

APPENDIX P6

Private Organizations and Businesses Comments and Responses

Table of Contents

Appendix P6	Private Organizations and Businesses Comments and Responses.....	P6-1
	Comment O-01. ECOSLO, Miranda Leonard	P6-1
	Responses to Comment O-01.....	P6-1
	O-01-1	P6-1
	Comment O-02. Friends of the Estuary at Morro Bay, Brian B. Stark.....	P6-2
	Responses to Comment O-02.....	P6-5
	O-02-1	P6-5
	O-02-2	P6-5
	O-02-3	P6-5
	O-02-4	P6-5
	O-02-5	P6-5
	O-02-6	P6-5
	O-02-7	P6-5
	Comment O-03. WRI, Joseph Langenberg	P6-6
	Responses to Comment O-03.....	P6-15
	O-03-1	P6-15
	O-03-2	P6-15
	O-03-3	P6-15
	O-03-4	P6-15
	O-03-5, 6	P6-15
	O-03-7	P6-15
	O-03-8	P6-15
	O-03-9	P6-15
	O-03-10	P6-15
	O-03-11	P6-16
	O-03-12	P6-16
	O-03-13	P6-16
	O-03-14	P6-16
	O-03-15	P6-16
	O-03-16	P6-16
	O-03-17	P6-16
	O-03-18	P6-16
	O-03-19	P6-16
	O-03-20	P6-17
	O-03-21	P6-17
	O-03-22	P6-17
	Comment O-04. Californians Against Waste, Lori A. Blair.....	P6-18
	Responses to Comment O-04.....	P6-19
	O-04-1	P6-19
	O-04-2	P6-20
	Comment O-05. Morro Bay National Estuary Program, Daniel Berman	P6-21
	Responses to Comment O-05.....	P6-23
	O-05-1	P6-23
	O-05-2	P6-23
	O-05-3	P6-23

Table of Contents

O-05-4	P6-23
O-05-5	P6-23
O-05-6	P6-23
Comment O-06. The Bay Foundation of Morro Bay, Chris Clark et al.....	P6-24
Responses to Comment O-06.....	P6-26
O-06-1	P6-26
O-06-2	P6-26
O-06-3	P6-26
O-06-4	P6-26
O-06-5	P6-27
O-06-6	P6-27
Comment O-07. San Diego Baykeeper, Gabriel Solmer	P6-28
Responses to Comment O-07.....	P6-29
O-07-1	P6-29
O-07-2	P6-29
Comment O-08. The Marine Interest Group of San Luis Obispo County, Daniel Berman	P6-30
Responses to Comment O-08.....	P6-31
O-08-1, 2	P6-31
Comment O-09. UTL Marketing, Inc., John Leiter	P6-32
Responses to Comment O-09.....	P6-37
O-09-1	P6-37
O-09-2	P6-38
O-09-3	P6-38
O-09-4	P6-38
O-09-5	P6-38
O-09-6	P6-39
O-09-7	P6-39
O-09-8	P6-39
O-09-9	P6-39
O-09-10	P6-39
O-09-11	P6-39
O-09-12	P6-39
Comment O-10. Mora Enterprises, Daniel Mora.....	P6-40
Responses to Comment O-10.....	P6-43
O-10-1	P6-43
O-10-2	P6-43
Comment O-11. Superior Salt, Inc. (1 of 2), Gerald Grott	P6-44
Responses to Comment O-11.....	P6-50
O-11-1	P6-50
O-11-2 - 4.....	P6-50
Comment O-12. Taxpayers for Common Sense, Steve Ellis	P6-51
Responses to Comment O-12.....	P6-52
O-12-1	P6-52
O-12-2	P6-52
O-12-3	P6-53

Table of Contents

O-12-4	P6-53
Comment O-13. The Ocean Conservancy, Kaitilin Gaffney	P6-54
Responses to Comment O-13.....	P6-55
O-13-1, 2.....	P6-55
O-13-3.....	P6-56
O-13-4.....	P6-56
O-13-5.....	P6-56
O-13-6.....	P6-56
O-13-7.....	P6-56
O-13-8.....	P6-56
Comment O-14. Friends of the Elephant Seal, Ann E. Grossman	P6-57
Responses to Comment O-14.....	P6-58
O-14-1	P6-58
O-14-2.....	P6-58
O-14-3.....	P6-58
O-14-4.....	P6-58
O-14-5.....	P6-58
O-14-6.....	P6-59
O-14-7.....	P6-59
O-14-8.....	P6-59
Comment O-15	P6-59
Comment O-16. North Coast Advisory Council, Carol Broadhurst	P6-60
Responses to Comment O-16.....	P6-61
O-16-1	P6-61
O-16-2.....	P6-61
O-16-3.....	P6-61
Comment O-17. Greenspace, Richard Hawley	P6-62
Responses to Comment O-17.....	P6-62
O-17-1	P6-62
O-17-2.....	P6-63
O-17-3.....	P6-63
O-17-4.....	P6-63
O-17-5, 6.....	P6-63
Comment O-18. Monterey Bay Aquarium, Michael Sutton	P6-64
Responses to Comment O-18.....	P6-64
O-18-1	P6-64
O-18-2.....	P6-65
O-18-3.....	P6-65
O-18-4.....	P6-65
Comment O-19. PasoWatch, Susan Harvey	P6-66
Responses to Comment O-19.....	P6-67
O-19-1	P6-67
O-19-2.....	P6-67
Comment O-20. Environmental Center of San Luis Obispo County, Tim LaSalle	P6-67
Responses to Comment O-20.....	P6-67

Table of Contents

O-20-1	P6-67
Comment O-21. The Otter Project, Leah Rose	P6-68
Responses to Comment O-21.....	P6-69
O-21-1	P6-69
O-21-2.....	P6-69
O-21-3.....	P6-69
Comment O-22. Superior Salt, Inc. (2 of 2), Gerald J. Grott.....	P6-70
Responses to Comment O-22.....	P6-74
O-22-1 - 5.....	P6-74
Comment O-23. Los Osos Community Advisory Council, Carole Maurer...	P6-75
Responses to Comment O-23.....	P6-76
O-23-1	P6-76
O-23-2	P6-76
O-23-3	P6-76
O-23-4.....	P6-77
O-23-5 - 7.....	P6-77
Comment O-24. Environment in the Public Interest, Gordon R. Hensley.....	P6-78
Responses to Comment O-24.....	P6-79
O-24-1, 2	P6-79
O-24-3	P6-79
O-24-4.....	P6-80
Comment O-25. Friends of Trinity River, California Trout, Inc., Environmental Working Group, Northcoast Environment Center, Pacific Coast Federations of Fishermen's Associations, Public Trust Alliance, Butte Environmental Council, and Friends of the Eel River	P6-81
Responses to Comment O-25.....	P6-88
O-25-1	P6-88
O-25-2	P6-88
O-25-3, 4.....	P6-88
O-25-5	P6-88
O-25-6.....	P6-89
O-25-7	P6-89
O-25-8.....	P6-89
O-25-9.....	P6-89
O-25-10.....	P6-89
O-25-11	P6-89
O-25-12.....	P6-89
O-25-13.....	P6-89
O-25-14.....	P6-89
O-25-15	P6-89
O-25-16.....	P6-89
O-25-17	P6-90
O-25-18, 19.....	P6-90
O-25-20, 21	P6-90
O-25-22.....	P6-90

Table of Contents

O-25-23	P6-90
O-25-24	P6-90
O-25-25	P6-90
O-25-26	P6-90
O-25-27	P6-90
O-25-28	P6-91
O-25-29	P6-91
O-25-30	P6-91
O-25-31	P6-91
O-25-32, 33	P6-91
O-25-34, 35	P6-91
Comment O-26. Public Trust Alliance, Michael Warburton	P6-92
Responses to Comment O-26.....	P6-94
O-26-1	P6-94
O-26-2	P6-95
O-26-3	P6-95
O-26-4	P6-95
O-26-5	P6-95
O-26-6	P6-95
O-26-7	P6-95
O-26-8	P6-95
O-26-9	P6-95
O-26-10, 11	P6-95
O-26-12	P6-95
O-26-13	P6-96
O-26-14	P6-96
O-26-15, 16	P6-96
O-26-17	P6-96
Comment O-27. California Coastkeeper Alliance, Linda Sheehan	P6-97
Responses to Comment O-27.....	P6-98
O-27-1	P6-98
O-27-2	P6-98
O-27-3	P6-98
O-27-4	P6-98
Comment O-28. NRDC and other joint commenters, Hal Candee et al.	P6-99
Responses to Comment O-28.....	P6-125
O-28-1a	P6-125
O-28-1b	P6-125
O-28-1c	P6-125
O-28-2	P6-125
O-28-3	P6-125
O-28-4	P6-125
O-28-5	P6-125
O-28-6, 7	P6-126
O-28-8	P6-126
O-28-9	P6-126

