management and monitoring to operate and to protect wildlife, particularly waterbirds. Table ES-9 stated that the costs for each of the alternatives will exceed the current Federal spending limit authorized under the San Luis Act. In addition, the past few Federal Fiscal-years, the Department of Interior budgets have remained level or have been slightly
S-06-2 reduced. The United States Fish and Wildlife Service (Service) Refuge System has had a net reduction in their budget the past few years. For example, if the mitigation habitat ownership and/or management are turned over to the Refuge System, will the Federal Government (i.e. Reclamation) commit to providing funding to support staff to properly manage these additional lands in their system, especially during lean times and under changing political philosophies? The same is true should Reclamation offer these mitigation lands to the Department.

Mitigation habitat: The EIS does not provide any conceptual plans for mitigation habitats. The In-Valley Alternatives will require evaporation basins that range in size from 1,270 to 3,290 acres. Suggested mitigation ratios for the evaporation basins in the Tulare Basin ranged from 10 to 1 to 1 to 1 in the early 1990's to as low as 0.1 to 1 in the late 1990's. Dr. Joe Skorupa of the Service and Dr. Charles Hanson of Hanson's Environmental, Inc. developed breeding mitigation habitat models (referred to as the Service Model and Hansen Model, respectively) for the Tulare Basin evaporation basins. The Service Model is composed of two parts: 1) Alternative wetlands within 3 miles of a basin, and 2) Compensatory wetlands beyond 3 miles of a basin. The Hanson Model is for compensatory habitat evaluation. Both Models have different approaches to evaluate mitigation acreages and will calculate a similar range of habitat acreages. Neither model is perfect, but both are very good starting points for evaluating a range of mitigation acreages, particularly for breeding birds. The acreage ratio from both models usually calculates to between 0.1 to 1.0 and 1 to 1 ratios. The next set of questions that need to be answered include: 1) whether alternative or compensatory habitat or both is needed; 2) the

locations and size of each mitigation type; 3) the feasibility in relation to costs to construct and manage a mitigation site; 4) the practicality to manage the habitat; and 5) the habitat types to provide. Alternative wetlands adjacent to an evaporation basin have demonstrated to provide a dietary dilution to selenium in waterbirds (Gordus 1999. *Selenium concentrations in eggs of American avocets and black-necked stilts at an evaporation basin and freshwater wetland in California.* Journal of Wildlife Management 63:497-501). However, nesting waterbirds have a tendency to tolerate hazing at an evaporation basin better than predator pressure at an adjacent wetland. The alternative breeding habitat should have an electric anti-predator fence completely surrounding the site. In addition, having up to four small adjacent wetlands will require intensive management and could be economically infeasible to manage because they will be so widely spaced apart across the Project area.

S-06-2 cont.

A 330 acre compensatory site (based on a 0.1 to 1 ratio for 3,290 acres of evaporation basins) would not be economically feasible to operate and manage. The Department believes that approximately 4,000 acres is the minimum size to economically operate and manage as a Wildlife Area or Federal Refuge. As such, we recommend Reclamation provide at least 4,000 acres (which is approximately from a 2:1 ratio to a 1.5:1 ratio using the groundwater and water needs criteria) of habitat as a single block of land on a year-round basis. We further recommend the land be centrally located within the vicinity of the Project area. The land should include a *reliable, optimal, clean* water supply and should be managed to provide a diversity of habitats for a variety of wildlife species across all seasons, similar to managed habitats currently in the Federal Refuge system or in the State Wildlife Area system. The Department has a list of properties that we have an interest in purchasing for developing into a Wildlife Area. Should Reclamation decide to purchase land for mitigation habitat, we request Reclamation contact us to further discuss opportunities that are available in the San Joaquin Valley and to guide the development of mitigation habitat in the context of emerging conservation strategies. We further suggest that Reclamation contact the Department to arrange a tour of the existing evaporation basins and mitigation wetlands in the Tulare Basin.

S-06-3

Retired lands: The EIS does identify how the retired lands will be purchased, either by willing sellers or by eminent domain or a combination of both for each alternative. Reclamation plans to use retired lands for agricultural use such as dry land grazing, dry land farming, and fallow. The Department concurs that well managed large blocks of dry land grazing can benefit sensitive native species. The Department recommends that some of these retired lands be restored back to native upland habitats in mosaic of large and small large blocks with movement corridors between the blocks and existing native habitats on the west side of the San Joaquin Valley and provide connectivity to the valley floor to the east. Examples of movement corridor enhancement projects include habitat along stream corridors such as Silver Creek and Arroyo Pasajero, others include fencing the California Aqueduct right-of-way, and installing wildlife friendly crossings over the Aqueduct. The Department has a number of suggested corridor types and locations, and we further request that Reclamation contact the Department to discuss native habitat restoration and corridor movement enhancement opportunities in the San Luis Unit.

S-06-4 One other concern the Department has is the transfer of water from the retired lands to existing dry land farming/grazing areas in the San Luis Unit. Converting existing dry grazing areas to irrigated crops or permanent crops will have a significant impact to threatened and endangered species in these areas.

S-06-5 **Water flows to Mud Slough and the San Joaquin River (Page 7-77):** Although removing salt/selenium loading waters from State waters such as Mud Slough and the San Joaquin River will improve water quality, another concern to the Department is the loss of flows to these waterways. Over the years, fish and wildlife have become dependent on these water flows and the Department recommends that Reclamation provide freshwater mitigation flows to this system for fish and wildlife.

S-06-6 **Wintering impacts to waterbirds using an evaporation basin:** The EIS presents a well written impact analysis for breeding birds using a selenium contaminated evaporation basin, but does not present an analysis for wintering impacts, such as salt toxicosis and salt encrustation on the feathers (see Gordus, et al. 2002. *Salt toxicosis in ruddy ducks that winter on an agricultural evaporation basin in California*, Journal of Wildlife Diseases 38:124-131). We recommend that an avian wintering impact analysis section be added to the document.

Specific Comments:

S-06-7 **Page 2-23, Northerly Area Evaporation Basin:** The second sentence states that the proposed site lies next to a wildlife refuge area. Which refuge is it? Also on Figure 14-1, the yellow code in the Legend indicates National Wildlife Refuges, but the yellow areas on the map show both the Grassland Resource Conservation Districts and the Refuges as being the same. This map needs some clarification.

S-06-8 Should an evaporation basin or reuse area be constructed and operated with 3 miles of a wildlife refuge/wildlife area or wetland conservation easement (i.e. duck club), the Department views this as a unique opportunity for Reclamation to implement full Level 4 refuge water supplies to these wetlands on routine annual basis.

S-06-9 **Page 8-15, Reuse areas:** The EIS indicated that the re-use areas will be managed to not hold water or form puddles or pools, and as such, will not attract wildlife. The EIS does not present conceptual management plans on how this will be achieved. Preventing puddles and discouraging wildlife use in these areas is not easily accomplished as current pilot projects have demonstrated. Another concern is the biomagnification of selenium, beginning with the salt tolerant crops. Again, the EIS does not present a quantitative analysis, nor present any mitigation and management concepts to address this issue. The final sentence in this section merely states that this will be addressed later to ensure that no significant effects occur.

S-06-10 **Page 8-23, Species Sensitivity:** First sentence. What does this sentence mean?

S-06-11 **Page 8-63, Mitigation Recommendations:** This section provides basic conceptual mitigation designs for an evaporation basin, but no conceptual design ideas for mitigation habitat. It refers the reader to Section 20, which provides no real conceptual designs or management plans for mitigation habitats.

S-06-12 **Section 20, Table 20-1:** Under the mitigation column, it suggests that applying for and obtaining a permit is mitigation. Although it is appropriate to identify potential permit requirements, this is a legal requirement, not mitigation for significant biological impacts as a result of the Project. Please be aware that obtaining permits for a project is a regulatory requirement and will not be considered a mitigating factor.

S-06-13 **Pages 20-14 and 20-15:** This section briefly mentions the development of mitigation and monitoring plans for selenium exposure. Reclamation also needs to add mitigation and monitoring plans for salt toxicosis and encrustation.

S-06-14 **Appendix B. Pilot Studies:** The Pilot-scale water treatment facilities study results indicated that salts and selenium can be reduced on a small scale basis. However, the treatment apparatus did plug up and fail on occasions. It still remains unclear as to whether these facilities can be designed and function efficiently on a large scale basis and on a daily basis throughout the year.

S-06-15 **Appendix G. Ecological Risk, In-Valley Disposal Alternative:** Page G-3 states that three evaporation basins will be located next to the reuse areas, but lists four evaporation basins. Please clarify. Page G-4: Backswimmers (Notonectidae) are another common invertebrate present in the existing evaporation basins. Page G-5: The 20-acre experimental cell at Westlake Farms is included as part of the total 740-acre basin. Also Cells A1A and A1B were re-configured and are now part of the total 740-acre basin. Page G-5: Section 23 at Westlake Farms is 640 acres, of which a portion was flooded at any one time. Page G-6: Eared grebes and the American coot have historically nested (floating nests) at the evaporation basins in the Tulare Basin. These two species should be included as part of the breeding bird risk analysis. Page G-12: The California least tern (*Sterna antillarum browni*), which is Federal and State-listed as endangered, has nested at Westlake Farms south evaporation for a number of years. Page G-17: "Malformations in developing fetus," should include the term "embryo" seeing that this discussion is mainly about birds. Page G-27: Mosquitofish (*Gambusia* sp.) are salt tolerant and have become established and survived in some evaporation basins in the Tulare Basin. Page G-45: Suggests overwintering birds have less duration on an evaporation basin than breeding birds. This is inaccurate. Depending on the overwintering species (i.e. eared grebes/northern shovelers/ruddy ducks vs dabbling ducks), some bird species will more likely have longer exposure periods than breeding birds. Migrating birds that are passing through the area and birds that loaf (i.e. black-bellied plovers) on the dikes during the day are least likely to have long term exposure. Page G-51: Presents a number of EC_{10} selenium threshold concentrations in eggs. The EIS needs to clarify whether the Service threshold is an EC_{10} threshold or an EC_3 threshold

S-06-15 cont. and whether these values are for an individual egg or a population of eggs. Page G-59: The snowy plover is most likely a "trace metal" tolerant species, because this species co-evolved with a saline environment and prefers to forage in a saline environment. References: Reclamation 2001 is not cited.

If you have any questions regarding these comments or wish to contact the Department, please contact Dr. Andrew Gordus, Staff Environmental Specialist, at the address or telephone number (extension 239) provided on this letterhead.

Sincerely,

Andrew G. Gordus, Ph.D.

for W. E. Loudermilk
Regional Manager

cc: Mr. Anthony Toto
California Regional Water
Quality Control Board
San Joaquin Valley Region
1685 E Street
Fresno, California 93706

Mr. Tom Maurer
United States Fish and
Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, California 95825

RESPONSES TO COMMENT S-06

S-06-1

The preferred alternative, the In-Valley/Drainage-Impaired Area Land Retirement Alternative, is identified in the Final EIS.

S-06-2

Section 20 of the Final EIS has been revised to include additional details about mitigation and adaptive management. Mitigation cost estimates are presented in Appendix O. Also see Master Responses MIT-1 and ALT-M1.

S-06-3

The comment is noted. Restoration of retired lands to native habitat is discussed in Master Response ALT-L3. Reclamation does not propose to purchase land for retirement. Instead, non-irrigation covenants would be negotiated with landowners.

S-06-4

See Master Response BIO-2 in regard to impacts to threatened and endangered species.

S-06-5

Section 5 has been revised to include a discussion of changes to flows in the San Joaquin River and Mud Slough. A new Appendix D2 has been included in the Final EIS and provides results from CALSIM II modeling conducted to evaluate changes in flow at Vernalis. Appendix D4 has also been modified to include an evaluation of changes in flows in Mud Slough. As shown in the appendices and the revised Section 5, changes in flows are not significant for the action alternatives as compared to No Action. Because the effects are not significant, no mitigation is required.

S-06-6

See Master Response BIO-3 in regard to impacts to wintering birds.

S-06-7

The Northerly Area evaporation basin is located adjacent to Grasslands Conservation Resource District land and the Grasslands Wildlife Area. The Final EIS has been modified to include this information. The Grassland Resource Conservation District in Figure 14-1 has been relabeled to accurately describe the area shown.

S-06-8

Providing full Level 4 water supplies to refuges is outside of the scope of this EIS. If feasible, water supplies for mitigation habitat could be conveyed to refuges after use in mitigation habitat. However, at this stage of mitigation planning, no assurance that such actions will be feasible can be provided.

S-06-9

The possibility that reuse areas may attract wildlife does exist. Reclamation is evaluating management concepts that would address such concerns. Management would make reuse areas unattractive for use and/or interrupt the food chain movement of constituents such as Se. An obvious consideration is the avoidance of standing water or ponding of water. Reclamation staff is evaluating designs to prevent ponding. Another concept may lie in the types of vegetation used at reuse sites. Tall, robust grasses may provide habitat for rodents, but the structure of that habitat would reduce the availability of rodents to predators such as Swainson's hawk.

S-06-10

The first sentence on page 8-23 states: "No data could be found that relate dietary Se concentrations to effects to the bird species most likely to nest and breed at evaporation basins (recurvirostrids such as stilts and avocets)." This sentence indicates that no Se dietary toxicity study results are available for these species. The following sentences indicate that the available toxicity data for these species link observed effects to Se concentrations in egg tissue.

S-06-11

Section 20 has been revised to include more detailed mitigation and adaptive management information.

S-06-12

Comment noted. No response necessary.

S-06-13

See Master Response MIT-1 in regard to adaptive management and monitoring.

S-06-14

See Master Response ALT-T1 in regard to the evaluation of water treatment options and technologies.

S-06-15

The text in Appendix G, Section G2.1, has been revised to clarify that four evaporation basins would be constructed under the In-Valley Disposal Alternative.

A literature search was conducted to identify aquatic organisms commonly found in Central Valley evaporation basins and included review of data on Tulare Lake Drainage District ponds (Euliss et al. 1991), Barbizon Ponds (Tribbey 1988; Parker and Knight 1992), Carmel Ranch Ponds (Tribbey 1988), Sumner Peck ponds (Parker and Knight 1992), Pryse ponds (Parker and Knight 1992), and Meyers ponds (Parker and Knight 1989). Notonectidae were only found in one study, and only in the least saline cells, where they comprise low number of the total counts of swimming insects (Tribbey 1988; Tribbey and Beckingham 1986).

Appendix G, Section G.2.3.4, has been corrected to state that Westlake Farms Section 23 mitigation habitat is 640 acres.

Shorebirds are divided into "breeding" and "nonbreeding" categories based on their tendencies to nest at evaporation basins. However, all bird categories (including divers such as the ruddy duck and dabblers such as the American coot) are evaluated for both reproductive effects during the breeding season and nonreproductive effects during other seasons. Results are presented in Appendix G, Section G7.3.

The first paragraph of Appendix G, Section G2.3.5, has been revised to include the California least tern as a Federally and State-listed species known to occur at Central Valley evaporation basins.

The second paragraph of Appendix G, Section G3.1.2, has been revised to state "malformations in developing fetus or embryo)."

TLDD basins contain lower salinity levels than those expected to occur at the proposed evaporation basins. In addition, the proposed evaporation basins will not have a hydraulic connection to existing water bodies. It is possible but unlikely that mosquito fish will become established.

The second paragraph of Appendix G, Section G7.2, regarding the duration of exposure of overwintering birds at evaporation basins, has been deleted.

The Service-recommended threshold cited in Appendix G, Section G7.2.1.2, is based on a no-observed-effects concentration of 6 mg/kg in eggs. This concentration has been clarified in the document.

While it is agreed that marine bird species such as the snowy plover may be more tolerant of trace metals than other species, no assumptions were made for this analysis because evidence is limited.

COMMENT S-07. CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL COAST REGION, ROGER W. BRIGGS

California Regional Water Quality Control Board
Central Coast Region

Alan C. Lloyd
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov/rwqcb3
895 Aerovista Place, Suite 101, San Luis Obispo, California 93401
Phone (805) 549-3147 • FAX (805) 543-0397

Arnold Schwarzenegger

August 9, 2005

Claire Jacquemin
Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825

Dear Ms. Jacquemin:

COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT – BUREAU OF RECLAMATION, SAN LUIS DRAINAGE FEATURE REEVALUATION, SAN LUIS OBISPO COUNTY

Thank you for the opportunity to review and comment on the June 2, 2005 Draft Environmental Impact Statement (DEIS) prepared for the Bureau of Reclamation (Bureau) for the San Luis Drainage Feature Reevaluation. We understand from the DEIS the following:

"The project purpose is to provide agricultural drainage service to the San Luis Unit... In order to meet this overall purpose and need, there are four related project objectives that were used to develop the alternatives evaluated in this EIS:

- *Drainage service will consist of measures and facilities to provide a complete drainage solution, from production through disposal, and avoid a partial solution or a solution with undefined components.*
- *Drainage service must be technically proven and cost-effective.*
- *Drainage service must be provided in a timely manner.*
- *Drainage service should minimize adverse environmental effects and risks"*

"The EIS evaluates seven action alternatives in addition to No Action: In-Valley Disposal, In-Valley/Groundwater Quality Land Retirement, In-Valley/Water Needs Land Retirement, In-Valley/Drainage-Impaired Area Land Retirement, Ocean Disposal, Delta-Chipps Island Disposal, and Delta-Carquinez Strait Disposal. All of the alternatives would include common elements: on-farm and in-district actions, drainwater collection systems, regional reuse facilities, the Firebaugh sumps, and land retirement of at least 44,106 acres. In addition to the common elements, the action alternatives (except Ocean Disposal) involve varying levels of drainwater treatment (reverse osmosis and/or biological selenium treatment) and/or additional land retirement before disposal."