Table of Contents

O-28-10	P6-126
O-28-11	P6-126
O-28-12	P6-126
O-28-13	P6-127
O-28-14	P6-127
O-28-15	P6-127
O-28-16	P6-127
O-28-17	P6-127
O-28-18	P6-127
O-28-19	P6-128
O-28-20	P6-128
O-28-21	P6-128
O-28-22	P6-128
O-28-23	P6-128
O-28-24	P6-128
O-28-25	P6-128
O-28-26	P6-129
O-28-27	P6-129
O-28-28	P6-130
O-28-29	P6-130
O-28-30	P6-130
O-28-31	P6-130
O-28-32	P6-130
O-28-33	P6-130
O-28-34	P6-130
O-28-35	P6-130
O-28-36	P6-130
O-28-37	P6-130
O-28-38	P6-131
O-28-39	P6-131

ALPHABETICAL TABLE OF COMMENTERS

Berman, Daniel (Morro Bay National Estuary Program)	P6-21
Berman, Daniel (The Marine Interest Group of San Luis Obispo County)	P6-30
Blair, Lori A. (Californians Against Waste)	P6-18
Broadhurst, Carol (North Coast Advisory Council)	P6-60
Butte Environmental Council (Lynn Barris)	P6-81
California Coastkeeper Alliance (Linda Sheehan)	P6-97
California Trout, Inc. (Brian Stranko)	P6-81
Californians Against Waste (Lori A. Blair)	P6-18
Candee, Hal (NRDC)	P6-99
Clark et al., Chris (The Bay Foundation of Morro Bay)	P6-24
ECOSLO (Miranda Leonard)	P6-1
Ellis, Steve (Taxpayers for Common Sense)	P6-51
Environment in the Public Interest (Gordon R. Hensley)	P6-78
Environmental Center of San Luis Obispo County (Tim LaSalle)	P6-67

Table of Contents

Environmental Working Group (Bill Walker)	P6-81
Friends of the Eel River (Nadananda)	P6-81
Friends of the Elephant Seal (Ann E. Grossman)	P6-57
Friends of the Estuary at Morro Bay (Brian Stark)	P6-2
Friends of Trinity River (Byron Leydecker)	P6-81
Gaffney, Kaitilin (The Ocean Conservancy)	P6-54
Greenspace (Richard Hawley)	P6-62
Grossman, Ann E. (Friends of the Elephant Seal)	P6-57
Grott, Gerald (Superior Salt, Inc. [1 of 2])	P6-44
Grott, Gerald J. (Superior Salt, Inc. [2 of 2])	P6-70
Harvey, Susan (PasoWatch)	P6-66
Hawley, Richard (Greenspace)	P6-62
Hensley, Gordon R. (Environment in the Public Interest)	P6-78
Langenberg, Joseph (WRI)	P6-6
LaSalle, Tim	P6-67
Leiter, John (UTL Marketing, Inc.)	P6-32
Leonard, Miranda (ECOSLO)	P6-1
Los Osos Community Advisory Council (Carole Maurer)	P6-75
Maurer, Carole (Los Osos Community Advisory Council)	P6-75
Monterey Bay Aquarium (Michael Sutton)	P6-64
Mora Enterprises (Daniel Mora)	P6-40
Mora, Daniel (Mora Enterprises)	P6-40
Morro Bay National Estuary Program (Daniel Berman)	P6-21, P6-30
North Coast Advisory Council (Carol Broadhurst)	P6-60
Northcoast Environment Center (Tim McKay)	P6-81
NRDC (Hal Candee et al.)	P6-99
Pacific Coast Federations of Fishermen's Associations (W.F. 'Zeke' Grader, Jr.)	P6-81
PasoWatch (Susan Harvey)	P6-66
Public Trust Alliance (Michael Warburton)	P6-81, P6-92
Rose, Leah (The Otter Project)	P6-68
San Diego Baykeeper (Gabriel Solmer)	P6-28
Sheehan, Linda (California Coastkeeper Alliance)	P6-97
Solmer, Gabriel (San Diego Baykeeper)	P6-28
Stark, Brian (Friends of the Estuary at Morro Bay)	P6-2
Superior Salt, Inc. [1 of 2] (Gerald Grott)	P6-44
Superior Salt, Inc. [2 of 2] (Gerald J. Grott)	P6-70
Sutton, Michael (Monterey Bay Aquarium)	P6-64
Taxpayers for Common Sense (Steve Ellis)	P6-51
The Bay Foundation of Morro Bay (Chris Clark et al.)	P6-24
The Ocean Conservancy (Kaitilin Gaffney)	P6-54
The Otter Project (Leah Rose)	P6-68
UTL Marketing, Inc. (John Leiter)	P6-32
Warburton, Michael (Public Trust Alliance)	P6-92
WRI (Joseph Langenberg)	P6-6

COMMENT O-01. ECOSLO, MIRANDA LEONARD

>>> "Miranda Leonard" <miranda@ecoslo.org> 07/13 10:20 AM >>>

ATTN: Mike Delamore, Gerald Robbins

O-01-1

I write to express my dissatisfaction with the proposed plan to pipe agricultural runoff from the San Joaquin Valley to the Pacific coast off Point Estero, ten miles from the Monterey Bay National Marine Sanctuary.

This is not acceptable for health, environmental and logistical reasons.

DO NOT PERMIT AG RUNOFF DUMPING AS PROPOSED IN THE DRAFT EIS FOR THE SAN LUIS DRAINAGE FEATURE.

Thank you for your consideration.

Sincerely,

Miranda Leonard
Environmental Health Educator
ECOSLO
1204 Nipomo Street
San Luis Obispo, CA 93401
805.544.1777
fax 544.1871

RESPONSES TO COMMENT O-01

O-01-1

Comment noted. No response necessary.

COMMENT O-02. FRIENDS OF THE ESTUARY AT MORRO BAY, BRIAN B. STARK



Friends of the Estuary at Morro Bay
P.O. Box 1375, Morro Bay, CA 93443

July 18, 2005

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

Re: San Luis Drainage Draft EIS

Dear Ms. Jacquemin,

The Friends of the Estuary, a 501 (c) 3 non-profit dedicated to the health of Morro Bay, is adamantly opposed to the Ocean Disposal alternative in the San Luis Drainage draft Environmental Impact Statement (DEIS). We also oppose the two Delta disposal alternatives, and urge the Bureau to implement an "in-Valley" alternative.

Morro Bay is a designated State Estuary, and is one of 28 estuaries around the country that are part of the US Environmental Protection Agency's National Estuary Program (NEP). The Bay is also recognized by the California Coastal Commission as a Critical Coastal Area. Further, the waters surrounding Morro Bay are important components of the Estuary ecosystem and are also proximate to the southern extent of the Monterey Bay Marine Sanctuary. Due to the value of this resource, federal, state, and local governing bodies have all established policies to protect environmental quality in this area. Dumping of agricultural wastes from the Central Valley, therefore, is in conflict with numerous government policies.

O-02-1

We recognize that the San Luis Drainage Unit faces a severe environmental and agricultural problem with water quality. Exporting that problem to the pristine coastline of Estero Point, or to the already beleaguered environment of the Bay-Delta, does not meet the stated goals of the project. *"A long term sustainable salt and water balance is needed to ensure sustainable agriculture in the Unit and the region"* (Page 1, Executive Summary, DEIS). The primary goal of a sustainable solution should be to reduce or eliminate the production of contaminated water, and where that is not feasible, to treat the polluted materials. In other words, this problem needs to be addressed at its source.

O-02-2

The draft EIS frames the problem as how to provide drainage to the San Luis Unit. In that narrow view, ocean disposal has been presented as a possible solution. The full picture is that as a consequence of the Unit's geology and hydrology, agricultural practices are generating massive volumes of highly contaminated surface and ground water. Exporting and dumping tens of millions of gallons per day of highly contaminated water into the coastal ocean or the Bay-Delta is not sustainable, and is not a solution to



Friends of the Estuary at Morro Bay
P.O. Box 1375, Morro Bay, CA 93443

[this underlying problem. The Ocean Disposal alternative as described in the EIS involves the least effort to reduce the production of polluted water and treat polluted water. Specifically it does not include the selenium reduction efforts outlined for the Delta alternatives, nor the reverse osmosis treatment associated with the In-Valley alternatives. Instead it would allow unsustainable practices to continue in the Drainage Unit, maximizing the ongoing production of toxic drainwater, at the expense of our public trust resources.

Specific concerns and questions that the Friends of the Estuary request be addressed in the final EIR are summarized below:

- O-02-3 [
- No preferred alternative is identified in the draft EIS. This is unusual and makes it more difficult for the public to comment on the DEIS, and for the Bureau to justify their final selection of a preferred alternative.
 - Both Morro Bay and San Francisco Bay are part of the US EPA's National Estuary Program (NEP). While the NEPs are not a regulatory program, NEP status reflects:
 - Federal, state, and local designation of these areas as resources of national significance which already face significant threats, and
 - Federal, state, and local commitments and ongoing efforts to protect and restore these resources.
- O-02-4 [
- The NEP status of Morro Bay and San Francisco Bay should be referenced in the description of these areas, and the Morro Bay NEP and San Francisco Estuary Project should have been specifically notified of the DEIS prior to it's release, received electronic copies via mail, and contacted for comments.
- O-02-5 [
- The discussion of the ongoing impacts of ocean disposal and Delta disposal is inadequate. Dilution is assumed to eliminate any far field impacts to ocean water quality (DEIS Section 5.2.8.3 and Appendix D 2.2), yet only Se, Bromide, TOC, TDS, and Temp seem to be considered in this brief dismissal of the issue. The list of constituents in the drain water (Appendix C, Table C2-8) includes many other pollutants of concern at very high concentrations, many of which are known to bio-accumulate, including mercury, chromium, copper, and nickel, and others of which (nitrate, ammonia) are likely to result in significant algal blooms that could create persistent hypoxic conditions that are toxic to marine life. Phosphate and/or orthophosphate concentrations are noticeably absent from Table C2-8. Orthophosphate levels are likely to be high in the effluent, and should be considered in a discussion of the potential for algal blooms and resultant hypoxia. The final EIS should include detailed analyses of the potential for water quality, bioaccumulation, and toxicity impacts associated with the full suite of analytes



Friends of the Estuary at Morro Bay
P.O. Box 1375, Morro Bay, CA 93443

reasonably expected to be present in the effluent, including at a minimum, all constituents listed in Table C2-8 as well as orthophosphate, herbicides, and pesticides (see next point).

- | | | |
|--------|---|---|
| O-02-6 | [| <ul style="list-style-type: none">• There is no discussion of the identities or concentrations of the numerous pesticides and herbicides certain to be present in the discharge water. This is a serious flaw in the DEIS across all the alternatives – it is impossible to adequately examine the impacts of any of the alternatives to biological resources, surface water quality, ocean water quality, and ground water quality without this information, including a discussion of the current scientific understanding of the potential for interactions among and between the many pesticide and herbicide associated chemicals likely to present, their toxicity, and potential for bio-accumulation. |
| O-02-7 | [| <ul style="list-style-type: none">• Neither the budget nor the environmental analysis for the ocean dumping and Bay-Delta dumping alternatives consider the costs related to environmental impacts of the proposed pipeline for the waste. We request that the budget include mitigation costs that are sure to be part of the transmission pipelines for any of the out-of-valley alternatives. |

In summary, the Friends of the Estuary believes that the draft EIR fails to adequately consider the impacts of ocean or Bay-Delta disposal, and the Friends' concur with the conclusions reached in two extensive studies already completed: the San Joaquin Valley Drainage Program' 1990 report and the Bureau of Reclamation's 2002 San Luis Unit Drainage Program Plan Formulation Report (PFR), both of which selected "In-Valley" alternatives as the preferred approach.

Thank you for your consideration of these comments. We look forward to seeing them addressed in the Final Environmental Impact Report

Sincerely,

Brian B. Stark
President
Friends of the Estuary

RESPONSES TO COMMENT O-02

O-02-1

Regulatory compliance is discussed in Section 4, Appendix L, and Master Response REG-1. It should be noted that the Estero Point coastline should not be classified as a “pristine” coastal environment and, as stated in Draft EIS Section 5.1.4, currently receives treated wastewater from the City of Cambria, community of Cayucos, and Abalone Farm as well as discharges from energy production facilities.

O-02-2

Comment noted. The purpose of the proposed project is to provide drainage service to the San Luis Unit. The use of irrigation water and farming practices in the Central Valley are outside of the scope of this EIS.

O-02-3

See Master Response ALT-A1 regarding the selection of a preferred alternative.

O-02-4

The Final EIS has been modified to state that Morro Bay and San Francisco Bay are part of the National Estuary Program.

O-02-5

Water quality impacts are presented in Section 5, and bioaccumulation and toxicity impacts are discussed in Section 8. More detailed information has been included in the Final EIS. See Master Responses SW-3 and SW-13.

O-02-6

More detailed information about pesticides and herbicides in discharge water has been included in Section 5 of the Final EIS. See Master Responses SW-3 and SW-13.

O-02-7

Appraisal-level mitigation cost estimates for the Out-of-Valley Disposal Alternatives are presented in Appendix O.

COMMENT O-03. WRI, JOSEPH LANGENBERG

July 28, 2005

MS. CLAIRE JACQUEMIN
BUREAU OF RECLAMATION
MID PACIFIC REGION
2800 COTTAGE WAY
SACRAMENTO, CA 95825

Dear Ms. Jacquemin:

Water Regain Inc. (WRI) would like to comment on the provisions stated in the Bureau of Reclamation San Luis Drainage Feature Re-evaluation Draft Environmental Impact Statement dated May 2005 (EIS). The response statements provided by WRI immediately follow those certain corresponding selected items in the order that they appear in the Draft EIS. Please note that the italicized text is taken directly from the Draft EIS and serve as the lead in for WRI's comments. In certain instances, several italicized provisions are grouped as related matter for which WRI's comments are intended to address. Thank you for this opportunity to comment.

EXECUTIVE SUMMARY

ES3.2.2 In-Valley disposal Alternative, pp ES-11 and ES-12; Figure ES-4 displays the components of this alternative. The flow begins with "Drainage Collection" then flows to "Reuse", to "Reverse Osmosis (RO)" to result in the treated product water with the reject flowing to "Selenium Bio-treatment" then to an "Evaporation Pond" and finally to Salt Burial.

O-03-1

Comment: WRI questions why is "Reuse" and "Selenium Bio-treatment" needed or even suggested? Why not flow the drainage directly to RO then flow the reject stream directly to the Evaporation Pond? Among other contaminants, "Drainage" contains a boron quantity with an adverse impact on crop plants and must be removed if the treated product water is to be used for irrigation. "Reuse" will not remove boron nor mitigate selenium or salinity. Technology is available to process this drainage efficaciously. When removing boron, everything else is flushed out before the boron, leaving product water with very low salinity and selenium content. Selenium content left in product water is virtually nil. Selenium along with the other extracted contaminants in the process reject would flow from RO directly to the Evaporation Pond, therefore why would "Selenium Bio-treatment" be required? The pond could be netted if necessary and be secured against intrusion by wildfowl and animals.

"Reuse" and "Drainwater Recycling" techniques were developed by the farmers and Irrigation Districts in the San Luis unit because of necessity as the drain was closed to them, forcing polluted drainwater levels to rise and inundate their crops. Consequently these techniques were developed because at the time, there were no other alternatives. However, a look at the overall condition of the San Luis unit in part because of these developments discloses that many thousands of Prime Farmland acres were lost through the use of these techniques and that many thousands more would be adversely threatened by the continuation of this practice. These techniques were and are not a remedy. The development has served as a temporary stopgap measure strictly because of necessity. WRI understands the Bureau of Reclamation is compelled by Court Order to remedy this situation and therefore urges the Bureau to utilize the state-of-art processing techniques available today. These processing techniques will provide the solution for the San Luis unit by removing the polluting drainage and replacing it with processed water. Processed water combined with other imported irrigation water will flush the salinity from the impacted soil thus ultimately restoring the ground to Prime Farmland status. While these processing techniques were not available at the time the farmers and Irrigation Districts were compelled to initiate Reuse and Drainwater Recycling, the state-of-art techniques alluded to are now available, effective, proven and affordable as will be more fully explained later in the comments.