"The Preferred Alternative is to be one of the In-Valley/Land Retirement Alternatives or some other combination of In-Valley disposal and land retirement features."

"The Ocean Disposal Alternative would include the common elements of all alternatives: on-farm and in-district actions, drainwater collection systems, Delta-Mendota Canal Drain, regional reuse facilities, and land retirement. Reused drainwater would be collected from the regional reuse facilities and..."

transported by pipeline to the Pacific Ocean for disposal. The pipeline conveyance system would lie within the San Joaquin Valley from near Los Banos southeast to just south of Kettleman City and then extend southwesterly to the Pacific Ocean at Point Estero. The ocean diffuser would be approximately 1.4 miles offshore, at a depth of 200 feet, approximately 10 miles south of the southern boundary of the Monterey Bay National Marine Sanctuary.

Common Elements:
- *Drainwater collection system*
- *Firebaugh Sumps (Delta-Mendota Canal Drain)*
- *Regional reuse facilities*

***Conveyance System** – The drainwater aqueduct for the Ocean Disposal Alternative would include 211 miles of buried pipeline, with three tunnels through the coastal range and 23 pumping plants and sumps.*

***Outfall** – The aqueduct would have only one diffuser, located 1.4 miles off Point Estero, 10 miles south of the Monterey Bay National Marine Sanctuary.*

We have reviewed those sections of the DEIS that pertain to this agency's jurisdiction, specifically the Ocean Disposal Alternative, which proposes to convey 70,000 acre/feet per year of drainage by pipeline to San Luis Obispo County and discharge it to the Pacific Ocean at Point Estero as noted above. We have the following comments on the DEIS:

S-07-1
- The Ocean Disposal Alternative would require the issuance of a National Pollutant Discharge Elimination System (NPDES) permit from this agency for the proposed discharge of agricultural drainage waters. As the name implies, the objective of the NPDES program is eliminate or reduce discharges to surface waters, including discharges to the Ocean. A new large discharge, as proposed under this Alternative, would be counter to this objective.

S-07-2
- As a responsible agency, and as part of the NPDES permit issuance, we would rely on an adequate and complete NEPA/CEQA document.

S-07-3
- A NPDES permit for this Alternative and discharge of this magnitude would include an extensive Monitoring and Reporting Program for both the discharged effluent and receiving water.

S-07-4
- The DEIS does not adequately describe discharge effluent quality to assess impacts of the Ocean Disposal Alternative. The DEIS must include an expected range of concentrations of all pollutants with reasonable potential to be present in the discharge (including metals, nutrients, and pesticides) to adequately determine if the discharge will be capable of complying with the water quality objectives of the California Ocean Plan and Water Quality Control Plan for the Central Coast Region.

S-07-5
- The DEIS does not adequately provide a complete description of the environmental setting of the outfall at Point Estero.

S-07-6
- The DEIS (Section 5.2.8.2) does not adequately provide a comprehensive evaluation of potential and cumulative impacts that could result from the Ocean Outfall Alternative discharge including water quality, bioaccumulation, and toxicity. The document currently does not describe those impacts with any specificity.

S-07-7
- The DEIS does not adequately describe how the discharge will meet Ocean Plan criteria, including effluent limitation and receiving limitations for all constituents (not just Selenium).

S-07-8
- We believe it is premature to assume that no treatment would be required under the Ocean Outfall Disposal Alternative. Please explain why selenium biotreatment was provided for the Delta-Chipps Island Disposal Alternative and the Delta-Carquinez Strait Disposal Alternative, but not the Ocean Disposal Alternative. When developing effluent limits for a NPDES permit, the Clean Water Act requires that we consider both the technology available to treat pollutants (technology-based effluent limits) and limits that are protective of the designated uses of the receiving water (water quality-based effluent limits), and implement the most stringent limits. In other words, if treatment is available that is capable of producing effluent selenium concentrations of 10 µg/L, we must limit effluent selenium concentrations to 10 µg/L in the ocean discharge. The design of the ocean outfall system seems to ignore this requirement by relying solely on dilution. The need to treat the drainage prior to ocean disposal must be addressed in the DEIS.

S-07-9
- Mitigation costs were not identified in Table ES-6 of the DEIS. These costs will likely be considerable for the Ocean Disposal Alternative, and the DEIS should be revised include these costs.

S-07-10
- Pipeline right-a-way and land acquisition costs are not included in the DEIS's Total Cost Estimates. These costs will likely be considerable and will add significant expense under this Alternative (above the $562 million total cost estimate). The DEIS should be revised to include these costs.

S-07-11
- The diameter of the pipeline proposed (42 inches) appears to be in excess of the capacity needed for the proposed volume of agricultural drainage waters. Please clarify why this diameter of pipe was chosen.

S-07-12
- A new ocean outfall would require significant environmental review and permitting from a number of Federal, State and local agencies. A Clean Water Act Section 401 Certification will be required for any work below the ordinary high water mark of any water bodies, including installation of the proposed subsurface discharge structure.

S-07-13
- The DEIS does not adequately evaluate the water-quality impacts from construction of the pipeline and outfall, including erosion. The DEIS erroneously assumes that impacts will be addressed and reduced to insignificant by permitting, instead of properly addressing these impacts in the DEIS.

S-07-14
- The DEIS does not adequately evaluate the impacts to water quality, wetlands and marine habitat due to pipeline construction across stream crossings. The Regional Board prefers avoidance of wetland disturbance to disturbance followed by mitigation. The sequence of our review related to wetlands issues is: avoidance, minimization, and mitigation. Information that demonstrates that the wetland impacts are not avoidable (e.g., water dependent) should be provided. If the project impacts are not avoidable, information that impacts to wetland areas are the minimum necessary for the project should be provided. When mitigation is necessary, in-kind, on-site mitigation is preferred. In-kind mitigation means the mitigation wetland site will have similar function and value to that of the disturbed wetland site. Any wetlands mitigation will require development of an extensive long-term monitoring program that will effectively evaluate the success of the mitigation project.

S-07-15
- As not all impacts have been fully described as noted above, mitigation measures identified in Table 20-1 of the DEIS are incomplete in regards to Aquatic and Wetland Resources, SE Exposure and Bioaccumulation, and Surface Water Resources (none identified).

S-07-16 In conclusion, we believe the Ocean Disposal Alternative has a number of serious flaws as outlined by our comments above, and should only be considered after all other options and alternatives have been examined and deemed to be infeasible. As noted in the Executive Summary **we support the DEIS's recommendation of Preferred Alternative - One of the In-Valley/Land Retirement Alternatives or some other combination of In-Valley disposal and land retirement features.**

We look forward to a response and incorporation of our comments into the Final Environmental Impact Report. If you have any questions, please feel free to contact **Matt Thompson** at **(805) 549-3159** or Gerhardt Hubner at (805) 54204647.

Sincerely,

for Roger W. Briggs
Executive Officer

Cc:

Caroline Yates
U.S. EPA – Region 9
Nonpoint Source Office
75 Hawthorne Street
San Francisco, CA 94105

Representative Lois Capps
C/o Greg Haas
1411 Marsh Street
San Luis Obispo, CA 93401

Dan Berman
Morro Bay National Estuary Program
601 Embarcadero, Suite 11
Morro Bay, CA 93442

Bruce Ambo
City of Morro Bay WWTP
955 Shasta Avenue
Morro Bay, CA 93442

Terry Reeder
Santa Ana Regional Water Quality Control Board
3737 Main St., Suite 500
Riverside, CA 92501

Rudy Schnagl
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive #200
Rancho Cordova, CA 95670

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RESPONSES TO COMMENT S-07

S-07-1

As stated in Appendix L of the Draft EIS, the Ocean Disposal Alternative would require an NPDES permit under CWA Section 402. Water quality effects of the Ocean Disposal Alternative in relation to CWA effluent limitations are discussed in Master Response SW-13.

S-07-2

The commenter indicated that CEQA compliance is Reclamation's responsibility. No lead agency for the CEQA analysis has been identified at this time, as described in Master Response REG-2. The NEPA requirements for this project are being met by Reclamation's Final EIS.

S-07-3

The comment is noted. Reclamation will comply with all monitoring and reporting requirements of the NPDES permit and other necessary permits or regulations.

S-07-4

More detailed information has been included in the Final EIS to identify the full range of contaminants likely to be contained in the effluent. See Master Response SW-13.

S-07-5

Master Response SW-8 provides additional information about the environmental setting of the outfall area.

S-07-6

See Master Responses SW-13, SE-1, and SW-9 through SW-12 for additional details about water quality, bioaccumulation, toxicity, and other effects related to the Ocean Disposal Alternative outfall.

S-07-7

More detailed information has been included in the Final EIS to address the effluent quality of the Ocean Disposal Alternative discharge. See Master Responses SW-13, REG-1, and GEN-1.

S-07-8

See Master Response SW-6 in regard to the need to treat discharge under the Ocean Disposal Alternative.

S-07-9

Appraisal-level mitigation cost estimates are presented in Appendix O of the Final EIS.

S-07-10

See Master Response GEN-1 in regard to cost estimates for the Ocean Disposal Alternative.

S-07-11

The Ocean Disposal Alternative pipeline diameter would be 36 inches or less. The text of Section 2.8.1 has been revised to reflect this. See Master Response ALT-P3 for a discussion of pipeline design.

S-07-12

The comment is noted. The project schedule for the Ocean Disposal Alternative is shown in Section 2.8.2. Permitting requirements are discussed in Section 4.

S-07-13

Erosion control measures such as the use of BMPs to stabilize soils and restrict sediment movement from construction areas are standard engineering practices that would be included in the project design and implemented during construction. As such, they would be addressed in detail in later design stages if the Ocean Disposal Alternative were advanced for further consideration. Use of these measures along with similar measures required under the Construction General Permit and Section 404 permit would render the effects from pipeline and outfall construction not significant. Section 5.2.8.1 describes the use of BMPs for erosion control during construction of the Ocean Disposal Alternative.

See Master Response SW-13 for additional information about water quality impacts to receiving waters from the Ocean Disposal Alternative.

S-07-14

For the Draft EIS, wetland impacts due to pipeline construction were evaluated at an appraisal level of design (see Master Response GEN-1). Additional feasibility and final design studies would address specific wetland impacts to pipeline crossings once specific routes are selected. Reclamation will address its regulatory compliance responsibility as defined through the CWA and other relevant laws and regulations. In the permitting process, the project would be designed to avoid impacts to wetlands to the maximum extent possible. Construction practices would be implemented to avoid and minimize impacts to wetlands. Mitigation for unavoidable impacts would be provided.

S-07-15

Section 20 and other parts of the Final EIS have been updated to include additional mitigation planning information. See Master Response MIT-2 for further discussion.

S-07-16

Comment noted. No response necessary.

COMMENT S-08. CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL VALLEY REGION, KENNETH D. LANDAU

California Regional Water Quality Control Board
Central Valley Region
Robert Schneider, Chair

n C. Lloyd, Ph.D.
Secretary for Environmental Protection

Sacramento Main Office
11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • FAX (916) 464-4645
http://www.waterboards.ca.gov/centralvalley

Arnold Schwarzenegger
Governor

BUREAU OF RECLAMATION OFFICIAL FILE COPY RECEIVED
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25 August 2005

Bureau of Reclamation, Attention: Claire Jacquemin
2800 Cottage Way, MP-700
Sacramento, CA 95825

SAN LUIS UNIT DRAINAGE FEATURE RE-EVALUATION DRAFT ENVIRONMENTAL IMPACT STATEMENT

S-08-1 Thank you for the opportunity to comment on the San Luis Drainage Feature Re-evaluation Draft EIS. The Central Valley Regional Water Quality Control Board believes the best solution to salt buildup in the San Joaquin River Basin is out-of-basin disposal. Staff has gone on record with this statement numerous times and the Board has formally adopted this position in the *Water Quality Control Plan for the Tulare Basin, 2nd edition* (Basin Plan). The In-Valley alternatives under consideration may allow for short-term management of drainage and be a part of a longer-term sustainable solution, but ultimately if salt is not removed from the basin it will continue to impact water quality.

S-08-2 Regardless of the alternative selected, the Bureau should strive to minimize threats to water quality.

The draft EIS brings up a number of issues that should be explained or investigated more fully before a final alternative is selected, but the major areas of concern to water quality in the Central Valley are:

S-08-3 1) **The EIS does not provide thorough evaluation of source control as it relates to implementation of drainage service.**

S-08-4 2) **The EIS does not recognize that evaporation basins are an interim measure and there are inherent drawbacks to their use. Evaporation basins are a tool to manage, not solve, drainage problems.**

S-08-5 3) **The EIS does not adequately address the environmental consequences and feasibility of the reuse, land retirement, treatment, and disposal features relied on to implement the alternatives presented.**

These and other concerns are discussed in more detail in the attachment. If you have any questions regarding these comments, please call Gail Cismowski at (916) 464-4608.

KENNETH D. LANDAU
Assistant Executive Officer

California Environmental Protection Agency

Recycled Paper

Attachment

cc: Carolyn Yale, US EPA
Tom Maurer USFWS
Mike Delamore, USBR, Fresno
Lonnie Wass, RB5F
Frances McChesney, RB5S
Michael Thomas, RB3
Lawrence Kolb, RB2
Sayed Ali, State Board
Gary Bobker, Bay Institute,
Thad Bettner, Westlands Water District, Fresno
Andy Gordus DFG, Fresno
Jose Faria, DWR, Fresno
Terry Young, Environmental Defense
Joe McGahan, Summers Engineering
Dennis Falaschi, Panoche Drainage District
Jeff Bryant, Firebaugh Canal Water District
Teresa Presser, USGS

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

COMMENTS ON THE MAY 2005 DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE SAN LUIS UNIT DRAINAGE FEATURE RE-EVALUATION

The Central Valley Regional Water Quality Control Board believes that out-of-basin disposal of salt is the only long-term, sustainable solution to the salinity and drainage problem in the study area. However, since it appears that In-Valley alternatives are a popular choice, it is likely that some combination of features of an In-Valley alternative will be part of whatever final alternative the Bureau selects. With this in mind, staff has reviewed the DEIS for the San Luis Drainage Feature Re-evaluation and noted a number of areas where further discussion is warranted.

S-08-6

Authorized spending limit

- The footnote to Table ES-9 states: "*The Federal costs for each of the action alternatives would exceed the current Federal spending limit authorized under the San Luis Act*". The DEIS does not say how this factor affects implementation of this project.

Evaporation basins

- The Tulare Basin Plan states:

> *"Subsurface drainage will be a constant threat to surface water and usable ground water quality unless the disposal method is adequate. Disposal must be in a manner that isolates the salts in the drainage from the usable ground water body. In some areas of the Basin, evaporation basins are used to concentrate drainage water and contain salts. However, evaporation basins cannot be considered permanent solutions due to wildlife impacts, and the cost of ultimate salt disposal and basin closure."* (emphasis added)

S-08-7

Evaporation basins are an interim measure. They can be used to manage but not to solve the salt problem.

S-08-8

- The DEIS acknowledges the fact that evaporation basins will have unavoidable effects. The level of effect is going to vary based on a number of factors including the location of the facility, the bioavailability of the form of selenium present, and the facility design and operation. The drainage service area is within the Pacific Flyway, the West Coast's highly traveled avian wildlife corridor. Evaporation basins are wet spots within dry areas of much of the region, so the siting of these basins and their mitigation counterparts will play a major part in successfully minimizing wildlife exposure. Even if the location is optimal, extremely careful management is necessary to minimize the attractive nuisance aspect of evaporation basin operation. Our Fresno office regulates the existing evaporation basins in the Tulare Basin, and staff has observed that there is a great deal of variability among them. Before proposing new evaporation basins, the Bureau should develop the information in Section 2.4.1.3 and a standard set of criteria for basin design, operation, closure and post-closure maintenance, and make sure cost projections

S-08-9

S-08-9 cont.

S-08-10

reflect the full cost of best-managed basin operation and closure. It is not clear whether basin closure costs were considered, but evaporation basins are waste management units subject to the financial assurance requirements of Title 27 Section 20950 (f), California Code of Regulations.

Treatment efficacy

S-08-11

S-08-12

- On what basis does the Bureau consider reverse osmosis and biotreatment "proven technologies for drainage management on a large scale"? While RO and various types of biotreatment have been effective in certain industrial and municipal settings, the agricultural drainage treatment technologies discussed in Appendix B appear to all be pilot-scale studies. Previous attempts at using RO at Panoche Drainage District (PDD) failed due to membrane fouling. The WaterTech Partners DP3-RO study cited in Appendix B included a pretreatment step to minimize fouling but the project does not appear to have been completed. Our office asked to be informed of progress and received a preliminary and first quarter report but nothing more. Staff visited the project site shortly after release of the quarterly report. While the technology appears to be effective at removing salts, it was also clear that complete waste stream management was not seriously considered in the operating procedures being developed or in projecting costs for a full-scale facility. Treatment system waste stream management must be taken into account, as this will be essential to establish that RO or other technologies are in fact economical, feasible, and pose no threat of their own to the environment.

- The biotreatment processes that have been attempted in the Grassland Drainage Area (GDA) have not had tremendous success, according to PDD staff. At the March 2005 Annual Salinity and Drainage Conference and Selenium Symposium, every researcher working on selenium biotreatment reported that partial treatment was possible, but partial measures are not going to eliminate the threat to wildlife or meet water quality objectives. Only one researcher (Applied Biosciences) claimed to have a process that could reduce selenium concentrations to acceptable levels, but the detection limit used in the study cited in Appendix B is a concern.[1] And, as pointed out in the USFWS report (Appendix M), it is premature to assume the best results observed in a single pilot study will be consistently achievable at full scale. It is also important to note that, according to information on its website, Applied Biosciences typically works with industrial dischargers. It has not yet been established that treatment on the scale needed in the drainage area can be performed effectively at a cost that agricultural dischargers will find acceptable.

S-08-13

S-07-14

Does the Bureau have a contingency plan?

S-08-15

- At the end of Section 7, the draft states: "a detailed *Monitoring and Adaptive Management Plan* would be developed for the Preferred Alternative. It is

[1] The selenium detection limit used in the study was 5 ug/L. For comparison, the existing water quality objective for wetland supply channels in the region is 2 ug/L. The water quality objective in the San Joaquin River is 5 ug/L selenium. An appropriate detection limit should be lower than the objective so that there is no confusion between non-detect levels and barely acceptable concentrations.

S-08-15 cont.

understandable that detailed plans would not be developed for all alternatives at this time, but were cost caps or time limits for adaptive management considered? For example, if treatment technologies turn out to be less effective than the preliminary results cited in the technical appendices would indicate, how much more money and time is the Bureau intending to expend to make that particular element work?

S-08-16

S-08-17

- Page 2-94 indicates that the In-Valley alternatives are preferable in that they are flexible and can be phased in over time; however, flexibility is useless if the options under consideration cannot perform as well as they need to at a price that the users are willing to pay. The *Westside Regional Drainage Plan*[1] makes it clear that the parties seeking drainage service have considered the possibility that In-Valley solutions will be only partially effective. If that happens, an Out-of-Valley solution would ultimately be needed. The Bureau needs to also consider this possibility and present reasonable back-up plans if, as the project moves forward, certain features are found to be considerably more expensive, technically challenging or environmentally problematic than originally anticipated.

S-08-18

Economic considerations

S-08-19

- How were project benefits quantified under the National Economic Development analysis?

S-08-20

- The Preferred Alternatives discussion on page 2-94 indicates that although the dollar cost of the In-Valley/Drainage-Impaired Area Land Retirement alternative is identified elsewhere as high in relation to other alternatives, the net benefit is favorable. On page 2-78, the draft states "the In-Valley Disposal Alternative was still consistently less expensive than the least cost Out-of-Valley alternative..." but the summary of estimated costs in Table 2.12-1 does not appear to support this, nor do Tables 17-4 and 17-5 showing projected implementation and annual OM & R expenditures, respectively. Please clarify.

S-08-21

- Section 12.2.5 brings up a serious issue: "Under the worst circumstances, costs of project repayment could be so burdensome that growers would simply not participate in the drainage service provided." It appears quite possible that the Bureau may end up addressing the court order by producing an elegant but impossible-to-implement plan, and drainage service will remain a paper exercise. Or worse, construction will begin on a project that has no beneficiaries, leaving the public to pay the bill and clean up the mess (the draft discloses that without proper management and mitigation, many of the elements of the In-Valley alternatives pose a significant environmental threat). This would not be good for agriculture, the environment, taxpayers, or water quality.

S-08-22

Surface water

S-08-23

- Section 5 (surface water resources) focuses on the San Joaquin River and ocean and Delta disposal sites but does not address wetlands in depth. The Grassland

[1] San Joaquin River Exchange Contractors Water Authority et al. May 2003.

S-08-24

Ecological Area on the northern border of the drainage-impacted area was recently declared a Ramsar "Wetland of International Importance", so the role of wetlands in the region is far from insignificant. Section 7 does mention wetlands and aquatic habitat as biological resources, but wetlands are surface water resources also. The effects on water quality in the wetlands and wetland water supply channels in the project area should be given at least as much consideration as the other surface waters impacted by this project. Wetland water quality was, after all, a major reason the original San Luis Drain was never completed.

S-08-25

- Section 5.1.1.1 states "none of the action alternatives would result in direct discharge of drainwater to surface water resources in the San Joaquin Valley," which is true. However, direct discharge of drainage is not the only potential source of surface water contamination. Contaminated seepage can emerge at unmanaged, abandoned channels on retired land. Reuse areas and retired land will accumulate pollutants in surface soils and stormwater accumulation and/or runoff will dissolve and mobilize the concentrated pollutants. Staff recently observed this in Broadview Water District, where irrigation has ceased, but water persists at scattered low points in the district.[3] Any alternative that includes land retirement or reuse areas should address seepage and stormwater control.

S-08-26

- Any discharge to surface water would require development and use of treatment technologies to reduce selenium concentrations and other possible pollutants to levels that will not adversely affect beneficial uses of the receiving water. As described in the Treatment efficacy section above, there is no proven treatment technology available at this time.

Full drainage service

- The Northern Area's existing reuse area has demonstrated that drainage volume reductions can be accomplished through careful management and diligent monitoring. When a reuse area is established, it may take several years before full build-out, but development proceeds in a relatively predictable and steady fashion. Land retirement is a less controlled process. The Bureau's land retirement program has met with limited success in acquiring large blocks of contiguous land from willing sellers in a timely manner.[4] Under the alternatives with optional land retirement features (that is, land eligible for retirement but not yet retired), how will the Bureau insure that its phase-in of this program element is completed soon enough to make the assumptions in these alternatives valid? How will the Bureau ensure that drainage reductions due to land retirement actually meet the targets projected?

S-08-27

S-08-28

[3] Westlands Water District, the new owner of Broadview Water District, has been notified of the problem.

[4] The CVPIA land retirement program was authorized in 1992. Section 2.2.1.2 indicates that only 2,091 out of a possible 7,000 acres in the study area have been retired under this program to date.

CVRWQCB
Comments on DEIS

S-08-29

- In addition to the timelines shown in Section 2 and the information provided in Appendix J, it would be helpful if a table was included to show how much project development is expected at various points in time for each alternative, including Out-of-Valley alternatives. For example, if construction of the selected alternative is to start at the end of 2007, what does the Bureau anticipate will have been done by 2010, 2015, etc; and what volume of drainage would the project be capable of managing at these points? Since it is clear that drainage service is anticipated to be a drawn-out process, there should also be disclosure as to what is likely to occur while the project is being phased in, such as continued drainage impacts and any remedial activities that will need to be undertaken in the interim to get to an end point where full drainage service is provided and agricultural production is sustainable.

S-08-30

S-08-31

- Appendix C indicates that, based on what has been learned in the existing Grassland Reuse Area (locally known as the *San Joaquin River Water Quality Improvement Program* or SJRIP) "*drains would not discharge water to the reuse facilities until construction of disposal facilities were within 2 years of completion*". It should be pointed out that although the SJRIP is active, only a portion of the area (approximately 2,500 acres) is currently equipped to utilize drainwater. Full build-out will be completed over an extended time period, largely dependent on the availability of funding. The SJRIP has been very successful in competing for grant funds, which may have enabled the district to proceed more quickly than would otherwise have been the case. If the Bureau does not intend to fully fund all aspects of reuse facility construction and operation, more reuse areas will likely mean more competition for the same grants and loans; and if the Bureau does fully fund these features at the outset, the Bureau would be seeking cost recovery. The ability of the project beneficiaries to pay for full development of phased-in components of the In-Valley alternatives will affect the Bureau's ability to provide drainage service "without delay". The assertion that under the In-Valley alternatives "*complete drainage service can begin sooner than for the Out-of Valley Disposal Alternatives*"(p 2-95) should include this caveat.

S-08-32

S-08-33

- Appendix C also states: "*It is reasonable to expect that not all of the areas in the drainage service area within the Northern Area and within Westlands would have on-farm drainage systems installed as a result of the project. Some farmers would elect not to install drains based on specific site conditions and economic considerations*" and "*it is unlikely that wholesale installation of new systems would occur within Westlands when drainage service is provided. The cost is considerable to install the systems, and a farmer would need to be able to justify the capital outlay.*" Farmers that do not immediately elect to participate in drainage service will still reap some benefits as neighboring lands begin to drain. How will the Bureau ensure that passive participants do not leave active participants to shoulder the entire burden of long-term project success? If few or none of the farmers participate, the Bureau will not have succeeded in providing drainage service.

S-08-34

CVRWQCB
Comments on DEIS

S-08-35
S-08-36
S-08-37

Source control

- It is not clear why source control is not given a more prominent role in the alternatives. Simple (although not cheap) control measures exist and are proving their worth in places like the Imperial Valley. Redesigning tile systems to be shallower and more densely spaced would result in the collection of drainage that is higher quality as it is less impacted by the very salty, very high selenium groundwater found deeper in the aquifer. Higher quality drainage means lower selenium and salt loads are discharged, there are more possibilities for blending and reuse, fields drain more efficiently, and agricultural land stays productive longer. Quicker-draining fields also mean fewer opportunities for wildlife exposure to contaminants, and improved access for the farmer, which can be important: farmers cannot sell what they cannot harvest. This technique is in use in the SJRIP but it should not be limited to reuse areas alone. The costs may be high in relation to the other features under consideration, but this truly is proven technology with a long history of success on full-scale projects. Improved tile systems coupled with conservative water use could make a huge contribution to resolving drainage problems in the study area. Improved tile systems pose no threat to wildlife and improve water quality by taking the most problematic groundwater out of the equation. The same cannot be said for evaporation basins.

S-08-38

- Under all the alternatives that include land retirement, it appears that the focus will be on severely impaired lands. The 1999 San Joaquin Valley Drainage Implementation Program report on land retirement indicates that this may not be the best strategy for sustainable agriculture. Based on the model used in the study:

  "In the short-term, more land is kept productive by retiring down gradient field (sic) *than by retiring up gradient fields. In the long term more land is kept productive by retiring the up gradient field compared to the down gradient field.*

  The model looked at the overall performance of a land retirement scenario where a parcel containing both up gradient and down gradient fields was retired, and found:

  By forestalling the up slope migration of the shallow water table zone, retirement of an up gradient parcel actually protects the two fields located up slope along the transect from future degradation."[5]

S-08-39

  Both immediate gains and long-term benefits need to be considered when selecting land suitable for retirement.

- In the San Joaquin River, flow between Salt Slough and the Merced River is largely derived from seepage from the irrigated lands in the Grassland Drainage Basin (the Northerly Area). The dry season flows typically observed in this

[5] *Task 3: Land Retirement*, Land Retirement Technical Committee, San Joaquin Valley Drainage Implementation Program and University of California Salinity/Drainage Program, 1999

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S-08-40

S-08-41

S-08-42

S-08-43

stretch of river attest to the impact of passive drainage. Irrigated upslope areas without the benefit of a downslope outlet like the San Joaquin River or a deep drain channel continue to drain, but instead of discharging, the drainage collects downslope. This is why there is a drainage problem in the San Luis Unit. Appendix 1, section I 2.1, addressed the potential creation of salt sinks in the region and cites the Busch report: "*Definite evidence of salt sink potential was observed in the field. The degree of this problem will be determined by the source control measures practiced upslope*" (emphasis added). While creation of new salt sinks and further degradation of downslope lands may not occur during the planning horizon used in this study, it is clear that the Bureau is aware that failure to address upslope drainage will eventually result in downslope salinity problems. Under the land retirement scenarios, it is likely that water would be redistributed to more productive, better-drained (therefore probably upslope) lands. Those lands could receive water on a more consistent basis than currently, so drainage from those lands could also increase. The alternatives presented do not adequately mitigate the effect of continued or increased irrigation of upslope lands. Complete drainage service needs to go beyond drainage collection, treatment and disposal. If source control is ignored, the problem will ultimately resurface.

S-08-44

Clarification

- According to the Initial Study for the purchase of Broadview Water District by Westlands Water District, BWD has 9,100 irrigable acres, so 9,100 acres should be considered "retirable", not the 10,000 acres used repeatedly in the DEIS.

S-08-45

S-08-46

It is clear from this document that significant critical information gaps still exist. The In-Valley and Bay-Delta alternatives, in particular, appear to rely too heavily on technology that has in fact, not been proven to be an environmentally safe, effective, long-term, cost-efficient means of dealing with the volume and character of agricultural drainage in the impacted area; and features (evaporation basins), that even when they are operated properly, cannot completely avoid adverse effects. There are elements of the In-Valley alternatives that may provide some drainage relief in the short term and buy time for implementation of a long-term plan, but the Regional Board has long held that an out-of-basin drain is the best solution to salt build-up in the Valley and this document provides no reason to alter that position.

RESPONSES TO COMMENT S-08

S-08-1, 2

Comments noted. No response necessary.

S-08-3

See Master Response ALT-S1 for a discussion of source control planning and analysis.

S-08-4

Evaporation basins are considered to be an effective method for reducing the volume of drainage during the 50-year planning period for the In-Valley Alternatives.

S-08-5

The comment is noted. Reclamation has addressed the environmental impacts of the proposed project in sufficient detail to evaluate the relative environmental impacts among project alternatives. See Master Response GEN-1 for a discussion of the level of detail of the EIS analysis.

S-08-6

Since all of the action alternatives would exceed the current Federal spending limit authorized under the San Luis Act, Reclamation is required to obtain Congressional authorization to increase the project funding ceiling for the San Luis Unit. In addition to authorizing an increase in the spending limit for the San Luis Unit, Congress must also provide annual appropriations to fund the final design, construction, and acquisition phases required to implement the features of the selected alternative.

S-08-7

See Master Response ALT-T1 in regard to the evaluation of water treatment options and technologies.

S-08-8

Reclamation agrees with the comment. See Master Response MIT-1 for a discussion of adaptive management and monitoring.

S-08-9

Additional details on construction, operation, and closure of evaporation basins will be developed in a separate feasibility report, which will be available after the ROD.

S-08-10

Based on the cost-estimating assumptions described in Section 2.12 of the Final EIS (primarily the 50-year project planning period), evaporation basin closure costs were not included in project cost estimates for any of the In-Valley Alternatives, including alternatives that include land retirement.

Cost estimates for each alternative were prepared in accordance with Reclamation instructions for appraisal-level studies (see Master Response GEN-1). Appraisal-level cost estimates are based mostly on existing information with a very limited amount of new data but are adequate to support a preliminary assessment of alternatives. The level of data and sophistication of the analyses are adequate to support a decision whether the alternatives should be carried forward for more detailed analyses and cost estimates (i.e., feasibility level) or eliminated from further

consideration. This decision is necessarily subjective, based on existing data, input from various specialists, and the judgment of Reclamation personnel.

S-08-11

See Master Response ALT-T1 in regard to the evaluation of water treatment options and technologies.

S-08-12

Management of the RO waste stream consists of biotreatment for Se removal, followed by volume reduction in evaporation basins and in-place salt burial. Costs for RO waste stream management are included in the total project costs. See Master Response ALT-T1 in regard to the evaluation of water treatment options and technologies.

S-08-13

See Master Response ALT-T1 in regard to the evaluation of water treatment options and technologies.

S-08-14

See Master Response ALT-T1 in regard to the evaluation of water treatment options and technologies.

S-08-15, 16

Adaptive management strategies pertain to uncertain future environmental impacts and are not related to uncertainties in treatment. Biotreatment and RO treatment technologies have a demonstrated track record for full-scale Se removal and desalination, respectively, and have been commercially available and implemented at many locations in the United States. See Master Responses MIT-1 and ALT-T1 for additional discussion.

S-08-17

Comment noted. No response necessary.

S-08-18

The comment is noted. See Master Responses MIT-1 and ALT-T1, which discuss adaptive management and monitoring and the evaluation of treatment technologies, respectively.

S-08-19

As described in Section 12, the benefits of providing drainage service were estimated as the costs avoided relative to the No Action Alternative. These avoided costs fall into three categories:

- Irrigation management costs

- Net revenue losses resulting from the restricted crop mix
- Net revenue losses from land retired

Additional benefits were also estimated for the Land Retirement Alternatives based on the reduction in cost of acquiring irrigation water for retired land or, if enough land is retired, the increase in agricultural production resulting from reallocating irrigation water from the San Luis Unit to irrigate other CVP land.

S-08-20

The summary of estimated costs shown in Table 2.12-1 does not include cost estimates for any Out-of-Valley Disposal Alternative that incorporates land retirement. Therefore, this table is of little value for comparing In-Valley/Land Retirement Disposal Alternatives to Out-of-Valley/Land Retirement Disposal Alternatives. The results of the analysis comparing the various land retirement alternatives to each other are presented in Appendix K.