O-03-2

"Reuse" technique just spreads the drainage and its contaminants. *SECTION FIVE, Surface Water Resources; Sections 5.1 and 5.2* acknowledge the detrimental impacts of "Reuse" and prescribes remedial techniques which include the removal of "Reuse"; therefore why continue using saline drainage for raising no-value salt tolerant crops again? Saline water does not produce a crop of any economic or salable value. The practice of "Reuse" has already contributed to the adverse impacts found in the San Joaquin River and the waterways and sloughs adjacent to the River as well as the soil areas utilizing this technique. WRI believes that a more environmentally benign and economically sound alternative is to process the drainage to remove the contaminants and use the product water for crop irrigation. Product water from treated drainage is beneficial to the soil and can be used to grow profitable cash crops and in the event any product water overflow encroaches into other

waterways it would not create an adverse impact.

Reverse osmosis Treatment... Each RO system would consist of a single stage, single pass array with appropriate pretreatment to achieve 50 percent recovery.

O-03-3

Comment: Why consider a system with only 50 percent recovery? A 50 percent recovery was expected while treating sea water a quarter century ago. Sea water processing does not require reject storage as reject is returned to the ocean and therefore a 50 percent recovery for sea water processing could be tolerated even today. Further, operationally it could be more cost effective to operate at a 50 recovery level, but only because the price of RO recovery is significantly affected by both the saline content and the recovery level and storage with sea water processing is not a consideration. With land water processing and storage considerations, process recovery is indeed a very important consideration. Present practice with boron removed to ± 1 ppm can produce at least an 80 percent recovery at a cost effective processing price.

O-03-4

Comment: Evaporation Basins: Why would 3,290 or even 2,870 acres be required? Even with 50 percent recovery this is an exorbitant amount of land. There are more efficacious solutions and they will be described later in the comments.

ES3.2 Action Alternatives: page ES-9 ... The environmentally preferred alternative is the alternative that is least damaging to the environment. Reclamation's preferred alternative is expected to be one of the In-Valley/Land Retirement alternatives primarily because of the flexibility in implementation, but also because economically it has the greatest net benefit to the nation as a whole.

SECTION TWO ALTERNATIVES

In Section 2.15 Reclamation's preferred alternative, pp#2-94... is the one that completes the action of providing drainage service and best meets the purpose of and the 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...

- The National Economic Development (NED) analysis completed to date for the SLDFR Feasibility Study indicates 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)

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, enhances historic, cultural and natural resources. Each of the action alternatives has some significant 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 Delta Disposal Alternatives would cause some increases in the salt and SE in the Delta. The Out of Valley Disposal Alternatives also have greater potential impact on cultural resources....

O-03-5

Comment: WRI believes that the In-Valley Disposal Alternative without land retirement is the one that would be least expensive and bring the greatest net benefit to the area and the Nation. WRI further believes that the In-Valley Disposal Alternative is the most environmentally benign, would remediate almost as much acreage as the "Off-Site Disposal Alternatives", would be the easiest to permit, is the most flexible to implement, is the Alternative that will meet with the least amount of overall public resistance, would create the least adverse socio-economic impact and processed drainage would create a significant source of additional water. Further, WRI vehemently disagrees with any plan to retire farmland for the reasons outlined later in response to Appendix I items. With the importance of farmland stressed in Appendix I, Section 13 and throughout the EIS Draft, the concept of retiring up to 194,000 or more acres of land (which with proper drainage treatment could be restored to either Prime Farmland or Farmland of Statewide Importance status) is wasteful and egregious.

In comparison, "In-Valley Disposal" as well as "Ocean or Delta Disposal" alternatives require a drainage collection infrastructure. The cost of this infrastructure is compared in the Section below displaying cost effectiveness. "In-Valley Disposal Alternative" offers other significant advantages over "Out of Valley Alternatives" however: One is its great flexibility in implementation. It may be expanded and added to at any time with a minimum of chaotic disturbance. Also, it

may not be necessary to provide treatment to the entire impacted area at one time. If it would be more convenient, the most severely impacted areas could be addressed immediately, the less severe areas could be addressed in the future. The Second is that In-Valley Disposal will be easier to permit. Section Four Regulatory Environment and Compliance Requirements, *Table 4.2 P4-4* acknowledges In-Valley Disposal Alternatives as “**LEAST COMPLEX**”. This Alternative will no doubt expedite the Permitting Process. The third and perhaps the most significant benefit is that for the same amount of monies expended, over 90,000 acre feet per year of treated water could be created through processing and added to California’s water inventory.

As a further comparison, *Section 13 Land and Soil Resources, Table 13-7 “Summary of Comparison of Effects of In-Valley Disposal” p13-25 (without land retirement)* display an almost identical increase of Prime Farmland and FSI (Farmland of State Importance) as compared with *Tables 13-11 and 13-12 p13-27* which display the increases compared to “*Ocean and Delta Disposal*”.

O-03-6 **Comment:** An important socio-economic benefit to maximizing the amount of restored farmland is that agricultural worker communities need not be disrupted. Perhaps the ag worker communities may even need to be enlarged as a result of an expected increase in restored farm land calling for the attendant need for more ag labor. *Section Eighteen Social Issues and Environmental Justice, Sub-Section 18.2.10 “Cumulative Effects” p18-10* states; *employment associated with OM&R and crop production for all Action Alternatives except the “In-Valley Water Needs” and “In-Valley Drainage Impacted Area Land Retirement Alternatives” would provide job opportunities for minority and low income individuals including farmworkers.* Also, loss of farmer-provided housing associated with land retirement under the action alternatives would decrease the limited amount of affordable housing for minority and low income individuals and families in the drainage study area. Continued local efforts to increase this type of housing would help avoid significant cumulative effects.

O-03-7 Environmentally, In-Valley Disposal can provide virtually *in-situ* treatment. This could negate the transfer of any mineral laden contaminants to other waterways or storage containments outside of the local drainage area. Although construction of facilities would impact the biological and physical environment to some degree, the impacts could be mitigated and the overall remediation efforts could have a positive effect. As an example, a small lake outside the basin and treatment plant could be created and filled with some of the water processed from drainage. This could certainly enhance the environment for waterfowl and animals. The processed water would be more healthful for waterfowl than the current drainage. With the purity of the processed water, fish and other food could be added to help mitigate the effects of loss of habitat by the evaporation basins.

SECTION FIVE Surface Water Resources

Section 5.1.1.1 San Joaquin Valley p5-2 outlines the impacts of Northerly Area discharge to the San Joaquin River through the Mud Slough as part of the Grasslands Bypass Project. The salt, selenium and boron loading contribute to the impairment of water quality in the Lower San Joaquin River and the Delta Region.

Section 5.2.4 In-Valley Disposal Alternative; 5.2.4.2 Operational Effects p5-61 Operational Effects relative to “In-Valley Disposal Alternative” and other “Action Alternatives acknowledge the remedial effects of drainage treatment in the Northern Area. With drainage treatment facilities, permitted discharge from the “Grasslands Bypass Project” would be discontinued; with “In-Valley Disposal Alternative” processed water would replace drainage and process reject would be placed in evaporation basins. The removal of this “Reuse” drainage water is expected to result in a significant beneficial effect to the waters of the Lower San Joaquin River and the Delta Region.

Comment: WRI agrees! The In-Valley Disposal Alternative would relieve the adverse impacts to the San Joaquin River and the other waterways noted and restore the farmland to either Prime Farmland or FSI status.

SECTION EIGHT Selenium Bioaccumulation

Section 8.2.2.1 In-Valley Disposal Alternative p8-8

As currently proposed, operation of evaporation basin facilities totaling 3,290 acres would not create attractive habitat for common terrestrial seed eating, predatory, or scavenging species. Under normal basin operation, terrestrial and shoreline vegetation that could provide forage, prey habitat, cover and nesting substrates for terrestrial species would be systemically sprayed or mechanically removed etc.

O-03-8

Comment: While it is clear the area within the evaporation basin is not suitable for water fowl, as explained in the Comments to Section Two it may be possible to divert the attention of the wildlife through the creation of a lake. Also because of high selenium content, the basin surface could be netted if necessary to inhibit wildlife and animal intrusion. These enhancements could help mitigate adverse impacts. Further, as is pointed out in the Comments to Evaporation Basins in the Executive Summary and after Appendix B, it is not necessary to utilize this much acreage for the evaporation basins. There are other more suitable alternatives and they are described later on in this response presentation.

8.2.12.2 In-Valley Disposal Alternative p8-51

Predicted mean selenium concentrations in dietary tissue exceed the effects threshold of 4 mg/kg for all four evaporation basins during the breeding season. Therefore significant effects to birds using the evaporation basins would be expected to occur under the unmitigated alternative. With successful mitigation the effect would be reduced to not significant.

Operation of the In-Valley Disposal facilities may adversely effect San Joaquin kit fox, Swainson's hawks, and wintering greater sandhill cranes (at proposed reuse areas) and American peregrine falcons (at evaporation basins) by increasing potential exposure to elevated Se in preferred dietary items. Any taking under ESA/CESA would be considered a significant effect. Avoidance and mitigation measures for these upland species would reduce but not entirely eliminate the potential for Se bioaccumulation.

The In-Valley Disposal Alternative would continue to reduce uncontrolled seepage of Se-contaminated drainwater into the San Joaquin River, as well as into drainage ditches, canals (including the Delta-Mendota Canal) and other waterways (eg., Mud Slough) thus improving the water quality in habitats potentially used by the giant garter snake and California red-legged frog. The incremental reduction in Se load in the lower San Joaquin River and the Bay-Delta resulting from implementation of the In-Valley Disposal Alternative may benefit Chinook salmon, Central Valley steelhead, Delta smelt and green sturgeon.

O-03-9

Comment: The selenium and other mineral components in the drainage create the environmental impacts; drainage processing will enhance the overall environment by removing these contaminant laden waters from the land. Drainage processing can eliminate "Reuse" areas and eliminate the need for drainwater recycling. Processing produces a product water with no adverse environmental impacts. The evaporation basins would store the reject and could be netted if necessary to help prevent aviary and other wildlife intrusion. The mitigation of creating a small lake by the treatment facility would also serve to divert the fowl and animals from the evaporation basins. Overall, treatment will create a virtual elimination of selenium and all other adverse contaminants.

Appendix I, Land and Soil Resources of the San Luis Unit

Appendix I states that the lands and soils of the San Luis Unit are a valuable natural resource. Nearly all of the land in the survey is considered either Prime Farmland or Farmland of Statewide Importance (FSI). Due to increasing drainage problems and associated soil salinity conditions, the Natural Resource Conservation Service (NRCS) has removed about 120,000 acres from the Prime Farmland category since 1985. The areas affected by shallow groundwater are termed the area of potential effect (APE) in the document. It is important that land productivity and soil quality be maintained at a level that will permit production of food on these lands in the future. Nearly all effects of groundwater, water quality and water supplies would eventually and primarily affect the productivity of valuable land and soil resources. Therefore WRI wishes to stress the importance of providing a "REMEDY". In the EIS report the Bureau outlines the potential adverse impacts of Salt Sink and Reuse areas. In general, these areas could be drained and the damaging impacts of salinity, selenium and boron mitigated. The Bureau points out that in the near term (< than 50 years) there may be some short term benefit to land retirement, but WRI disagrees with that premise.

O-03-10

Comment: For the very reasons stated above, all land maladies should be remedied and brought back to either Prime Farmland or Farmland of Statewide Importance status.

Appendix B ppB-1 –B-7

B1 Reverse Osmosis Treatment:

B1.1 states that RO pilots are underway without pretreatment and a 50% recovery of product water is expected.

Appendix P6

Private Organizations and Businesses Comments and Responses

B1.3 states that information gained from the tubular nonofiltration pilot study will be used to determine whether the benefits of increased product water recovery exceed the added pretreatment expense for calcium removal.

O-03-11 **Comment:** WRI has had the opportunity to closely investigate the San Luis Drainage problem in conjunction with one of the water districts which has wished to remain anonymous. WRI's investigations have included drainage processing, reject storage and solids disposal. It was disclosed to WRI by District Operations that one of the major concerns in drainage processing was the removal of boron. Any drainage that was processed and reused as irrigation water for growing cash crops would be compelled to have the boron quantity reduced to a level of less than 1.0 ppm. The physical characteristics of boron have made its removal not only difficult but also very costly. Further, there is no evidence in the Draft EIS document that boron removal was considered.

WRI would like to assist the Bureau of Reclamation in this endeavor. There is technology available that can greatly enhance the recovery figure stated in the Draft EIS even with efficacious boron removal. We would like to suggest several alternatives that have been investigated, that will prove to be significantly more cost effective than the alternatives outlined within the Draft EIS document. Proven technology is available to process boron contaminated drainage in a cost effective manner on a commercial scale. WRI had discovered and established a working relationship with a large internationally-known water treatment company, which through an affiliation with another related company have a proprietary boron sensitive membrane that has been used successfully on water treatment projects of this and larger magnitude. Tests were conducted on severely impacted drainage samples (TDS > 8500 mg/l; Boron >22 mg/l) and the test results indicate this drainage water can be successfully and economically treated on a commercial scale.

O-03-12 WRI further questions the acreage requirements stated within the report for evaporation basins. Due to the amount of drainage to be processed, WRI would suggest building deep, not shallow evaporation ponds. The advantage this approach offers is that in addition to relying solely upon static solar evaporation effect on the surface alone, deep pond construction provides the opportunity to continuously aerate the reject. This exposes more surface area to the effects of evaporation thus enhancing the overall evaporation rate. In addition, deep basin construction requires significantly less acreage.

O-03-13 Even though the RO process can treat the drainage at a cost effective price, WRI is investigating new technologies that can further reduce the amount of reject produced. WRI is in discussions with the creator of a relatively new technology, Molecular Separation. This is a patented proprietary process which utilizes a combination of micro-wave resonance and hydro dynamic technology to produce dissolved solids separation. The processing technology functions on the basis of molecular constituent removal. Facilities utilizing this technology have been built in India, South Africa and Saudi Arabia to desalinate seawater and create potable water. WRI is presently investigating the efficacy of this technology in order to process RO reject to reduce the overall reject quantity. WRI's preliminary investigations indicate that using these two technologies in tandem would reduce the overall level of reject to about 2 to 3 percent of the initial quantity processed.

In addition, WRI is also investigating the Molecular Separation feature can also separate the individual salt constituents in the reject thus producing a product with a commercial degree of purity. Elements such as Selenium, Silica, Boron, Molybdenum, Arsenic, Chromium, etc. can be readily salvaged and marketed thus reducing the quantity of solids that require disposal. This feature could prove to be of tremendous benefit in reducing the amount of salt solids that require disposal.

O-03-14 The In-Valley Disposal Alternative suggested [no Reuse, no Selenium Bio-treatment, RO, (Molecular Separation processing?) and deep Evaporation Basins] would provide for sole In-Valley, virtually *in-situ* Disposal. Drainage would be collected locally, processed locally, product water could be utilized locally, process reject stored locally and all treatment would be performed within the drainage collection area. Solids disposal if possible, (meaning if permitted), could also take place in the Central Valley. Product water created from the drainage could be utilized within the local drainage area either for irrigation or for potable uses. Reject would be stored in an evaporation pond located close to the drainage processing facility. Solids disposal is undefined in the Draft EIS document. Potentially marketable solids retrieved through Molecular Separation could be sold, the remaining solids could either be buried in a portion of the evaporation basin as suggested in the EIS document or disposed of as deemed permissible by the Regulatory Agencies or more preferably, a use found for their ultimate utilization. WRI has contacted the State of California Department of Oil and Gas in Coalinga CA for subsurface geologic information to determine the feasibility of "Deep Well Injection". The Department has only scattered information for the San Luis unit part of the Central Valley. The information they do have discloses that a granular area sufficient in size to dispose of a large amount of reject will be difficult to locate due to the lenticular nature of Central Valley geology. The Westlands Water District had previously investigated deep well injection with little success. In the event a suitable granular layer is discovered this method of solids disposal may prove to be ideal.

Appendix P6

Private Organizations and Businesses Comments and Responses

In accordance with the provisions stated in the opening paragraphs of the EIS Draft, the suggested In-Valley Disposal Alternative would meet the four stated project objectives:

- *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*

Comment:

O-03-15

Complete Drainage Solution --WRI's suggested drainage service would be complete. The measures and facilities will provide the drainage solution from production through disposal. There would be no partial solution; every aspect of the project could be defined. In the Northern Area a drainage infrastructure already exists. It is already acknowledged in the Draft EIS that an infrastructure with conveyance would be required in parts of the Westlands Area. Land drainage would lead to a conveyance conduit (pipe or open channel) which would subsequently lead the drainage to a complete treatment and storage facility. From processing through storage, drainage would be contained. Product water could be utilized locally for potable or irrigation usage and process reject would be stored in the environmentally benign evaporation basins. Marketable solids would be removed and marketed, any remaining solids could be removed and disposed of in a manner acceptable to the Bureau and other regulatory authorities.