Likewise, the costs presented in Tables 17-4 and 17-5 are specific types of costs and should not be used alone to compare one alternative to another. Costs shown in Table 17-4 are project implementation expenditures or an estimate of the outlay of capital required for initial construction and startup of the drainage facilities. Table 17-5 lists the annual operation, maintenance, and replacement costs (including energy costs) required to operate and maintain project facilities over the 50-year planning period.

S-08-21, 22

The comment is noted. Repayment was developed as part of the Feasibility Study.

S-08-23

Aquatic and wetland resources are addressed in Section 7 of the EIS. See also Response to Comment S-08-24, below.

S-08-24

No direct discharges from the Northerly Area or Westlands to adjacent wetlands are allowed or anticipated under existing conditions or all future conditions. Occasionally, storm event flows originating in the drainage area upslope from the Northerly Area are bypassed into wetland supply channels in accordance with the Storm Event Management Plan for the Grassland Area Drainage Project. These flows would likely continue under the action and No Action alternatives. Unplanned and uncontrolled seepage into wetland water supply channels is discussed in Section 5. Seepage into unlined wetland supply channels may increase under the No Action Alternative as a result of the rising groundwater table. Water quality of wetland supply water from the Delta Mendota Canal will improve under the action alternatives due to the treatment and disposal of sump discharges that are currently discharging into the canal. This effect is further described in Section 5.

S-08-25

Unmanaged seepage can conceivably emerge from unlined and abandoned channels if the channel bottoms are deeper than the water table. Reclamation recognizes that shallow groundwater moves to drains in downslope areas where no irrigation occurs. However, the volume of this seepage is minimal and can be managed. Substantial data and analysis show that the primary factor affecting seepage and drainage is irrigation. Land retirement will thus remove the primary factor influencing drainage. Furthermore, the potential for seepage and pollutant accumulation is reduced as a result of land retirement. For example, in Westlands Water District, an ongoing Reclamation land-retirement demonstration project points to local irrigation as the primary influence on shallow groundwater levels; groundwater levels declined underneath the retired lands.

Similarly, the reuse facilities are managed operations and are assumed to include subsurface tile drains. These drainage systems will be designed to collect percolating reuse water to prevent rising water levels, excessive salt accumulation, and downslope migration of water and dissolved constituents.

S-08-26

See Master Responses ALT-T1, SW-13, SW-9, SE-1, SW-4, SW-5, SW-1, and SW-3.

S-08-27

If an alternative involving land retirement is selected and funded, Reclamation will offer land retirement in place of drainage service to owners of all eligible lands. Participation in the land retirement program will be at the discretion of the landowners. However, no drainage service will be provided for lands identified for retirement. If participation is less than anticipated, an adaptive management approach will be developed to ensure that the selected alternative is effectively implemented.

S-08-28

To ensure that drainage reductions due to land retirement actions are met, Reclamation will construct facilities designed to handle only the volume of drainage projected for the selected alternative. If land retirement actions are more or less effective than projected, Reclamation will have the opportunity to adjust facility designs or the land retirement program during the adaptive management phase of implementation. It should be noted that the project construction schedule allows for half of the drainage facilities to be constructed immediately and half to be constructed in 15 years, allowing ample time to adjust the land retirement program or facilities if necessary.

S-08-29

Section 2 in the Draft EIS provides a graphical representation of the project schedule including the initial construction period for all alternatives. For the In-Valley Alternatives, approximately half of the drainage reuse and treatment facilities would be constructed during the initial construction period, which depending on the alternative would range from 2 to 6 years. Additional facilities would be constructed 10 to 15 years later depending on the rate at which in-

field drains are installed. Construction of the Out-of-Valley Disposal Alternatives would take place over a longer time period, ranging from 6 to 8 years, and costs would increase during this timeframe to approximately $100 million per year.

S-08-30

Drainage impacts are described in the Draft EIS. The schedule for implementation presented in the Draft EIS shows that drainage service will be provided as farmers install tile drains. The implementation details are provided in the Source Control Memorandum. The remedial action is providing drainage service, and this will occur over time.

S-08-31

Comment noted. No response necessary.

S-08-32

See Master Response EC-3 in regard to repayment of project costs.

S-08-33, 34

From a water balance perspective, participation in drainage service through installation of on-farm tile drains by less than the estimated two-thirds of growers will result in a water in-balance and will not achieve the desired effect of stabilizing the water table rise. However, as with land retirement, the drainage benefit of lowering the shallow groundwater table is most apparent in fields with drains. As such, ancillary benefits obtained from neighboring fields are unlikely to be sufficient to allow salt balance in the crop root zone, which would provide an incentive to participate in the drainage service program.

S-08-35

See Master Response ALT-S1 in regard to the evaluation of source control actions.

S-08-36

Tile drain depth also plays into the timing of the flow from the tile systems and the amount of groundwater storage available above the drains. These two items (timing and storage) have an important impact on the flow to reuse in a manner that reuse can best use the drainwater. Drainflow from reuse to the treatment plants downstream from reuse also requires regulation (deeper drain depth) to make the treatment plants more economical and efficient. These reasons, both timing of flow and potential groundwater storage to regulate drainflow, make it necessary to use drain depths 1 to 3 feet deeper than usual.

S-08-37

Estimates of future tile discharge include conservation measures that will be implemented to minimize the amount of future tile drain water that will have to be dealt with. Evaporation pond sizing will be based on the smallest size feasible to provide adequate disposal.

S-08-38

The Draft EIS used a three-dimensional numerical groundwater-flow model (originally developed by the USGS) to analyze how shifts in water sources (imported surface water and local groundwater), water application rates, and land use potentially affect groundwater levels and flow in upslope and downslope areas. The Draft EIS did not consider the elimination of lands outside the drainage-impaired area (upslope lands) from irrigated agricultural production. Candidate lands for retirement were located within the drainage-impaired area, and their retirement reduces the estimated drainflow volume produced.

From a drainage study area perspective, the expected benefit of retiring upslope lands is linked with the source of irrigation water applied to the remaining active lands. For example, irrigation with local groundwater can have a beneficial effect relative to water table conditions. The extraction and consumption of local groundwater increases the forces driving groundwater movement into deeper portions of the aquifer, decreases the total volume of water stored beneath the subsurface, and lowers the elevation of the water table. In contrast, upslope irrigation solely with imported surface water reduces local groundwater consumption and can exacerbate shallow water table conditions.

In the Draft EIS, alternatives considered that include a land retirement component assume that local groundwater use remains constant, regardless of whether or not surface-water supplies are redirected within the districts. In this way, the pumping benefit is maintained and total applied water necessarily decreases as lands are taken out of production. The land retirement alternatives are therefore designed to meet three objectives: reduce drainflow volume, improve the quality of drainflow to be treated, and minimize the area underlain by a shallow water table by maintaining local groundwater use and reducing the total volume of irrigation water applied.

S-08-39

The three-dimensional numerical groundwater-flow model described in Response to Comment S-08-38 uses mean annual recharge and pumpage data to project long-term (49-year) changes in annual water-table elevation. The land retirement alternatives analyzed were designed to meet both short- and long-term benefits: reduce drainflow volume, improve the quality of drainflow to be treated, and minimize the area underlain by a shallow water table. The Draft EIS did not analyze conditions past the 49-year planning period.

S-08-40

In the drainage study area, groundwater movement is primarily downward resulting from the combined response to deep percolation of irrigation water and pumpage from deep water supply wells. From a drainage study areawide perspective, much more water moves in the vertical direction than horizontally, and groundwater level and quality impacts occur primarily under the irrigated fields.

Deep percolation beneath upslope lands is intercepted at the water table, which is deep relative to the shallow groundwater conditions observed in the drainage-impaired area. This deep percolation continues to migrate vertically downward, and is eventually captured by deep pumping water supply wells. Therefore, the Draft EIS analysis and current hydrologic understanding of the system indicate that irrigation of upslope lands is not a substantial direct

source of water and dissolved constituents to drainwater collected in the downslope drainage-impaired area.

S-08-41

Upslope "drainage," which Reclamation interprets as deep percolation or water-table recharge, is addressed in the Draft EIS by assuming that source control efforts decrease recharge 15 to 25 percent. Also, the Draft EIS assumes that the total volume of local groundwater consumed by agriculture does not change, thereby continuing its beneficial effects by driving groundwater movement into deeper portions of the aquifer, decreasing the total volume of water in storage, and lowering the water table.

S-08-42

The project description specifies that the total volume of local groundwater used for irrigation is not altered by land retirement and potential changes in surface-water supply availability. In the drainage study area, irrigation with local groundwater has beneficial effects; the extraction and consumption of local groundwater increases the forces driving groundwater movement into deeper portions of the aquifer, decreases the total volume of water storage beneath the subsurface, and lowers the elevation of the water table. Hence with continued pumping, deep percolation that migrates beneath upslope lands continues moving vertically downwards where it is eventually captured primarily by deep pumping water supply wells.

S-08-43

Source control efforts including irrigation improvements and seepage reduction decrease deep percolation (water-table recharge). The action alternatives assume that, in the Northerly Area, source control efforts decrease recharge by 19 to 25 percent, and in the upslope areas of Westlands Water District, source control efforts decrease recharge by 15 percent. Additionally, the project description specifies that the total volume of local groundwater used for irrigation is not altered by land retirement and surface-water supply availability. Hence, continued groundwater consumption increases the forces driving groundwater movement into deeper portions of the aquifer, decreases the total volume of water storage beneath the subsurface, and lowers the elevation of the water table.

S-08-44

Reclamation has identified these acres as gross acreages for the purpose of this environmental analysis.

S-08-45

The comment is noted. See Master Responses MIT-1 and ALT-T1, which discuss adaptive management and monitoring and the evaluation of treatment technologies, respectively.

S-08-46

Comment noted. No response necessary.

COMMENT S-09. CALIFORNIA COASTAL COMMISSION (2 OF 2), MARK DELAPLAINE

STATE OF CALIFORNIA—THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, GOVERNOR

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400

August 29, 2005

Claire Jacquemin
Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825

Re: Additional Coastal Commission staff comments, Draft EIS, Bureau of Reclamation, San Luis Drainage Feature Re-evaluation

Dear Ms. Jacquemin:

S-09-1 Please accept these additional comments on your Draft EIS to supplement the comments submitted June 3, 2005. As noted in the June 3 letter, based on the DEIS, the Commission staff believes that the ocean disposal alternative that would include an ocean outfall at El Estero in San Luis Obispo County could result in significant impacts to coastal resources and as tentatively noted in the DEIS, should not be considered as the preferred alternative. Our review indicates that the Ocean Disposal alternative as

S-09-2 described in the DEIS lacks adequate detailed information and analysis of the impacts from the construction and operation of such an outfall.

S-09-3 Coastal Act policies call for the protection of marine resources and the biological productivity and quality of coastal waters (Section 30230, 20331, 30240). The Ocean Disposal alternative could result in significant impacts to coastal resources. The DEIS should fully analyze impacts from development in specific construction route(s) in the coastal and ocean areas. The outfall path should be specifically described and located in the report and impacts from pipeline construction fully evaluated. Potential impacts to water quality and marine resources from untreated discharges of agricultural runoff into ocean waters must also be fully analyzed. The DEIS should evaluate all the specific agricultural nutrients and chemical pollutants that will be discharged and the potential for long term effects on marine water quality and marine resources, including through bioaccumulation. Potential impacts from changes in salinity or temperature should also be evaluated. As the Coastal Act contains policies to protect against the spillage of hazardous substances (Section 30233), the DEIS should also include analysis of long term protection of coastal and marine resources in the operation of the outfall.

S-09-4 We note, as we did in the June 3 letter, should the ocean alternative be identified as the preferred alternative, the Bureau of Reclamation must submit a consistency determination to the California Coastal Commission for that alternative, because it would be located within and would clearly affect the coastal zone. Any such determination would need to evaluate the project's effect on coastal zone resources and to establish that this alternative is the least environmentally damaging feasible alternative.

If you have any questions about these comments or the previous comments on June 3, 2005, please contact me or Larry Simon, the Commission's federal consistency coordinator, at (415) 904-5288.

Sincerely,

MARK DELAPLAINE
Federal Consistency Supervisor

cc: Santa Cruz Area Office, Charles Lester
Jack Gregg, CCC, Water Quality Unit
Larry Simon, CCC, Federal Consistency Unit
BCDC, Steve McAdam
EPA, Region IX, Tim Vendlinski

STATE OF CALIFORNIA – THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, GOVERNOR

CALIFORNIA COASTAL COMMISSION
45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200

June 3, 2005

Claire Jacquemin
Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825

Re: Coastal Commission staff comments, Draft EIS, Bureau of Reclamation, San Luis Drainage Feature Re-evaluation

Dear Ms. Jacquemin:

Please accept these comments on your Draft EIS and place us on your mailing list for the final EIS and any hearing notices regarding the above-mentioned activity. It would appear from the following discussion in the DEIS that the preferred option to be identified in the FEIS is unlikely to be the ocean disposal option which would include a drain at El Estero in San Luis Obispo County. The DEIS (pages 2-94 to 2-95) states:

2.15 PREFERRED ALTERNATIVES

Two "preferred alternatives" are discussed in this section: the agency-preferred alternative and the environmentally preferred alternative.

Reclamation's preferred alternative is the one that completes the action of providing drainage service and best meets the purpose of and need for this action. At this stage in the SLDFR Feasibility Study and its environmental review, Reclamation anticipates that its preferred alternative will be one of the three In-Valley/Land Retirement Alternatives or some variation of one of the three In Valley/Land Retirement Alternatives. Two of these three alternatives have been identified as having distinct advantages:

- The National Economic Development (NED) analysis completed to date for the SLDFR Feasibility Study indicates that the alternative with the greatest net benefit (benefits minus costs) to the United States as a whole, commonly called the NED alternative, is the In-Valley/Drainage-Impaired Area Land Retirement Alternative.

- The In-Valley/Water Needs Land Retirement Alternative, with its nearly 194,000 acres of land retirement primarily in Westlands Water District, is the closest to a "locally developed" alternative because it is consistent with key elements of the proposed Westside Regional Drainage Plan (SJRECWA et al. 2003).

All of the In-Valley Alternatives allow for flexibility in implementation including a phased approach for construction and mitigation (with the Northerly Area having collection and disposal components completed first) and the ability to evaluate and incorporate new technologies. Complete drainage service can begin sooner than for the Out-of-Valley Disposal Alternatives, which require completion of extensive pipelines for disposal to the Delta or Ocean. This flexibility is the principal reason for selection of one of the In-Valley Alternatives. Reclamation's preferred alternative will be selected for the Final EIS, following review of public comments on this Draft EIS and additional results from the pilot studies.

> The environmentally preferred alternative is defined as the one that promotes the national environmental policy and causes the least damage to the biological and physical environment and that best protects, preserves, and enhances historic, cultural, and natural resources. Each of the action alternatives has some significant negative environmental effects; no single alternative is superior to the others. The In-Valley Alternatives would have major effects to migratory waterfowl from the evaporation basins, while the Delta Disposal Alternatives would cause some increases in salt and Se in the Delta. The Out-of-Valley Disposal Alternatives also have greater potential impact on cultural resources. Selection of an environmentally preferred alternative involves balancing effects on different resources, a judgment that would place higher value on some resources than others. (See Table ES-10 for a comparison of adverse effects.) Reclamation will continue to investigate the feasibility of mitigation and consider comments on the Draft EIS prior to designation of an environmentally preferred alternative no later than in the Final EIS.

We agree with the DEIS' tentative conclusion that the ocean disposal would be more environmentally damaging that inland alternatives. In the event the ocean disposal is selected as the preferred alternative, we wish to point out that the Bureau of Reclamation would need to submit a consistency determination to the California Coastal Commission for that alternative, because it would be located within and would clearly affect the coastal zone. This requirement arises under Section 307 of the Coastal Zone Management Act.[1] A consistency determination is a finding that a proposed activity is consistent to the maximum extent practicable with the California Coastal Management Program, combined with information necessary to support that conclusion, including an analysis of the project's consistency with Chapter 3 of the Coastal Act.[2] (You can view sample consistency determinations on the Internet at http://www.coastal.ca.gov/fedcd/fedcndx.html.) Any such determination would need to evaluate the project's effect on coastal zone resources and to establish that this alternative is the least environmentally damaging feasible alternative. Based on the information in the DEIS, selection of one of the inland alternatives would not trigger the need for a federal consistency submittal to the Coastal Commission.

If you have any questions about the need for or preparation of a consistency determination, please contact Larry Simon, the Commission's federal consistency coordinator, at (415) 904-5288.

Sincerely,

MARK DELAPLAINE
Federal Consistency Supervisor

cc: Santa Cruz Area Office, Charles Lester
Jack Gregg, CCC, Water Quality Unit
Larry Simon, CCC, Federal Consistency Unit
BCDC, Steve McAdam
EPA, Region IX, Tim Vendlinski

1 16 U.S.C. Section 1456, with implementing regulations at 15 CFR Part 930.

2 See CFR Section 930.39 for a full listing of the information required for a complete consistency determination.

RESPONSES TO COMMENT S-09

S-09-1

Comment noted. No response necessary.

S-09-2

The information and analysis provided for the Ocean Disposal Alternative is adequate for an appraisal-level design, as discussed in Master Response GEN-1. If this alternative were advanced for further consideration, additional analysis would be conducted. For additional information on environmental effects of the Ocean Disposal Alternative, see Master Responses SW-8, SW-13, SW-11, SW-9, SE-1, and SW-10.