Technically Proven and Cost effective--Suitable pilot units could be provided to verify project efficacy. To determine cost effectiveness, the project costs for the various Alternatives are presented from the Draft EIS Document with WRI's revisions noted on Tables 17-4 and 17-5 showing their impacts on the corresponding totals for each Alternative. However these impacts are not reflected in Table ES-9 at this time, but should result in reduced in present value costs. Table ES-9 displays the Federal Project Costs of All Alternatives:

Table ES-9

Alternatives	Federal Cost (\$ millions, 2002 Dollars)			
	Construction	Annual OM&R	Present Worth	Annual Equiv.
In-Valley	607	19.8	562	33.8
In-Valley/Groundwater Quality	676	18.1	626	37.6
In-Valley/Water Needs	828	15.1	773	46.5
In-Valley/Drainage-Impaired Area	918	10.9	857	51.6
Delta-Chipps	630	12.5	562	33.8
Delta-Carquinez	673	12.5	598	36.0
Ocean	589	11.6	563	33.8

Table 17-4 displays the Project Implementation Expenditures and Table 17-5 displays the OM&R Expenditures. Please note the four cost items that WRI questions which are removed in calculating the corresponding totals.

Table 17-4
Project Implementation Expenditures (\$000)

Project Cost Items	In-Valley	In-Valley/ Groundwater Q. L. Retire.	In-Valley/ Water Needs Land Retire	In-Valley/ Drainage Impaired Land Retire.	Ocean	Delta Chipps Island	Delta Carquinez Strait
Conveyance System	27,825	26,676	23,703	2,046	302,510	205,764	271,987
Evaporation Basins *	176,606	157,241	124,505	59,712	0	0	0
Mitigation Facilities	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RO Facilities	42,241	39,596	34,772	12,880	0	0	0
Biological Se Treatment*	75,221	65,871	49,679	26,125	0	0	0
Land Retirement	0	147,930	455,701	796,962	0	0	0
Drainage Collection System	186,150	156,886	87,000	2,250	187,500	187,500	187,500
Regional Reuse Facilities*	96,455	79,524	50,972	16,215	97,079	97,079	97,079
DMC Drainage Collection/Reuse*	1,350	1,350	1,350	1,350	1,350	1,350	1,350
Drainwater Recycling *	54,476	46,289	30,728	11,857	54,777	54,777	54,777

Appendix P6

Private Organizations and Businesses Comments and Responses

Seepage Reduction	10,688	10,689	10,689	10,689	10,689	10,689	10,689
Shallow Groundwater Mgt.	0	0	0	0	0	0	0
On-Farm Tile Drainage System	109,371	92,079	50,762	3,990	110,168	110,168	110,168
Totals	781,054	824,624	920,361	944,578	764,373	695,464	737,245
Adjustments*	(228,002)	—	—	—	(153,706)	(153,706)	(153,706)
Adjusted Totals	553,052	824,624	920,361	944,578	611,067	541,958	580,344

The construction cost estimates indicate that for Federal Cost: "Ocean Disposal" is least expensive, "In-Valley Disposal" is 2nd least expensive.

O-03-16

Project Implementation: Based upon the totals displayed in the Draft EIS Document all of the "Out of Valley Disposals are less expensive than In-Valley Disposal Alternatives; however as noted above, WRI disagrees with the need for several of the items listed such as Regional Reuse Facilities, DMC Drainage Collection Reuse, Drainwater Recycling and also disagrees with the projected cost of the Evaporation Basins. Based upon the "Revised Totals" displayed (with the costs of the unnecessary items deducted) "Delta-Chippis Island Disposal" is least expensive with In-Valley Disposal 2nd least expensive.

For Annual Project OM&R: In all cases "Out of Valley Disposal" Alternatives are less expensive than the "In-Valley Disposal" Alternative but the In-Valley Disposal Alternative should result in near equal Annual Equivalent present worth.

Table 17-5
Annual Project OM&R Expenditures (\$000)

Project Cost Items	In-Valley	In-Valley/ Groundwater Q. L. Retire.	In-Valley/ Water Needs Land Retire	In-Valley/ Drainage Impaired Land Retire.	Ocean	Delta Chippis Island	Delta Carquinez Strait
Conveyance System	117	104	76	37	4,150	960	965
Evaporation Basins #	1,991	1,726	1,280	710	0	0	0
Mitigation Facilities	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RO Facilities	8,034	6,999	5,066	2,694	0	0	0
Biological Se Treatment*	2,265	2,007	1,566	771	0	4,130	4,130
Land Retirement	760	1,604	3,362	5,312	760	760	760
Drainage Collection System	3,014	2,546	1,428	72	3,036	3,036	3,036
Regional Reuse Facilities*	3,596	3,116	2,306	1,320	3,614	3,614	3,614
DMC Drainage Collection/Reuse*	19	19	19	19	19	19	19
Drainwater Recycling *	810	732	546	320	814	814	814
Seepage Reduction	-19	-19	-19	-19	-19	-19	-19
Shallow Groundwater Mgt.	780	657	366	11	785	785	785
On-Farm Tile Drainage System	2,044	1,739	1,154	446	2,054	2,054	2,054
Totals	23,411	21,230	17,150	11,693	15,213	16,153	16,158
Adjustments*	6,690	—	—	—	4,470	4,470	4,470
Adjusted Totals	(16,721)				(10,766)	(11,706)	(11,711)

Please Note: * indicates WRI disputes the necessity of this item; (eliminated from total)

indicates WRI disagrees with the cost of the item. (remained in totals for the present)

O-03-17

Timely Implementation—The In-Valley Disposal Alternative can be built in a timely fashion to suit the Bureau of Reclamation time schedule. In-Valley Disposal Alternatives have already been acknowledged to be "Least Complex" therefore the Alternative that will be most readily permitted and the quickest to implement. This Alternative can also be readily expanded if necessary and can be built in stages if so desired. The process facilities themselves could be readily expanded either by adding processing units at the existing location or by building entirely new units in new locations if necessary. Reject storage evaporation basins could be built with surplus capacity. If needed, new basins could be built, (it would be more efficacious to build a new basin rather than attempt to expand an existing one).

O-03-18

Minimize Adverse Impacts —Local processing and reject storage facilities would prevent the transfer of drainage water contaminants to other waterways and storage reservoirs. Environmental mitigations could be built at the facilities such as creating a lake stocked with food fish, shrimp etc. for the wildlife, the evaporation basins would be built with a drain tile field underneath pitching to the processing facility inlet in order to intercept any seepage or leakage from the basin and return it for reprocessing. The basins could also be netted if required. In-Valley Disposal could maintain the suitable salt and water balance in the root zone of irrigated lands, thus fulfilling the proposed "Federal Action", to provide a complete

Appendix P6

Private Organizations and Businesses Comments and Responses

drainage service to the San Luis unit.

In addition, the following Tables ES-1 and the "Effect Summaries" shown on pages 13-16 and 13-17 of the Draft EIS are presented.

O-03-19

Table ES-1 displays the amount of water per year that could be recovered by the In-Valley Disposal Alternative. Please note that disposal could be processed under the In-Valley Disposal Alternative and a significant source of usable water created and utilized, whereas "Out-of-valley Disposal just discharges the drainage.

Table ES-1, p ES-8 shows the estimated drainwater quantities for the various alternatives. In-Valley Disposal Alternative without the Land Retirement Options only vs Out-of Valley (Ocean and Delta) Alternatives is depicted below:

	In-Valley Disposal 97,000 AF	Out-of-Valley Disposal 97,000 AF
Drainage Flow w/o Reduction		
Drainage Flow with Drainwater Reduction (drainwater recycling, shallow ground- water management and seepage reduction)	70,000 AF	70,000 AF
Drainage Flow with Drainwater Reduction And Regional Reuse Facilities	21,000 AF	21,000 AF

O-03-20

Comment: Table ES-1 clearly indicates that Drainage flow w/o Reduction under "In-Valley Disposal Alternative could create the greatest amount of processed water while reclaiming the greatest amount of farmland. Techniques utilizing Reuse and Drainwater Recycling have already been utilized by the farmers and water districts in the Central Valley and the results have helped devastate the Central Valley by creating large areas of increased soil salinity resulting in land retirement and adversely impacting waterways through added salinity, selenium and boron pollution.