S-09-3

This comment correctly notes that far-field impacts to water quality in Estero Bay were not explicitly evaluated in the Draft EIS analysis of the Ocean Disposal Alternative. However, the diffuser design analysis demonstrated that the concentration of effluent, and concentrations of particular constituents of concern in the effluent, will be diluted to levels below appropriate water quality standards very quickly after discharge, and thus surrounding ocean areas will experience relatively low levels of effluent. For example, even under the infrequently (<1 percent of the time) occurring condition when there are zero ocean currents above the diffuser, Se concentrations would reach the applicable water quality criterion of 15 µg/L between 6 and 12 meters above the diffuser. With maximum expected currents, diffusion to the water quality criterion would be achieved only 2 meters above the diffuser (see Section 5.2.8.3 of EIS, page 5-65). Thus, the water quality criterion would be met very quickly after discharge. At locations farther from the diffuser, dilution would reduce constituent concentrations to levels well below the water quality standard. Furthermore, in the extensive data gathering undertaken for the Draft EIS analysis, no evidence was found to indicate that the diffuser would discharge into a closed circulation cell, thereby leading to long-term accumulation of contaminants in the bay. Rough estimates suggest that “stagnant” conditions – i.e., conditions under which current speeds are less than 0.02 meters per second – occur in the vicinity of the diffuser only 1 percent of the time, and for durations of around one hour (though in some cases up to three hours). This estimate is based on analysis of ADCP data at the NOAA Point San Luis station for the years 1997-2002. Therefore, long-term accumulation in vicinity of the diffuser does not seem to be an impact that would result from the discharge. If the Ocean Disposal Alternative were selected as the preferred alternative in the ROD, a more detailed analysis of the potential for long-term accumulation contaminants in the vicinity of the discharge would be required and conducted.

For additional information on environmental effects of the Ocean Disposal Alternative, see Master Responses SW-8, SW-13, SW-11, SW-9, SE-1, and SW-10.

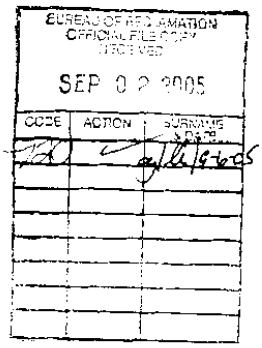
S-09-4

If the Ocean Disposal Alternative were pursued, Reclamation would initiate a consistency determination with the California Coastal Commission.

COMMENT S-10. CALIFORNIA DEPARTMENT OF PARKS AND RECREATION, RICHARD G. RAYBURN

State of California • The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
(916) 653-6725

Arnold Schwarzenegger, *Governor*
Ruth Coleman, *Director*



August 31, 2005

Claire Jacquemin
U.S. Department of the Interior
Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825

Re: *Comments on San Luis Drainage Feature Re-evaluation Draft Environmental Impact Statement*

Dear Ms. Jacquemin,

Thank you for the opportunity to comment on the San Luis Drainage Feature Re-evaluation Draft Environmental Impact Statement (DEIS). The California Department of Parks and Recreation recognizes the difficult task involved in developing long-term solutions to dispose of agricultural runoff from drainage impaired lands in the San Joaquin Valley.

S-10-1 We support the Bureau of Reclamation's preferred in-valley alternative as described in the DEIS. A second preferred alternative, the Environmentally Preferred Alternative, is
S-10-2 not well addressed in the DEIS. Based on preliminary review, the Environmentally Preferred Alternative would consist of retiring all, or a large portion of, drainage impaired lands.

S-10-3 We are concerned about the potential impacts of two proposed alternatives: the Delta-Chipps Island Disposal Alternative and the Ocean Disposal Alternative. As currently presented in the Draft EIS, we oppose these alternatives and would like to provide the following comments.

Delta-Chipps Island Disposal Alternative

Section 303(d) of the Clean Water Act has listed the bay delta as an impaired water body. Any further impairment associated with the Delta-Chipps alternative would only further degrade an already impaired water body. The Department of Parks and Recreation operates and manages several park units in the bay delta which provide critical habitat to a variety of state and federally listed species. The long-term survival of these sensitive species relies on a healthy and intact bay delta ecosystem.

S-10-4 Following a preliminary review of the DEIS and supporting documentation (San Luis drainage Feature Re-Evaluation Preliminary Alternatives Report, Dec. 2001), park staff have concern over the possible use of dated reports e.g. SJVDP 1990, SLUDP 1991. To what extent the DEIS may rely on dated reports, models, volumetric, and concentration estimates would require extensive in-depth analysis and review of the DEIS beyond the comment deadline. Specifically, staff has concern when reading the San Luis Drainage Feature Re-Evaluation Preliminary Alternatives Report, Dec. 2001. In this document (page 3-1), it is clearly stated that numeric calculations rely on "..order of magnitude estimates.." that are, "not intended to represent a careful, new analysis of drainage conditions". It is staff's opinion that the selection and development of the preferred alternative does in fact warrant up to date state-of-the-art analysis when estimating drainage conditions that may impact biological resources within the bay delta ecosystem. Again, to analyze the extent to which Bureau of Reclamation conducted new reliable scientifically based analysis' which reflect accurate estimates of drainage conditions would require additional review time.

S-10-5 Upon initial DEIS review, there appears to be relatively little long-term scientifically based studies demonstrating that discharging drainwater to the bay delta will carry no immediate or long-term biological effects. The U. S. Fish and Wildlife Service's February 2005 Draft Fish and Wildlife Coordination Act report states that it is unable to completely identify with or without project scenarios, project related impacts, or to fully

S-10-6 evaluate the adequacy of mitigation proposed by the BOR. It is unclear how the BOR can proceed without a clear and concise understanding of the full spectrum of potential biological impacts on delta fishery reproductive lifecycles.

S-10-7 In discussing the DEIS with Regional Water Quality Control Board (RWQCB) staff it is apparent that the RWQCB is in the initial stages of developing a selenium based Total Maximum Daily Load (TMDL) for the bay delta region. There does not appear to be an analysis of BOR's ability to make the necessary modifications to the Delta-Chipps Island disposal alternative to meet and/or exceed RWQCB selenium based numeric standards.

Ocean Disposal Alternative

The Department is charged with the management of nearly 65 percent of the San Luis Obispo County coastline. The area in question contains significant biological, cultural, and socio-economic resources. As discussed in the DEIS, the Ocean Disposal Alternative does not adequately analyze the potential environmental impacts. Large scale assumptions are presented for the ocean discharge location and ocean dispersal characteristics. As a result, the DEIS assumes no significant impacts to sensitive coastal resources, water quality, bioaccumulation of selenium and other (undisclosed) constituents, and impact to migratory birds, mammals, and fisheries within the Estero Bay hydrologic unit.

S-10-8 As an Initial effort to determine impacts, the Department recommends performing modeling studies, similar to those performed for the out-of-valley Bay-Delta disposal alternative. As stated in the DEIS, a "free surface modeling system" is appropriate for coastal waters where "stratification can be neglected." Additionally, a systematic

S-10-9 evaluation of coastal flora, fauna, and physical natural resources would be required to complete an assessment of potential project impacts.

S-10-10 This "baseline" set of ecological parameters would also require long-term monitoring to ensure the continued health of sensitive aquatic habitats located within the hydrologic unit.

S-10-11 The Draft Fish and Wildlife Coordination Act Report (2005) does not fully discuss the potential impacts to aquatic wildlife species and habitat within the coastal waters. The report, published in response to the DEIS, primarily discusses impacts to freshwater aquatic species. The report only tacitly refers to the Ocean disposal alternative falling within the project area.

S-10-12 Further, the DEIS does not adequately address the potential environmental impacts of the proposed coastal pipeline route. Based on the Department's experience with biological impacts, mitigation, and associated construction cost overruns for large-scale "conveyance" projects, the DEIS grossly underestimates the technical, permit, and legal challenges likely to impact the planning and placement of the proposed pipeline, particularly within the Coastal Zone.

Again, thank you for the opportunity to comment on the San Luis Drainage Feature Re-evaluation Draft Environmental Impact Statement. If additional studies are conducted addressing project impacts, the Department looks forward to additional review and comments.

Please do not hesitate to contact Department staff at the Diablo Vista District at (707) 989-9548 and San Luis Obispo Coast District at (805) 927-2065 if you have any questions.

Richard G. Rayburn
Chief, Natural Resources Division

cc: Don Monahan
Nick Franco

RESPONSES TO COMMENT S-10

S-10-1

Comment noted. No response necessary.

S-10-2

Neither identification of an agency-preferred alternative nor an environmentally preferred alternative is required in a Draft EIS. The agency-preferred alternative must be identified in the Final EIS (see Section 2.15), and the environmentally preferred alternative must be identified in the ROD (and Reclamation will do so).

S-10-3

Comment noted. No response necessary.

S-10-4

The comment pertains to the PAR rather than the Draft EIS. A new, more thorough alternatives evaluation was conducted for the Draft EIS. For additional discussion about the level of design of the EIS, see Master Response GEN-1.

S-10-5

No water from the San Luis Drain is currently discharged to the Bay-Delta; therefore, a study of long-term biological effects of drainwater discharge into the Bay-Delta is not possible. See Master Responses SW-1 and SW-2.

S-10-6

Estimated effects to biological resources within the Draft EIS are based on the best available information. That information, current scientific principles, and comments such as this will be taken into consideration in the selection of the preferred alternative.

S-10-7

See Master Response REG-3 in regard to compliance of the Delta Disposal Alternatives with the Se-based TMDL.

S-10-8

Diffuser modeling conducted in the Draft EIS demonstrates that the diffuser can be designed to achieve adequate dilution in the zone of initial dilution. Concentrations of particular constituents of concern in the effluent will be diluted to levels below appropriate water quality standards very quickly after discharge and, thus, surrounding ocean areas will experience relatively low levels of effluent. For example, even under the infrequently (< 1 percent of the time) occurring condition when zero ocean currents are above the diffuser, Se concentrations would reach the

applicable water quality criterion of 15 µg/L between 6 and 12 meters above the diffuser. With maximum expected currents, diffusion to the water quality criterion would be achieved only 2 meters above the diffuser (see Section 5.2.8.3, page 5-65). Thus, the water quality criterion would be met very quickly after discharge. At locations farther from the diffuser, dilution would reduce constituent concentrations to levels well below the water quality standard. It is also important to note that ocean currents behave differently than flows in the Delta, where reversing tidal flows ("sloshing") can result in long-term accumulation of effluent, which can sometimes produce effluent concentrations above initial dilution concentrations. This process will not occur in the ocean.

S-10-9

See Response to Comment S-10-6.

S-10-10

If the Ocean Disposal Alternative is selected for implementation, Reclamation would address all Federal regulatory responsibilities designed to protect resources. Reclamation agrees that collection of a baseline set of ecological processes would require a long-term multiyear monitoring effort that is beyond the scope of reasonable research required for NEPA analysis.

S-10-11

See Master Response BIO-1 in regard to the Draft Fish and Wildlife Coordination Act Report.

S-10-12

See Master Response GEN-1 in regard to the level of analysis for the Ocean Disposal Alternative pipeline route.

COMMENT S-11. CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN FRANCISCO BAY REGION, BRUCE H. WOLFE

California Regional Water Quality Control Board
San Francisco Bay Region

Alan C. Lloyd, Ph.D.
Agency Secretary

1515 Clay Street, Suite 1400 Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.waterboards.ca.gov/sanfranciscobay

Arnold Schwarzenegger

August 31, 2005
File No. 1131.00 (SMM)

Jerry Robbins
U.S. Bureau of Reclamation
2800 Cottage Way, MP-720
Room W-2830
Sacramento, CA 95825-1898

Dear Mr. Robbins:

COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS), SAN LUIS DRAINAGE FEATURE

We appreciate the opportunity to comment on the DEIS regarding a subject that has concerned the San Francisco Bay Regional Water Quality Control Board (Water Board) for decades. In 1964, the Water Board prohibited the proposed discharge of the San Luis Drain to the San Francisco Bay/Delta. While the discharge prohibition was not carried forward into the Water Board's 1975 Water Quality Control Plan (Basin Plan), and the Water Board requested in 1981 that the State Water Board take the lead on whether to permit the proposed discharge, we remain
S-11-1 concerned that the DEIS has not identified some key regulatory and technical issues that would have to be addressed in order to consider either of the two Delta Disposal project alternatives.

We applaud the Bureau's inclusion of three land retirement alternatives, including an alternative to retire all drainage-impaired lands in the Westlands District and the Northerly Area. As noted in the DEIS, the retirement of western San Joaquin farmland with high selenium would reduce
S-11-2 the disposal volumes required by the project. We support alternatives that would render discharge to the Bay or Ocean unnecessary, especially given the regulatory considerations noted
S-11-3 below. We support the consideration of selenium biotreatment if the technology is reliable and builds in necessary contingencies to meet stated performance criteria.

Regulatory Environment and Compliance Requirements

S-11-4
1. Section 4 does not explain waste discharge permitting requirements, even in general terms, for a project like the San Luis Drain. Placing "Clean Water Act" and "Porter-Cologne Act" in a table without explanation of the water quality information needed and anticipated permit requirements for any discharge seems incomplete.

S-11-5
2. Appendix L states the general authorities exercised by the State and Regional Water Boards under the Federal Clean Water Act (CWA) and State Water Code, but makes

Preserving, enhancing, and restoring the San Francisco Bay Area's waters for

Recycled Paper

S-11-5 cont.

no mention of the relevant fact that selenium is officially listed on the CWA Section 303(d) list as impairing the beneficial uses of segments of the San Francisco Bay Estuary, from this Water Board's jurisdictional boundary with the Central Valley Region to the Pacific Ocean. This is critical regulatory and compliance information needed in analysis of the Delta Disposal alternatives.

S-11-6

3. The Delta Disposal alternatives may be incapable of meeting selenium mass loading requirements this Water Board is currently developing. As noted above, segments of the San Francisco Bay Estuary are listed as impaired due to selenium. As such, development and implementation of a Total Maximum Daily Load (TMDL) project for selenium is required by the CWA and is underway. As wasteloads of selenium are allocated by the TMDL to existing sources of selenium to the Bay Estuary system, there may be no additional assimilative capacity to allocate to proposed discharges from the Delta Disposal alternatives. However, the DEIS is silent on this potentially pivotal regulatory issue.

S-11-7

4. Because the project will add pollutants to waters of the state, discharges from the Delta Disposal alternatives will require federal NPDES permits. Discharges treated with selenium biotreatment technology would likely be regulated through effluent limitations in the NPDES permit(s), which would need to be consistent with the selenium TMDL under development.

S-11-8

5. Geologically, those soils with high selenium may also contain naturally high levels of mercury. Mercury TMDLs for the Delta and Bay are in various stages of development, and the Delta Disposal alternatives would have to be in compliance with any loading requirements in those TMDLs.

S-11-9

Selenium Bioaccumulation

The Clean Estuary Partnership of the San Francisco Bay Region, which includes the Water Board, has drafted a report entitled: "Selenium in San Francisco Bay: Conceptual Model and Impairment Assessment," available on the web at http://www.cleanestuary.org/publications/index.cfm. This report summarizes the regulatory status of selenium in the various segments of the San Francisco Bay Estuary (including Suisun and San Pablo Bays, and the Sacramento-San Joaquin Delta within this Water Board's jurisdictional boundary). The DEIS has missed some key points documented in this report. Most importantly, the segments of the Estuary into which project alternatives are proposed for discharge are listed on the CWA Section 303(d) list as being impaired by selenium. The basis for this listing is human consumption of waterfowl, not considered in the environmental impact and mitigation analysis.

6. In Section 8.2.1, the evaluation criteria for determining environmental consequences (impacts) do not include human health endpoints. Selenium is on the CWA Section

S-11-9 cont.

303(d) as impairing beneficial uses of the San Francisco Bay segments related to human consumption of organisms, i.e., scaup and scoter ducks. As the DEIS notes in Section 14 (Recreation), the California Office of Environmental Health Hazard Assessment (OEHHA) has issued a health advisory against consumption of scaup and scoter meat taken from Suisun Bay, San Pablo Bay, and San Francisco Bay. Evaluation criteria for environmental impacts should include human consumption of organisms taken from receiving waters of the proposed discharges.

Surface Water Resources

S-11-10

7. The DEIS at Section 5.1.3 reviewed the current water quality data on selenium from the Regional Monitoring Program for the San Francisco Estuary, and compared it to the current National Toxics Rule standard of 5 ug/l. This standard is currently being reviewed by U.S. EPA and may be replaced by a whole-body tissue standard of 7.91 ug/g dry weight as the chronic toxicity limit, with recommendations to monitor the status of the fish community if the tissue concentrations exceed 5.85 ug/g dry weight. These values may be the relevant standard for water quality in the selenium TMDL. While this Section of the DEIS mentions bivalve concentrations of selenium, it did not provide information on higher trophic level fish tissue, which will likely be the relevant water quality endpoint for consideration of impairment and any TMDL requirements.

If you have any question, please contact Steve Moore at (510) 622-2439, or via e-mail at smoore@waterboards.ca.gov.

Sincerely,

Bruce H. Wolfe
Executive Officer

RESPONSES TO COMMENT S-11

S-11-1

The comment is noted. Specific comments on these issues are addressed in the responses below.