The following definitions are taken from *Appendix C Drainwater Quantity and Quality; C1.1.4 Drainwater Reduction Measures and Drainage Quantity* C-5

- **Reuse Drainwater Management.** Using drainwater as an irrigation supply for salt tolerant crops. The lands would need to be drained. This option would reduce the volume of drainwater requiring disposal.
- **Drainwater Recycling.** Reapplying drainwater and mixing it with freshwater for crop irrigation.
- **Shallow Groundwater Management.** Controlling the discharges and water depths from subsurface tile drainage systems so that a portion of the irrigation deep percolation is retained in the soil and is available to contribute to crop evapotranspiration.
- **Seepage Reduction.** Lining or piping of existing unlined irrigation conveyance and distributed facilities to reduce seepage losses.

O-03-21

Comment: Reuse Drainage Management may have been satisfactory for raising a salt tolerant crop with no market value, however this technique ultimately leads to saline water build-up that will spread to other watercourses and leads to soil salinity and ultimately "soil retirement". WRI disagrees that this option "reduces the amount of drainage requiring disposal". The drainage builds up and overflows into other watercourses thus contaminating their content. In addition, this technique increases soil salinity which ultimately reduces the amount of Prime Farmland and Farmland of State Importance. In effect, "Reuse" is no solution, it is only a means for attempting to forestall the inevitable and the devastating effects of utilizing this technique are in evidence throughout the San Luis unit. Drainwater Recycling is essentially degrading the quality of irrigation water by mixing it with drainage. This technique would also increase soil salinity ultimately lowering the value of the crops that could be produced. Remember, these techniques were developed out of necessity not as a remedy, there was no other Alternative. The remaining two techniques would take more management and money to implement. Environmentally, the use of these drainwater reduction techniques increase the very impacts the SLDR Project is attempting to mitigate. These "drainwater reduction techniques" help spread salinity, selenium, boron and the other contaminants adversely impacting crop growth, the environment and ultimately the economy while increasing adverse socio-economic impacts.

SECTION THIRTEEN Land and Soil Resources

Appendix P6

Private Organizations and Businesses Comments and Responses

13.2.4 In-Valley Disposal Alternative p13-16... Under this alternative, drainage conditions would improve, but some lands would be taken out of production for use as evaporation basins and associated mitigation facilities. Agricultural activity would improve but not as significantly as with the three Out-of-Valley Alternatives. The lands that are artificially drained would be suited for all field crops and most vegetable crops. Soil salinity could be maintained at levels consistent with Prime Farmland soils and would result in a potential increase of about 218,000 acres of Prime Farmland.

Comment: Comparing the "Effect Summary" of In-Valley Disposal vs Out-of-Valley Disposal

O-03-22

	Under Existing Condition (p13-17)	
	In-Valley	Out-of-Valley
Increase in lands qualifying as Prime Farmland	218,000 acres	219,000 acres
Decrease in lands qualifying as FSI	33,000 "	28,000 "
Evaporation Basin acreage *	3,290 "	0 "
Decrease in salt sink acreage	200 "	200 "

Comment: WRI disagrees with the amount of acreage utilized for Evaporation Basins. The figure listed is far too high!

	Under "No Action" Condition (p13-17)	
	In-Valley	Out-of-Valley
Increase in lands qualifying as Prime Farmland	294,000 acres	295,000 acres
Decrease in lands qualifying as FSI	54,000 "	59,000 "
Evaporation Basin acreage *	3,290 "	0 "
Decrease in salt acreage	5,500 "	5,500 "

Again, WRI disagrees with the amount of acreage utilized for Evaporation Basins. The above Tables disclose that either set of Alternatives restore about the same amount of land. The Tables and data above display the intrinsic advantages to the In-Valley Disposal Alternatives. The undisputed advantages are outlined in the summary below.

ADVANTAGES SUMMARY: In-Valley Disposal Alternative

The key advantage of the In-Valley Disposal Alternative is that a new source of water upwards of 90,000 acre feet could be provided for irrigation and potable usage. The projected construction and operating costs of the In-Valley Disposal Alternative and the Out-of-Valley Disposal Alternatives are virtually even, the environmental impacts and benefits are a virtual stand-off and the amount of farmland restored is also about even, however with In-Valley Disposal, the benefit of a significant amount of a scarce commodity in the form of treated water is produced.

Flexibility of implementation is provided. If more convenient, only the most severely impacted areas may be treated immediately, the remainder could be spaced out, or if desired the entire area could readily be completed in one time period. A scope revision is easy to implement.

Faster implementation can be achieved, Table 4.2 states that the In-Valley Disposal Alternative is "Least Complex". This would lead to more expeditious permitting. Drainage mitigation benefits could be realized in a shorter period of time.

The Alternative selected should be the one that provides both the Nation and the San Luis District with the maximum benefit for the least expenditure. In addition, the Alternative selected should provide the greatest amount of flexibility for implementation, provide the path of least resistance for permitting, be the one that is least damaging to the environment, creates the least amount of adverse cultural as well as socio-economic impacts and if possible provide another source of usable water. For these reasons WRI urges the Bureau of Reclamation to Adopt the In-Valley Disposal Alternative, dismiss the concept of Land Retirement, dismiss the ideas of Reuse and Drainwater Recycle and provide a remedy through drainage processing. The In-Valley Disposal Alternative is the one concept that fulfills this criteria; in effect, it provides the most effective use of funds.

Respectfully submitted,

Joseph Langenberg

WRI (Water Regain Inc.)
949 E. Annadale Ave. #A210
Fresno, CA 93706
Tel. (559) 917-5064
e-mail: cpc1993@hotmail.com

RESPONSES TO COMMENT O-03

O-03-1

Drainage reuse reduces the amount of drainage that must be subsequently treated and evaporated and, thereby, reduces the overall cost of drainage service. Biotreatment is required to remove Se from drainage to reduce environmental impacts of concentrated drainage in evaporation basins.

O-03-2

See Master Response P&N-1.

O-03-3

Higher RO recovery was considered and evaluated. Higher recovery is technically feasible, but extensive pretreatment to remove calcium would be required and is not cost effective. Reclamation continues to investigate options for higher recovery.

O-03-4

The basin area is based on historical evaporation and precipitation data and on projected drainage flows. The stated basin area is the maximum for each alternative and could be reduced if enhanced evaporation technologies are demonstrated to be cost effective.

O-03-5, 6

Comment noted. No response necessary.

O-03-7

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

O-03-8

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

O-03-9

Comment noted. No response necessary.

O-03-10

Bringing all lands back to Prime or Statewide Importance status was not an identified purpose of the project, although those kinds of effects would likely result from drainage service. Section 13 describes how different alternatives would affect the amount of land having Prime or Statewide Importance status.

O-03-11

Reclamation is aware that high boron concentrations can have adverse effects on crop productivity. Modeling and analysis of boron concentrations in both the shallow groundwater system and through the treatment system processes have been conducted to predict concentrations in the product and brine disposal water. Section 5 and Appendix C2 present predicted water quality data for boron.

O-03-12

There are two primary reasons for not building deep basins: (1) evaporation rate decreases with increasing depth, and (2) construction cost increases with increasing depth.

O-03-13

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

O-03-14

Recent pilot data collected through December 2005 will be appended to the Final EIS and will include an evaluation of biotreatment sludge and disposal requirements. For the purpose of cost analysis, the biomass sludge was assumed to require disposal at a Class 1 landfill. It should be noted other sludge recycling and management strategies will be investigated as a part of the adaptive management strategy.

O-03-15

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

O-03-16

The components of drainage service listed in Table 17-4 were assembled from extensive stakeholder input, field testing, and data analysis to develop an alternative that achieves the purpose and need of drainage service while minimizing cost and impacts.

O-03-17

Comment noted. No response necessary.

O-03-18

The In-Valley Alternatives include local processing and storage of brine in evaporation basins.

O-03-19

Comment noted. No response necessary.

O-03-20

Reclamation is aware of two water districts in the drainage study area where drainwater recycling has been practiced for several years – Panoche and Firebaugh Canal water districts. No evidence indicates that this practice has created large areas of increased soil salinity and general devastation in these water districts. The primary cause of groundwater and soil salinity is lack of drainage. The proposed alternatives include reuse facilities with drainage for irrigation of salt-tolerant crops.