S-11-2, 3

Comment noted. No response necessary.

S-11-4

See Master Response REG-1 in regard to permit requirements for the proposed action.

S-11-5

The CWA Section 303(d) list is discussed in Section 5. Table 5.1-12, Selected Water Quality Objectives and Criteria for Bay-Delta Waters in the Carquinez Strait and Chipps Island Vicinity, includes Se as a Section 303(d)-listed constituent.

S-11-6

Reclamation recognizes that mass loading is a future issue and has based the effects analysis in the EIS on changes to Se in potential food-chain items. The TMDL has not yet been adopted, and the EIS analysis cannot be based on potential future requirements. The Delta Disposal Alternatives would be required to comply with TMDLs.

S-11-7

The comment is noted. Section 4 and Appendix L describe the regulatory environment and compliance requirements that would apply to the proposed alternatives. As shown in Section 4, Table 4-1, all of the action alternatives would have to comply with the CWA. Appendix L, Section L3.1 states that the Delta and Ocean Disposal Alternatives would require NPDES permits in compliance with CWA Section 402.

S-11-8

The comment that soils with high Se levels could also have high mercury concentrations is noted. Existing data on mercury concentrations in shallow groundwater are shown in Appendix C, Table C2-7. Mercury concentrations may be further reduced by biotreatment. Table 5.1-14 in Section 5 lists mercury and other constituents that are subject to TMDLs and the priority ranking for each constituent. The Delta Disposal Alternatives would be required to comply with TMDLs.

S-11-9

Even though an advisory is already in place for consumption of waterfowl, the advisory does not prohibit waterfowl consumption but recommends that consumption be limited to a certain amount per month. Based on the modeling conducted for the SLDFR to date, it is expected that there will be a significant increase in bioaccumulation in Asian clams, which are eaten by scoters and scaups (the waterfowl species to which the advisory pertains). This could result in a revision to the current advisory that recommends lower consumption rates than those currently in place. This would be considered a significant effect compared to No Action.

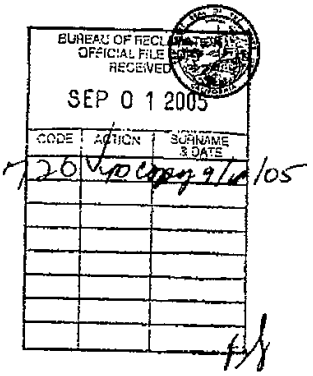
S-11-10

The EIS discusses existing data on Se concentrations in fish tissue in the Bay-Delta in Section 8.1.4. Recently collected data have been added to this section for the Final EIS. At this time, no regulatory standard exists for fish tissue concentrations of Se, and the draft fish tissue standard proposed by the EPA is under debate and is unlikely to be implemented in its current form. The EIS analysis cannot be based on potential future requirements.

COMMENT S-12. CALIFORNIA DEPARTMENT OF WATER RESOURCES, GERALD E. JOHNS

STATE OF CALIFORNIA – THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791



August 31, 2005

Mr. Jerry Robbins, San Luis Drainage Feature Re-evaluation
Project Manager, Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Dear Mr. Robbins:

The Department of Water Resources (DWR) appreciates the opportunity to comment on the San Luis Drainage Feature Re-evaluation Draft Environmental Impact Statement (EIS). The Draft EIS describes alternatives being considered to provide drainage service in the San Luis Unit of the Central Valley Project. Following are our comments on the report:

General Comments

S-12-1 In several places in the document there is not enough information about the location of proposed facilities to evaluate the impacts or suggest appropriate mitigation. This lack of information may circumvent NEPA's public disclosure goal. (See specific comments for details.)

S-12-2 Some of the data used in the DEIS is as much as 8 years old. More current data should be used. (See specific comments for details.)

S-12-3 The draft EIS fails to explore incidental beneficial uses of subsurface drainage water that occur outside the San Joaquin Valley with the Out-of-Valley alternative. For example, use of agricultural drainage water for power plant cooling in lieu of seawater at the Duke's Energy power plant.

S-12-4 All In-Valley alternatives include degrees of land retirement. Retirement of downslope land may increase subsurface flows of saline water from upslope land and further degrading downslope land.

During the 50-year project life, the Draft EIS estimates that imported salt will range from 100,000 to 700,000 tons per year. The amount of salt accumulated in evaporation basins would range from 5 million to 35 million tons during this period. The Draft EIS suggests the disposal of drainage water into evaporation basins, salt crystallization and salt burial. The experience of the Westside RCD (Mendota project) and AndrewsAg

S-12-5 project indicates that handling even a small volume of salt is very costly. The evaluation of drainage alternatives needs to include the costs of salt handling and burial.

S-12-6 The Draft EIS describes a drainage program that is energy intensive. The draft should evaluate the potential effect of increased energy costs.

S-12-7 Energy and overall operating costs are a function of the volume of drainage water. Volume reduction through reuse could significantly reduce the volume of drainage water to be treated.

S-12-8 The Draft EIS does not consider the use of trees as a component of drainage systems. Trees lower water tables, use drainage water (as "vertical drains"), intercept subsurface flows of groundwater, can be harvested as saline biomass, enhance the aesthetic value of farming areas and improve air quality.

Specific Comments

Executive Summary

S-12-9 The Draft EIS fails to carry discussion of project details into the environmental analysis sections. More detailed estimates of project impacts -- described by disturbance area, for example -- are not provided, even though alternative descriptions, including project detail information, is provided in Section 2, Alternatives. The lack of detailed analysis prevents comparisons of meaningful alternatives.

The use of the word "significant" carries certain connotations for NEPA and CEQA. While some impacts may be significant from a CEQA perspective, these same impacts may not be significant from a NEPA perspective. Overuse of the term "significant" inhibits meaningful alternative comparison. Fully 73% of the boxes in Table ES-10 are

S-12-10 significant adverse effects related to the effects of the seven action alternatives. Please quantify the effects in order to provide a meaningful comparison of alternatives.

S-12-11 The No-Action alternative serves as a baseline for comparing the effects of all alternatives. Please include a discussion of the effects of the No-Action alternative.

S-12-12 The Executive Summary should contain a brief description of the "need" for the drainage project.

Section 1: Purpose of and Need for Action

1-3.1 Below Table 1-2 the paragraph discusses the area needing drainage and states that only two-thirds will most likely be tile-drained (254,000 acres).

S-12-13 What is the total drainage volume that this number represents? On page 1-10 and in Table 1-3 the maximum drainage volume is 97,000 acre feet,

S-12-14 does this relate to the 254,000 acres mentioned before?

S-12-15 1.5 Section 1.5 indicates that Reclamation will evaluate the No-Action and seven action alternatives in this EIS and that "Reclamation will identify the Preferred Alternative in the Final EIS," and that "no decision will be made until the environmental review process is complete." However, section 2.15 states that "Reclamation anticipates that its preferred alternative will be one of the three In-Valley/Land Retirement Alternatives." These statements seem contradictory and indicate that equal consideration and evaluation may not be given to each alternative.

Section 2: Alternatives

S-12-16 2.2.1.3 This section states "water that fallowing frees up in drainage-impaired areas would be reallocated to unaffected areas." Since fallowing isn't typically a permanent removal of land from irrigated production, what will happen when the land is brought back into production?

S-12-17 2.3.2.1 How much earthwork will be necessary to create the slopes needed to enable the pipeline to gravity-flow drainwater to reuse facilities?

S-12-18 2.3.2.3 Under Reuse Facilities, please specify the current groundwater quality, and
S-12-19 the anticipated level of degradation. Over what period of time will the
S-12-20 expected decline in groundwater quality occur? Also, in the Water Use paragraph, what is meant by "effective rainfall?"

S-12-21 The Broadview Water District land sale is mentioned in the Westlands North Service Area section, but other "recent land purchase and settlements" is also mentioned in this section in terms of retired land being available for locating reuse facilities. Please discuss these land purchases and settlements, the amount of acreage and where the land is located.

S-12-22 What type of work would be necessary to complete the "considerable rehabilitation" needed to repair the drain's lining?

S-12-23 Footnotes to the tables in this section indicate "the reuse site size and area served are subject to revisions during the SLDFR Feasibility Study". The EIS makes similar comments in various sections. While we understand the complexities of planning and implementing a project of this scale, postponing development of key project information until sometime after the EIS review ends seems to circumvent the NEPA public disclosure requirement.

S-12-24 There seem to be three or four Reuse Facilities that are reasonably close to the James Bypass and Fresno Slough. What influence will these have on these water bodies over time? Is the reuse water of poorer quality than the irrigation water used now?

S-12-25

S-12-26 The Draft EIS assumes that retired lands will be managed for dryland farming, grazing, or fallowing. Considering that Reclamation will have to find people interested in using retired lands for these purposes, how much retired acreage will realistically be managed this way? Please describe what will happen on retired lands that are not managed according to the given assumptions.

S-12-27

S-12-28 Table 2.3-1 Two of the footnotes for this table assume land retirement rates for the years 2003 through 2007, and amounts of acreage assumed to be taken out of production in the years 2002, 2003, and 2004. Considering that current land retirement and out-of-production acreage information should be readily available for 2002-2004, we suggest including the updated information.

S-12-29 2.4-1 Similar to the comment in 2.3.2.3, postponing a variety of actual field investigations and the selection of conveyance and facility locations until some point after the public review period has ended seems to circumvent NEPA's public disclosure commitment. Will additional public review opportunities be given once more specific project investigations, like the ones mentioned in 2.4.1, are completed? Table 2.4-1 notes that the final average discharged TDS will be 35,600. How long will it take for this final TDS to occur?

S-12-30

S-12-31 2.4.1.1 What will quality of the water produced by this process be? What will the water quality be after blending with CVP water? What is the estimated volume of CVP water required to achieve that water quality goal?

S-12-32

S-12-33

S-12-34 2.4.1.2 Please be more specific about what is meant by "treatment biosolids with Se would be tested and disposed/reused appropriately."

S-12-35 2.4.1.3 Without disclosure of the actual evaporation basin locations or results of appropriate field surveys, it is impossible to determine whether avoidance of sensitive and protected species will be met. Also, design and management techniques to minimize adverse biological effects should be coordinated with the Regional Water Quality Control Board, the Department of Fish and Game, and the U.S. Fish and Wildlife Service. If Reclamation will be doing this coordination with these resource agencies, we recommend discussing it in the DEIS. Likewise, closing sites should be done according to Regional Water Quality Control Board requirements.

S-12-36

S-12-37

S-12-38

S-12-39 This section states "information from a variety of sources was analyzed to locate additional areas within the San Joaquin Valley that meet the above siting criteria." Please reference those sources.

S-12-40 Page 2-24 includes the statement "presumably the evaporation basins would continue to operate indefinitely until no longer needed." Please be more specific about this time frame.

S-12-41 2.4.2 Considering that quite a bit of the actual field investigations and other information will be delayed, the statement that "this EIS evaluates the potential environmental effects of the full system when it is completely constructed" is not quite accurate. While we agree that it would be beneficial for Reclamation to continue to research and adapt drainage technologies, as appropriate, we also encourage public participation and review of the process.

S-12-42 Table 2.4-3 Cost of mitigation is an important project consideration and the EIS should have provided it. A similar statement is made on page 2-79, "the costs do not include costs for mitigation of environmental effects, which will be determined as the SLDFR Feasibility Study progresses." At what point will these costs be made public?

S-12-43

S-12-44 2.5.1.1 Based on pilot and laboratory studies, "it is estimated that full-scale biotreatment plants can remove Se to below 10µg/L in the treated effluent." What is the actual target level of selenium (Se) that must be reached? What happens if the full-scale treatment plants cannot reach this goal?

S-12-45

S-12-46 Table 2.13-2 In the absence of complete information concerning facility location, alignment of pipelines and canals, adequate field surveys, and assessment and disclosure of mitigation requirements and plans, we cannot concur with the Biological Resources effects as presented.

Section 3: Scope of Analysis

S-12-47 3-1 The statement "the comparisons to existing conditions are provided to facilitate use of this EIS by state and local agencies to meet the requirements of the California Environmental Quality Act (CEQA)" is confusing. Was this intended to be a CEQA compliant document, or is Reclamation anticipating using it as a background document for future projects in partnership with state and local agencies?

S-12-48	3.2	For public consideration, the EIS should describe potential traffic and noise impacts, even though they may be short-term.

Section 5: Surface Water Resources

S-12-49 S-12-50	5.1.2	What does the EIS mean by "occasionally?" How frequently do the Se values upstream from Vernalis exceed EPA's standards?
S-12-51	5.1.2.1	Is there Se compliance data available for the Crows Landing site more recent than the 1998 and 1999 data given here?
S-12-52	Table 5.1-4	In order to compare potential Out-of-Valley discharges with existing discharges, please include the characteristics of discharge for the listed facilities.
S-12-53	5.2.5.2	This section mentions "removal of the water and chemicals from the river." Unless Reclamation has a plan to treat San Joaquin River water, we think what is meant is cessation of drainage discharges to the river will have a beneficial effect. Please clarify. This comment applies to other Operational Effects categories in Section 5.
S-12-54	5.2.6	Concerning evaporation basins, what volume of the original drainwater would be lost to ET?
S-12-55 S-12-56 S-12-57	5.2.6.2	Under this alternative, discharges from GDA will be placed into evaporation basins. What volume of water is this? What is the anticipated quality of this drainage water? How large will the necessary evaporation basin be and where, exactly, will it be?
S-12-58 S-12-59	5.2.7	Please discuss the effects of evaporation and bioaccumulation on the Se concentration originally discharged into the evaporation basin. Also, what will be done if the full-scale treatment plant is unable to reduce the Se concentration to below 10µg/L?
S-12-60 S-12-61	5.2.9.4	Do the incremental increases mentioned on page 5-95 include the total Se concentration or just the additional incremental amount? What would the total Se concentrations be?

Section 6: Groundwater Resources

S-12-62 — 6.1 and 6.2.3.4: Groundwater is described as flowing "westward from the western San Joaquin Valley". We confirmed with Ken Schmidt that the movement of groundwater in this area is from west to east.

Section 7: Biological Resources

General Comments:

The second paragraph of this section notes:

"Intensive biological field surveys have not yet been completed. Detailed facility designs, site selections, operating plans, and construction schedules are still being developed or refined...As detailed designs are formalized, focused on-site field surveys will be completed where appropriate to accurately inventory and map sensitive habitats and species occurrences."

S-12-63 — Circulation of an EIS without inclusion of the types of project information mentioned above not only seems to circumvent NEPA's public disclosure goal, but it makes a reasonable and complete evaluation of the project alternatives difficult, if not impossible.

S-12-64 — The fact that project features will be developed and implemented over 50 years, and that a fair amount of work remains to be done in order to fully describe and disclose the project features and potential impacts indicates that development of Program EIS documentation may better fit the desired flexibility and long-term nature of this project. A Program EIS would also accommodate the many places where in-depth investigation and more project refinements will be achieved by Reclamation over time and should be circulated and disclosed to the public for evaluation. This is especially true for the Biological Resources section. While some specific comments can be made, there is no

S-12-65 — information given to adequately evaluate potential impacts, nor to decide whether Reclamation's determinations of effect are accurate. Given the available information,

S-12-66 — we are unable to concur with Reclamation's determinations for biological resources. This comment also applies to other sections of the EIS where similar information gaps

S-12-67 — are noted. We would like the chance to review the additional alternatives information as Reclamation develops it.

S-12-68 7.1.3 Please identify what constitutes the "footprint" for construction or operational effects of the alternatives. Also, the statement "the absence of recent occurrence records in the areas being evaluated was highly indicative that the species no longer is present" is not necessarily a valid conclusion.

S-12-69 Reasons for lack of recent records could include lack of recent surveys, or not successfully locating a species actually in the area. Making determinations on presence or absence based on records, alone, can give misleading results. This comment also applies to similar portions of this Section 7.

S-12-70 7.2.1 While the information adopted from the CEQA Guidelines Environmental Checklist may be useful in helping determine potential project impacts, the checklist and its components is simply a tool that can be used or changed as necessary. The information in the checklist is not considered evaluation criteria on its own, nor is it meant to be construed as established standards.

S-12-71 7.2.3.2 "Artificial" habitat can still have considerable value. In addition artificial wetlands can be considered jurisdictional.

S-12-72

S-12-73 7.2.4.1 What may be considered low-quality habitat can actually provide use for cover, foraging, and might support a prey base necessary to another species. It is important not to minimize the value of what might be considered less than optimal habitat.

S-12-74 7.2.5.1 What entity will require evaporation basin mitigation sites? Where will these sites be and what features will they have?

S-12-75

S-12-76 Page 7-29 This section states "the loss of terrestrial habitat that would result from permanent conversion of the sites from prior agricultural use to evaporation basin use would be compensated by the more diverse habitat provided by the adjoining or surrounding, reuse areas or retired (dryland farmed or grazed) parcels." While this assumption could be accurate in many cases, the anticipated compensatory effects would depend on the affected species.

S-12-77 Some cropland provides well-used cover and foraging areas, and protected movement corridors. Species that move freely in row crops may not traverse stands of grain, and small mammals that are typically prey, may not use lands planted in grain. Retired lands used for grazing could have some drawbacks as sheep are intensive grazers and can damage the vegetative base and soil profile.

S-12-78 Herds of sheep are often protected by herding dogs, which may also make retired lands less attractive for habitation. Last, retired land will not have the same water availability as irrigated land, this may also factor into the anticipated compensatory effect.

S-12-79 These comments also apply to other similar areas in Section 7.

S-12-80 7.2.6.3 Concerning the operational effects discussed on page 7-37, some of the listed species might be affected by the operational conditions mentioned.

S-12-81 7.2.8.2 Page 7-47 states "Marine mammals could be injured or disturbed by construction activities and noise, but the degree and probability of effects would depend on the timing of the activity and the activity's distance from areas transiently used by the species. No significant effect to aquatic and wetland resources are anticipated to occur as a result of construction of the outfall." This information seems to indicate that because the degree of the harm is not known, the effect is not significant.

S-12-82 7.2.9.2 Please identify the State Waterfowl Areas, National Wildlife Refuges and private duck clubs that will be traversed by the proposed aqueduct and pipeline.

S-12-83 7.2.10.1 As mentioned on page 7-67, could the retired lands that continued functioning as salt sinks pose a contamination or toxicity problem to wildlife or grazing animals?

S-12-84 7.2.10.2 Page 7-72 mentions that preconstruction surveys for vernal pools could be conducted. Will they?

S-12-85 7.2.11 Although this cumulative effects discussion begins well, it seems to be lacking information about past, present, and reasonably foreseeable future actions. The discussion should include operation of the evaporation basins, current and proposed Integrated on-Farm Drainage Management systems, the proposed Westside Regional Drainage Plan, and the Grasslands Bypass Project, in addition to the many other drainage projects that have been, or will be implemented, in the project area. Also please include a discussion of the existing cumulative effects as well as a determination of how the actions proposed in this EIS will contribute, cumulatively.

S-12-86

Section 8: Selenium Bioaccumulation

S-12-87 8.1.1 To help compare toxicity threshold, please provide a table of the various Se concentration thresholds commonly used by researchers and regulators. Include thresholds for items such as tissue, egg, biota, vegetation, insects, and waterborne levels. It would also be helpful to include a table of all the anticipated evaporation basin constituents.

S-12-88

S-12-89	8.1.5	Although "little" quantitative information may be available, please describe what is available. Several years work was conducted by the FWS on existing IFDM systems and at the Grasslands Bypass Project site. This information should be available as well as considerable information collected at evaporation basins.
S-12-90	8.2.2.1	Please provide more details for the evaporation basin facilities management and reference the source any management protocols used.
S-12-91	Table 8-2	Please explain the footnote.
S-12-92	8.2.2.5	Please explain what is meant by having clean ditch or groundwater available on a limited basis for mixing with applied drainwater. How much water will be made available, and at what point in the project? Also, at the bottom of page 8-15, Se effects were found in shore birds as well as birds that nested in trees and grasses.
S-12-93		
S-12-94		
S-12-95	8.2.2.6	Please note on page 8-23, ducks are also more sensitive to salinity and salt encrustation.
S-12-96	8.2.11	The cumulative effects discussion should be expanded to include the projects mentioned in comment 7.2.11.
S-12-97	8.2.12	Appropriate timing and methods for vegetation control and hazing are essential for successfully deterring wildlife use while avoiding impacts to nesting birds. Take care to avoid impacts to species such as kangaroo rats and blunt-nosed leopard lizards, which have been located on existing evaporation basins. Please provide more detail concerning how the listed mitigation recommendations will be implemented.

Section 11: Air Resources

Sections 11.2.3.5, 11.2.7.5 and 11.2.8.5 Agricultural Operations

S-12-98	The discussion should provide specifics of the overall increase in air quality effects from agricultural operations to guide the reader through the complicated logic of less emissions but increased impact compared to the No-Action alternative.

Section 16: Aesthetics

S-12-99 The Aesthetics section makes relative comparisons between the six alternatives without providing details, such as corridor width and pipeline size. The reader is left to judge the aesthetic effect of crossing the Santa Lucia range not knowing whether the corridor is 10 or 10,000 feet wide. Please provide current specific information regarding the physical characteristics of the relative conveyance corridor.

S-12-100 The ocean disposal alternative will require exposure of the pipeline at the fault line. Please include the location of the pipeline exposure.

Section 17: Regional Economics

S-12-101 In order to assess the economic effects of the project, the DEIS defines the analysis region as the combination of all nine counties within the proposed project area. We believe that the results of this approach are unrealistic because "The San Luis Unit is located within Fresno, Kings, and Merced counties in [the] western San Joaquin Valley" (page 17-1). However, in terms of measuring the significance of the effect of a particular action, the potential of that action to be considered significant within the area decreases as the size of the effect area increases. In essence, the effect of an action may be suppressed or hidden in areas with a large amount of economic activity. This may be a problem if the effects of an action are actually concentrated in a small subarea rather than dispersed throughout the entire effect area. An action that might be considered insignificant when analyzed over the entire area could be quite significant if it occurs within a smaller subarea (page 17-5)." Early in the document, Reclamation stated its preference for an In-Valley solution, therefore, while we realize that the overall

S-12-102 economic effects need to be addressed for the whole project area, economic effects also have to be specifically addressed for the areas that will be most affected by the project alternatives. We propose adjusting the analysis in a way that assesses the

S-12-103 effects to the counties, and also to the communities that would be most affected by the In-Valley alternatives. The communities include Firebaugh, Five Points, Helm, Huron, Kerman, Mendota, San Joaquin, and Tranquility. Other communities may also be in this portion of the project area and should be included in the analysis. By failing to analyze

S-12-104 the potential economic effects to the San Luis Unit counties and their communities, the effects of the action will, indeed, be hidden.

S-12-105 Other drawbacks to this regional approach are that the section mentions the creation of new jobs. But there is no way of determining what types of jobs these are, nor where they will occur within the nine county regions. Consequently, the created jobs may not be in the same locations where jobs have been lost.

S-12-106/107 17.2.3 How were these assumptions developed? What criteria were used?

S-12-108 Table 17-4 Information concerning mitigation facilities must be included in order to adequately reflect project implementation expenditures.

S-12-109 17.2.4 This section discusses the possibility of relying on existing retraining and "similar" programs to help avoid project-related significant cumulative unemployment effects. First, what programs are these and how are they funded? This approach seems to place the responsibility for alleviating unemployment effects on entities that are not responsible for the impact to the community.

Section 18: Social Issues and Environmental Justice

S-12-110 18.1.2 In order to more fully describe the potential effects of the project, we recommend further breaking down Tables 18-2 and 18-3 into the smaller communities that would be effected by In-Valley alternatives within each San Luis Unit county.

S-12-111 S-12-112 S-12-113 S-12-114 S-12-115 18.2 How many jobs have been lost due to current land retirements? How many people can enter retraining programs with the amount of funding currently available? How likely is it that the additional funding mentioned would become available? What is the rate of success for retraining people through these programs? Finally, while the EIS identifies the loss of housing and jobs as an environmental consequence of the project, it doesn't specify how Reclamation intends to remedy the situation.

S-12-116 S-12-117 18.2.3 While construction jobs will be created, at least for the short-term, and some of these jobs could become available to people who have lost jobs due to project implementation, considering this a beneficial environmental justice effect doesn't seem appropriate. While some people may be retrained for construction work, it is likely that skilled construction workers will already be available. Furthermore, many contractors are obligated to hire union employees, which could minimize the number of jobs available to other people.

S-12-118 S-12-119 18.2.10 Implementation of the project could cause the loss of jobs, housing, schools, health clinics and other support service. The approach taken in this section to analyze the possible effects does not seem to adequately reflect the impact to the communities most affected in the project area. Furthermore, the EIS seems to rely on outside programs to alleviate the effects. This approach does not seem appropriate. Please discuss how Reclamation plans to alleviate these effects.

Section 20: Environmental Mitigation

S-12-120 As noted in Section 7, "Intensive biological field surveys have not yet been completed. Detailed facility designs, site selections, operating plans, and construction schedules are still being developed or refined…As detailed designs are formalized, focused on-site field surveys will be completed where appropriate to accurately inventory and map sensitive habitats and species occurrences." Without this project information, and complete mitigation details, it isn't possible to determine whether the proposed mitigation measures would be adequate. We would like to review the project information when it's complete, and the mitigation plans when available. At that point

S-12-121 we could make a more meaningful assessment of the efficacy of the mitigation program for this project.

S-12-122 We suggest re-analyzing the Regional Economics, Social Issue and Environmental

S-12-123 Justice Sections to provide more in-depth disclosure of the effects on the counties and small communities within the San Luis Unit. Because the EIS, as written, relies on local assistance and retraining programs to alleviate economic, social issue, and

S-12-124 environmental justice effects, we also suggest adding a discussion of these effects to the Environmental Mitigation Section. Unless Reclamation develops a way to offset the realistic effects that implementation of this project could have on human resources and

S-12-125 quality of life, than it will inappropriately depend on the affected communities to mitigate for project-related effects.

Section 21: Consultation and Coordination

S-12-126 21.4.1 We appreciate the extensive distribution list but suggest adding all of the organized small communities in the San Luis Unit counties.

If you have any questions or wish to discuss further, please contact Paula Landis, DWR's San Joaquin District Chief at (559) 230-3310 or me at (916) 653-8045.

Sincerely,

for Gerald E. Johns
Deputy Director

RESPONSES TO COMMENT S-12

S-12-1

Reclamation has provided a sufficient level of detail in the project description to allow an adequate environmental review of the project alternatives. See Master Response GEN-1.

S-12-2

The Project Team has incorporated additional, more recent data into the Final EIS. See Sections 5.1, 7.1, and 8.1 for updates to the Affected Environment discussions for surface water resources, biological resources, and Se bioaccumulation.

S-12-3

The beneficial use of drainwater outside of the San Joaquin Valley is not proposed as part of the Out-of-Valley Disposal Alternatives. If one of these alternatives were selected and funded, incidental uses of drainwater such as for cooling water at power plants could be investigated.

S-12-4

In the drainage study area, groundwater movement is primarily downward resulting from the combined response to deep percolation of irrigation water and pumpage from deep water supply wells. From a project-wide perspective, much more water moves in the vertical direction than horizontally, and groundwater level and quality impacts occur primarily under the irrigated fields. The Draft EIS utilized a three-dimensional numerical groundwater-flow model (originally developed by the USGS) to analyze groundwater levels and flow in up- and downslope areas. In general, model results and current hydrologic understanding of the system indicates the primary groundwater impact in any given area is irrigation and artificial drainage of that area. The retirement of downslope land is, therefore, not expected to significantly increase lateral subsurface flows from upslope lands.

S-12-5

Salt handling and burial are described in Section 2.4.1.3.

S-12-6

See Master Response EC-1 in regard to the economic analyses of the project alternatives. Costs and escalation factors for energy were developed based on accepted practices for Reclamation projects.

S-12-7

Reuse of drainwater is already included in all EIS alternatives.

S-12-8

Section 2.3.2.3 lists a variety of crops that would be considered suitable for any reuse area. Specific directives about which crop types should be grown are not intended but are left up to the management of each reuse facility. Adaptive management would allow changes in crops in response to salinity or economic conditions in the future. Tree varieties are included in Section 2.3.2.3 as a part of the potential crop mix.

S-12-9

Reclamation has provided a sufficient level of detail in the project description to allow an adequate environmental review of the project alternatives. See Master Response GEN-1.

S-12-10

Table ES-10 has been revised to include quantitative descriptions of effects for each resource area where available.

S-12-11

Under NEPA, project alternatives, including the No Action Alternative, are evaluated over the time the project is implemented, not in comparison to current conditions (40 Federal Register 18026 [1981]).

S-12-12

The commenter noted that the Executive Summary should briefly describe the need for the project. The second paragraph of the Executive Summary states: "A long-term sustainable salt and water balance is needed to ensure sustainable agriculture in the Unit and the region."

S-12-13, 14

As shown in Table 1-3 and Appendix C, 97,000 AF/yr is the drainage volume before any flow reduction measures and without any land retirement.

S-12-15

The *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies* (P&G) provides guidelines for selection of the Preferred Alternative. See Master Response ALT-A1. All alternatives were evaluated to the same level of detail in the Draft EIS.

S-12-16

Under the No Action Alternative, some lands may be fallowed and subsequently brought back into production. This change in irrigation for particular sections of land is currently occurring in the Unit based on decisions made by farmers in response to factors including water availability and price, crop economics, and land conditions. Section 12.2.3 of the EIS describes the changes in agricultural production and economics that are predicted to occur under the No Action Alternative.

S-12-17

If the comment refers to the pumps in the collection system, it is not possible to convey the drainwater for farms lower in elevation than the reuse facilities to the reuse facilities without pumping. However, the In-Valley/Water Needs Land Retirement Alternative collection system

farmlands are above the reuse facilities and would not require pumping. If the comment refers to the pumps on the 160-acre farm parcels, the increase in earthwork would be considerable and not possible in many cases. The minimum cover would be 11 or 13 feet instead of 3 feet. More importantly, groundwater would make excavation much more difficult.

S-12-18

The commenter requests that Reclamation specify current groundwater quality and anticipated level of degradation in Section 2.3.2.3. Groundwater quality is discussed in Appendix C, and Tables C2-15 through C2-18 summarize groundwater quality before and after reuse.

S-12-19

Section 12.2.4 of the Draft EIS presents the projected changes in salt concentrations in the reuse areas over time. The modeling shows that salt concentrations in the root zone, drainwater, and shallow groundwater of the Northerly Area would remain similar, while concentrations in the Westlands reuse areas would increase, reaching a steady state after 10 to 15 years of use. Note that the geochemical analyses conducted for this EIS assumed that salts in solid form are in equilibrium with dissolved forms and did not specifically include any limitations on the salt formation and dissolution rates (reaction kinetics); therefore, the analyses are of limited use in quantifying the time period required to reach steady state conditions. Additional geochemical modeling is being conducted as part of the feasibility investigation.

S-12-20

“Effective rainfall” is rainfall that infiltrates the soil surface and becomes available for plant use.

S-12-21

The commenter requests that Section 2.3.2.3 discuss recent land purchases and settlements, the amount of acreage, and where the land is located. Purchases and settlements are detailed in Table 2.3-1.

S-12-22

Engineering analyses conducted since the publication of the Draft EIS have demonstrated that incorporating the Drain as part of the collection and conveyance system for this area is not practical. Therefore, the paragraph in Section 2.3.2.3 in which the referenced sentence appears has been deleted from the Final EIS.

S-12-23

Appraisal-level designs and cost estimates contain adequate detail for the evaluation of alternatives in the EIS. Subsequent designs and cost estimates using a greater level of detail may result in design and cost modifications. See Master Response GEN-1.

S-12-24

Drainage systems planned for the reuse facilities would prevent significant groundwater water movement to the James Bypass and Fresno Slough over time.

S-12-25

Groundwater quality is discussed in Appendix C.

S-12-26

Reclamation based its assumptions about land use on retired lands upon current conditions at other retired lands in the San Joaquin Valley. These assumptions were needed to evaluate operations and maintenance costs for retired lands and to reasonably account for land management costs needed to avoid nuisance conditions. Alternative land uses could be proposed for the retired lands in the future, and at that time the proposed actions would be required to undergo environmental review as required by NEPA and/or CEQA.

S-12-27

See Response to Comment S-12-26.

S-12-28

The year 2001 was selected as the baseline for the purpose of developing an environmental analysis. The Affected Environment characteristics for each resource area were described based on data available at the start of the analysis. Some conditions will change over the course of long-term planning projects such as the SLDFR. The analysis was updated when feasible if the changes in condition affect the conclusions of the environmental analysis. Small changes in land retirement between 2001 and 2004 were not deemed to have the potential to affect the conclusions of the analysis. Also see Master Response ALT-N1 for a discussion on existing conditions and No Action assumptions.

S-12-29

A 30-day no action period will follow the publication of the Final EIS. Following the no action period, Reclamation will adopt the Final EIS as adequate in compliance with NEPA and make a decision on the proposed action, which will be published in a ROD. See Master Response GEN-1 regarding the level of design detail in the EIS.

S-12-30

Section 12.2.4 of the Draft EIS presents the projected changes in salt concentrations in the reuse areas over time. The modeling shows that salt concentrations in the root zone, drainwater, and shallow groundwater of the Northerly Area would remain similar, while concentrations in the Westlands reuse areas would increase, reaching a steady state after 10 to 15 years of use. Note that the geochemical analyses conducted for this EIS assumed that salts in solid form are in equilibrium with dissolved forms and did not specifically include any limitations on the salt

formation and dissolution rates (reaction kinetics); therefore, the analyses are of limited use in quantifying the time period required to reach steady-state conditions. Additional geochemical modeling is being conducted as part of the feasibility investigation.

S-12-31

See Master Response SW-17 in regard to water quality after RO treatment.

S-12-32

See Master Response SW-17 in regard to water quality of RO-treated water blended with CVP water.

S-12-33

See Master Response SW-17.

S-12-34

See Master Response ALT-T1 for a discussion of the evaluation of treatment technologies.

S-12-35

Estimated effects to biological resources in the Draft EIS are based on the best available information. Section 2.4.1.3 identifies the assumptions that, when coupled with current scientific principles, were used to develop the assessment information provided in the Draft EIS.

S-12-36

Mitigation planning is being coordinated with the Regional Board, CDFG, and Service.

S-12-37

Section 20 of the Final EIS (Environmental Mitigation) describes coordination with relevant agencies.

S-12-38

Site closure would be conducted according to the waste discharge requirements (WDRs) issued by the Central Valley Regional Board. Regulations applicable to wastewater are discussed in Appendix L.

S-12-39

The information cited in the comment included previous Reclamation reports, engineering reports from consultants, and data from other government agencies, such as groundwater quality data from DWR, soil classifications from the U.S. Department of Agriculture Natural Resources Conservation Service, endangered and protected species habitat data from the Service, and

topographic data from the U.S. Geological Survey. These references were not cited in the EIS but are available upon request through review of the Administrative Record.

S-12-40

The evaporation basins are assumed to operate for a minimum of 50 years.

S-12-41

See Master Response GEN-1 in regard to the level of detail of the Draft EIS.

S-12-42, 43

Mitigation cost estimates are included in Appendix O of the Final EIS.

S-12-44

The target level of Se in treated effluent that is discharged to evaporation basins would be 10 ppb, which is far below the 1,000 ppb regulatory limit.

S-12-45

See Master Response ALT-T1 for a discussion of the evaluation of treatment technologies.

S-12-46

The comment is noted. Estimated effects to biological resources in the Draft EIS are based on the best available information. That information and current scientific principles were used to develop the information provided in Table 2.13-2.

S-12-47

See Master Response REG-2 in regard to CEQA compliance.

S-12-48

Section 3 discusses the rationale for the scope of analysis of the Draft EIS. As described in Section 3.2, effects on traffic and transportation and noise would be related to short-term construction activities, would not be near sensitive receptors such as schools and hospitals, and are not expected to occur during long-term operation of the facilities. In addition, no concerns about these resource areas were expressed during the public scoping process.

S-12-49 - 51

Section 5.1 of the Final EIS has been updated to include more recent water quality information, including compliance with water quality objectives.

S-12-52

Discharge characteristics and requirements for all permitted dischargers to Estero Bay can be obtained from the Regional Board Web site: http://www.waterboards.ca.gov/centralcoast/Permits/Index.htm. All of the dischargers listed in the table have obtained NPDES permits in compliance with the CWA.

S-12-53

The text cited in the comment should read "removal of the water and chemicals from the Grassland Bypass Project discharge to the river." This change has been made in Final EIS Sections 5.2.4.2, 5.2.5.2, 5.2.6.2, 5.2.7.2, 5.2.8.2, 5.2.9.2, and 5.2.10.2.

S-12-54

For all alternatives, 73 percent of the drainwater would be consumed in the reuse facilities. In addition, for the In-Valley Alternatives, 13.5 percent would be reclaimed as product water and 13.5 percent would be consumed by ET in evaporation basins.

S-12-55

Drainage service for the Northerly Area, which includes lands currently served by the Grassland Bypass Project, would result in approximately 4,050 AF/year of treated drainage water discharged into the Northerly Area evaporation basins and 4,050 AF/year of desalted reclaimed drainwater for irrigation supply use.

S-12-56

See Master Response SW-17 in regard to the anticipated quality of drainwater placed in evaporation basins under the In-Valley/Water Needs Land Retirement Alternative.

S-12-57

Acreages of evaporation basins for the In-Valley Alternatives are discussed in Section 2.4.1.3 and compared in Table 2.13-1. Treatment and evaporation basin facility locations are shown in Figures 2.5-1, 2.6-1, 2.7-1 for each of the in-valley alternatives and described in Section 2.4.1.3.

S-12-58

Evaporation basins are not considered to be part of surface water resources, which is the topic of Section 5. No models predict changes in Se concentration in the evaporation basins; however, based on data collected at existing evaporation basins, Se concentration may double during the evaporation process. Se bioaccumulation in evaporation basins is addressed in Section 8 of the EIS.

S-12-59

See Master Response ALT-T1 for a discussion of the evaluation of treatment technologies.

S-12-60

The discussion of predicted adsorbed Se concentrations on suspended and benthic sediment includes both the incremental changes as well as the predicted total (baseline plus project) concentrations.

S-12-61

Total concentrations of Se are shown in Figure 5.2-21 for the baseline, the baseline plus project condition, and increment of change.

S-12-62

The Draft EIS notes that salinity trends in the City of Mendota Well No. 5 may be attributed to shallow, saline groundwater. However, due to a typographical error, the Draft EIS incorrectly states that the saline groundwater is moving in a westward direction (Sections 6.1 and 6.2.3). The Final EIS has been revised to correctly state groundwater movement is in an eastward direction.

S-12-63

NEPA allows Reclamation to use the best available information attainable without exorbitant cost (40 CFR 1502.22) so long as, where information is lacking, the relevance of the information to the decision is stated. The Draft EIS contains such information. . Adequate biological information is provided in the Draft EIS to assess the relative environmental impacts among project alternatives.

S-12-64

The court order required prompt drainage service, which required a comprehensive EIS. If unforeseen events trigger changes in the proposed action that require additional analysis, Reclamation would consider preparing additional environmental analysis.

S-12-65

Reclamation has provided a sufficient level of detail in the project description to allow an adequate environmental review of the project alternatives. See Master Response GEN-1.

S-12-66

Comment noted. See Response to Comment S-12-46.

S-12-67

Reclamation will provide the DWR with the Final EIS and ROD when they are completed. Reclamation will continue to coordinate drainage management activities with the DWR.

S-12-68

The project footprint generally constitutes the area physically occupied by a project feature or facility. See Table 2.13-1 for the estimated acreages of construction corridors that would be temporarily disturbed under each action alternative.

S-12-69

Formal consultation under Section 7 of the ESA with the Service has been completed for the In-Valley Alternatives. Additional informal consultation is ongoing to develop monitoring and mitigation necessary to protect special-status species. Although the best available information was used in the Draft EIS, studies of special-status species are often difficult to conduct, and existing information may need to be supplemented through site-specific surveys. Upon selection of the preferred alternative, additional feasibility and final design studies will be conducted to provide the information necessary to protect resources. Many of the species in question have survey protocols that would have to be addressed before any type of construction could proceed.

S-12-70

As stated on page 7-11 of the Draft EIS, CEQA guidelines and other information were used to develop evaluation criteria for determining effects to biological resources. Such use in NEPA impact assessments does not warrant the establishment of "standards."

S-12-71 - 73

Comment noted. No response necessary.

S-12-74

Regulatory environment and compliance requirements are discussed in Appendix L. Existing evaporation facilities operated in the San Joaquin Valley are permitted by the Regional Board, Central Valley Region.

S-12-75

Additional detail on mitigation planning has been added to Section 20 to address the potential location and features of the mitigation sites.

S-12-76

Estimated compensatory effects would also depend upon the location and types of vegetation, extent, juxtaposition, and other factors at the final sites selected for construction. In general, however, lands retired from intensive agricultural management (e.g., multiple annual soil tillage, pesticides, fertilizers, etc.) would provide more habitat potential than lands remaining under intensive agricultural management.

S-12-77

Sheep grazing has been discussed as a potential management option for some retired lands. The purpose of grazing would be to generate income for the owner/operators of the retired lands. Good management practices, such as appropriate stocking rates that avoid vegetation and soil damage, would be in the best interests of a sustained income from such operations.

S-12-78

Comment noted. No response necessary.

S-12-79

Historically, the lands requiring drainage were arid, and native species were adapted to dry conditions. Removal of irrigation water will once again change the composition of plant and animal communities found in the area. The Draft EIS attempted to address such changes using the best available information.

S-12-80

See Master Response BIO-2 for information regarding impacts to listed species.

S-12-81

The determination of no significant effects to aquatic and wetland resources is based on the best available information, current scientific theory, and the evaluation criteria as outlined on page 7-12 of the Draft EIS. As stated on Draft EIS page 7-47, direct effects to the benthic community could result where trenching would occur and from sediments covering organisms near the construction site. Some marine mammals could also be affected by construction activities. These effects were deemed temporary and do not fall within the range of significant as outlined on page 7-12.

S-12-82

See Master Response GEN-1 in regard to the level of detail for facility locations. If an Out-of-Valley Alternative were selected as the preferred alternative, additional feasibility and final design studies would provide more detailed information about State Waterfowl Areas, National Wildlife Refuges, and other resources in the vicinity of project facilities.

S-12-83

The sites described in the comment are assumed to continue to function as they currently do. As discussed in Section 7.2.10, such sites offer little to no wildlife benefits. Ponding of significant quantities of water would not take place at the retired lands since the agricultural water supply would be eliminated. Significant rain events could produce some ponding of brief duration, but it is not anticipated to pose a threat to wildlife or grazing animals due to the short time period and lack of quality habitat.

S-12-84

Once the preferred alternative is selected, feasibility and final design studies will provide the information necessary to protect resources while addressing project needs. Reclamation will address its regulatory responsibilities as defined through the ESA consultation process and other statutes as they apply.

S-12-85

Information about past, present, and reasonably foreseeable future actions is provided in several locations within the Draft EIS. Some topics such as effects from evaporation basins are also addressed in the Biological Assessment and Biological Opinion from the Service. (For the complete Biological Opinion, see Appendix M2 of the Final EIS). Section 7.2.11 has been revised to reflect the assumption that activities were included in the cumulative analysis if they were deemed "reasonably foreseeable" and, as such, the analysis may present a worst-case scenario of potential effects if additional beneficial actions are undertaken apart from those already considered.

S-12-86

Section 7.2.11 of the Final EIS has been revised to include this information. Also see Master Response CUM-1.

S-12-87

A table of Se concentration toxicity thresholds for egg, dietary components, and waterborne levels has been added to Section 8.1.

S-12-88

Tables C2-8 and C2-23 in Appendix C provide estimates of constituent concentrations that would be discharged to evaporation basins.

S-12-89

A description of available data on Se concentrations in existing reuse areas has been added to Section 8.1.5.

S-12-90

Additional detail on management of evaporation basins has been added to Section 20.

S-12-91

The note below Table 8-2 reads "Note: Post-treatment Se concentrations at final project buildout were used in this analysis. For the Public Draft EIS, an additional analysis should be conducted to evaluate initial effluent conditions." This footnote is an error and has been deleted in the Final EIS; it was inadvertently placed here and is not related to Table 8-2, which presents dietary

compositions for bird categories. It was determined that the EIS will consider the worst-case condition for effluent, which occurs at final buildout.

S-12-92

Reuse area crops are expected to be salt-tolerant varieties of plants; however, some salt-tolerant crops are sensitive to salinity during germination and early stages of growth. Crop rotation would be necessary to maintain viable crops that will consume the high-salinity drainwater. The crop rotation would involve replacing older crop plantings with new crops, and that would require lower-salinity water. Depending upon the plant's sensitivity and the condition of the soil salinity at the time of new planting, lower-salinity ditch water (the existing canal water supply) or groundwater could be blended with drainwater to establish an appropriate level of salinity for the irrigation water.

S-12-93

Each reuse area will need to undergo some crop rotation as plantings mature and die or become less effective at using water. Depending on the new crop variety, young seedlings or germinating seeds generally require better water quality than the drainwater in use at the reuse area. Any pre-plant irrigation that may be needed for seed germination, and at least the first irrigation, could be considered to be canal water or groundwater that is of better quality than the drainwater. The quantity of water is not known and will depend upon the management of the area crops selected and the need for crop renewal or rotation. Pre-plant and early plant growth irrigations can be small applications since the young plant root system is small. The exception would be if the soil had become too saline for the new crop and extra water would be needed for salt leaching. This could also be the case if parts of the reuse area become too saline and require some reclaiming management that would involve extra leaching with a less saline water to remove some salts from the root zone soil layer.

S-12-94

Elevated Se levels in shorebirds that have been documented at existing reuse areas are believed to have been due to ponded water events. As discussed in Section 8.2.2.5, measures will be taken to prevent the occurrence of ponded water at reuse areas.

S-12-95

Salt toxicosis and encrustation are addressed in Section 7 and Appendix G, and are not relevant to Section 8, which addresses only Se bioaccumulation. See Master Response BIO-3 in regard to impacts to wintering birds.

S-12-96

The comment requests inclusion of the Westside Regional Drainage Plan (Westside Plan), current evaporation basin operations, and planned on-farm irrigation management systems. The Westside Plan was not included in cumulative effects as it is essentially the same project as the action alternatives and it is not likely to occur in addition to the selected project alternative.

Discontinuing the Grassland Bypass Project is already expressly assumed under the action and No Action alternatives and compliance with TMDL projects. Operation of existing evaporation facilities and integrated on-farm drainage management systems is included in the baseline conditions for the bioaccumulation analysis (Section 8).

S-12-97

See Master Response MIT-2 for a description of additional mitigation information that has been added to the Final EIS.

S-12-98

The first paragraphs of Sections 11.2.3.5, 11.2.7.5, and 11.2.8.5 in the Final EIS have been changed to read as follows:

The land retirement component of this alternative would employ three types of land management activities, including dryfarming, livestock grazing, and fallowing on 44,106 acres. Comparatively, existing conditions and the No Action Alternative's planned retirement are 20,518 and 109,106 acres, respectively. Compared to the existing conditions, the increased land retirement of this alternative will reduce land preparation, cultivation, harvest activities, and vehicular travel over unpaved roads normally associated with agricultural practices and would result in an overall air quality benefit and reduction in PM_{10} fugitive dust emissions. However, compared to the No Action Alternative, the In-Valley Disposal Alternative would result in an overall increase in air quality effects due to the continued agricultural operations, as nearly 2.5 times less land would be retired/fallowed.

As stated in Master Response AIR-1, Reclamation will develop emissions estimates and complete any applicable Federal consistency analysis and permitting during the detailed design phase of the project.

S-12-99

As discussed in Master Response GEN-1, the Draft EIS was prepared at an appraisal level of design, in which project designers use readily available data and generally do not collect new data to compare the alternatives. Specific details such as conveyance corridor width and pipeline size would be determined in subsequent design phases if the Ocean Disposal Alternative were selected for implementation. The visual characteristics of the area that would contain the project facilities is described adequately in the Draft EIS for the purpose of evaluating the environmental impacts of the project.

S-12-100

If the Ocean Disposal Alternative were advanced for further consideration, the pipeline route would be established during the feasibility design. See Master Response GEN-1 for additional discussion.

S-12-101 - 104

See Master Response EC-2 in regard to the economic impact region considered for the proposed project.

S-12-105

The comment expresses the concern that the location of jobs that would be lost under the Land Retirement Alternatives may not be within the same county or region as the location where jobs are created. While it is difficult to determine the exact locations of jobs created or lost as part of the proposed project, in general, the majority of the jobs that would be lost under the action alternatives would occur near the retired drainage-impaired lands. New jobs may be associated with either construction or operation of the drainage facilities, which for the In-Valley Alternatives would occur in the same general county or region as the retired lands.

S-12-106

The assumptions used in Section 17.2.3 were based on the analyses completed for Section 12 of the Draft EIS and for the PFR. The results of these analyses are listed on Draft EIS pages 12-6 and 12-9. The analyses indicate that crop mixes need to be changed to reduce overall water use, including the frequency of fallowing land, and that irrigation management and application uniformity needs to be improved to continue irrigating drainage-impaired lands. The results of these actions decrease farm revenues. In addition, lands that cannot support higher irrigation and management costs would go out of production.

S-12-107

See Response to Comment S-12-106.

S-12-108

Mitigation facilities and costs are described in Appendix O of the Final EIS.

S-12-109

See Master Responses SI-1 and ALT-L1 in regard to job retraining programs and socioeconomic impacts of the project, respectively.

S-12-110

See Master Response EC-2 for a discussion of the region considered for social and environmental justice issues.

S-12-111

Jobs lost due to past and current land retirement activities were not analyzed in the Draft EIS.

S-12-112

Current training programs were not analyzed in the Final EIS.

S-12-113, 114

See Master Response SI-1 in regard to job retraining programs.

S-12-115

See Master Response ALT-L1 in regard to socioeconomic impacts of land retirement.

S-12-116, 117

Comment noted. No response necessary.

S-12-118

See Master Response EC-2 for a discussion of the region considered for social and environmental justice issues.

S-12-119

See Master Response ALT-L1 in regard to socioeconomic impacts of land retirement.

S-12-120

Section 20 describes the mitigation and monitoring program for the action alternatives. The monitoring program will inform the regulatory agencies of the effectiveness of the mitigation activities. Project features described in the Draft EIS for the action alternatives were developed at the appraisal level of design, which is adequate for the environmental review process. Additional assessment of the preferred alternative will be conducted following the environmental review process. Actions identified in Section 20 will ensure that environmental impacts from the preferred alternative are adequately mitigated to the extent feasible as disclosed in the EIS.

S-12-121

See Response to Comment S-12-67.

S-12-122

See Master Response EC-2 in regard to the economic impact region considered for the proposed project.

S-12-123

See Master Response EC-2 for a discussion of the region evaluated for social and environmental justice impacts.

S-12-124, 125

See Master Response ALT-L1 in regard to socioeconomic impacts of land retirement.

S-12-126

The incorporated communities in the vicinity of the San Luis Unit have been added to the distribution list in Final EIS Section 21.4.