O-03-21

In the reuse facilities, the total volume of drainwater is reduced as the plants grown transpire the applied drainwater. Hence, the total volume of irrigation water (drainwater) is reduced, thereby reducing the total volume of drainage requiring ultimate disposal.

Conclusions in the Draft EIS regarding salinity increases beneath the reuse facilities consider these increases as small in area, localized, and reversible. From a project-wide perspective, the reuse facilities are relatively small in area. Between 7,500 and 19,000 acres of reuse facilities are needed to accommodate the expected drainage volume from the different alternatives considered. The area of reuse facilities corresponds to 2 to 5 percent of the drainage-impaired area, and 1 to 3 percent of the drainage study area. The reuse areas are assumed to have subsurface tile drains. These drainage systems will be designed to collect percolating reuse water and, therefore, prevent rising water levels and downslope migration of water and dissolved constituents. During long-term use, the water quality under the reuse area is expected to gradually decline, which is typical for all aquifers underlying irrigated land.

In the future, soil and groundwater salinity beneath the reuse facility will probably increase, but the soils should not have to be retired. The facilities are drained, and a salt balance should ultimately be achieved. The salt balance will be determined by the existing soil quality, quality of the drainwater applied, the water application rate, and the type of plants grown. If desired, salt-affected soils and groundwater can later be reclaimed by applying relatively high quality irrigation water, and removing the leached salts and saline groundwater with the drainage systems. Moreover, drainage systems are intended to prevent the subsurface spread of saline water to other areas.

O-03-22

See Responses to Comments O-03-04 and O-03-12.

COMMENT O-04. CALIFORNIANS AGAINST WASTE, LORI A. BLAIR

07/16/2005 21:13 9164433912 CAW PAGE 01
Page 1 of 1
The Bureau of Reclamation is responsible for this deformed baby bird and hundreds of other birds just like this one. Evaporation Ponds Do NOT WORK.



O-04-1

S-9

The Bureau must retire All Selenium-tainted land to Dry farming only. Converting inorganic to organic forms are even more toxic to wild life, according to Steve Detwiler a the fish and wild life biologist.



<http://www.aliciapatterson.org/APF1301/Clemings/Clemings01.jpg>

8/1/2005



Dear Claire Jacquemin,

The Bureau must NOT go through with the
600 million dollar Evaporation Pond Project
near Kesterson wildlife refuge!

These ponds are not the solution. They are the
Problem! According to the February 2005 report
they are a "Proven Risk" with "significant
lethal" and "sublethal effects" to wildlife.

O-04-1
cont. Thus, these ponds will continue to kill and
deform 1000's of waterfowl. You cannot
prevent waterfowl from landing on water!

Unless giant nets are stretched across the
ponds preventing all birds from coming into
contact with water or bugs or foliage. Is
this an option in the Bureau's Plan? If not,
Please tell me why the Bureau is spending
600 million + 20,000 a year there after to
keep these toxic selenium ponds going.
When you can adopt the DRY FARMING Plan
that will solve the Problem and be less expensive
to operate yearly?

Please, I am pleading with you, retire all selenium-
tainted farm land and allow for only dry farming
and grazing. It is the only solution!

O-04-2 Claire, will you please inform me on the
Bureau's Plan. Thank you.

Lori A. Blair

Californians Against Waste • 921 11th Street, Suite 301 • Sacramento, CA 95814 • 916-443-5422 •
www.cawrecycling.org

916-233-4653 private line
916-457-1085 home phone

RESPONSES TO COMMENT O-04

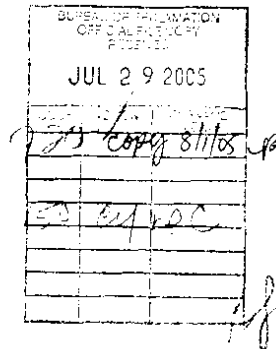
O-04-1

See Master Response GW-1 regarding effects due to operation of evaporation basins and Master Response SE-2 regarding the bioavailability of organic and inorganic forms of Se resulting from biological treatment.

O-04-2

The commenter has been added to Reclamation's list of interested individuals and will be informed of the publication of the Final EIS and Record of Decision.

COMMENT O-05. MORRO BAY NATIONAL ESTUARY PROGRAM, DANIEL BERMAN



July 27, 2005

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

Re: San Luis Drainage Draft EIS

Dear Ms. Jacquemin,

The Morro Bay National Estuary Program (MBNEP) is adamantly opposed to the Ocean Disposal alternative in the San Luis Drainage draft Environmental Impact Statement (DEIS). We also oppose the two Delta disposal alternatives, and urge the Bureau to implement an "in-Valley" alternative.

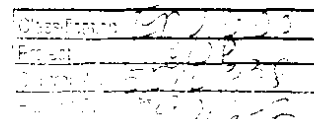
Morro Bay is a State Estuary, is one of 28 estuaries around the country that are part of the US Environmental Protection Agency's National Estuary Program (NEP), and is recognized by the California Coastal Commission as a Critical Coastal Area. The MBNEP is a collaborative effort of local citizens, local government, and state and federal resource protection agencies working to protect and restore the Morro Bay Estuary and Watershed. While the MBNEP is focused primarily within the estuary and it's watershed, our Comprehensive Conservation and Management Plan for Morro Bay clearly states that our study area includes Estero Bay, placing the proposed Ocean Disposal site off Cayucos within the Morro Bay NEP.

O-05-1

We recognize that the San Luis Drainage Unit faces a severe environmental and agricultural problem with water quality. Exporting that problem to the pristine coastline of Estero Point, or to the already beleaguered environment of the Bay-Delta, does not meet the stated goals of the project *"A long term sustainable salt and water balance is needed to ensure sustainable agriculture in the Unit and the region"* (Page 1, Executive Summary, DEIS). The primary goal of a sustainable solution should be to reduce or eliminate the production of contaminated water, and where that is not feasible, to treat the polluted materials. In other words, this problem needs to be addressed at its source.

O-05-2

The draft EIS frames the problem as how to provide drainage to the San Luis Unit. In that narrow view, ocean disposal has been presented as a possible solution. The larger picture is that as a consequence of the Unit's geology and hydrology, current agricultural practices are generating massive volumes of highly contaminated surface and ground water. Exporting and dumping tens of millions of gallons per day of highly contaminated water into the coastal ocean or the Bay-Delta is not sustainable, and is not a solution to this underlying problem. The Ocean Disposal alternative as described in the DEIS involves the least effort to reduce the production of



Private Organizations and Businesses Comments and Responses

polluted water and treat polluted water. Specifically it does not include the selenium reduction efforts outlined for the Delta alternatives, nor the reverse osmosis treatment associated with the In-Valley alternatives. Instead it would allow unsustainable practices to continue in the Drainage Unit, maximizing the ongoing production of toxic drainwater, at the expense of our public trust resources.

Specific concerns and questions that the MBNEP request be addressed in the final EIR are summarized below:

- O-05-3 [• No preferred alternative is identified in the draft EIS. This is unusual and makes it more difficult for the public to comment on the DEIS, and for the Bureau to justify their final selection of a preferred alternative.
- O-05-4 [• Both Morro Bay and San Francisco Bay are part of the US EPA's National Estuary Program (NEP). While the NEPs are not a regulatory program, NEP status reflects:
 - Federal, state, and local designation of these areas as resources of national significance which already face significant threats, and
 - Federal, state, and local commitments and ongoing efforts to protect and restore these resources.
 The NEP status of Morro Bay and San Francisco Bay should be referenced in the description of these areas, and the Morro Bay NEP and San Francisco Estuary Project should have been specifically notified of the DEIS prior to its release, received electronic copies via mail, and contacted for comments.
- O-05-5 [• The discussion of the ongoing impacts of ocean disposal and Delta disposal is inadequate. Dilution is assumed to eliminate any far field impacts to ocean water quality (DEIS Section 5.2.8.3 and Appendix D 2.2), yet only Se, Bromide, TOC, TDS, and Temperature seem to be considered in this brief dismissal of the issue. The list of constituents in the drain water (Appendix C, Table C2-8) includes many other pollutants of concern at very high concentrations, many of which are known to bio-accumulate, including mercury, chromium, copper, and nickel, and others of which (nitrate, ammonia) are likely to result in significant algal blooms that could create persistent hypoxic conditions that are toxic to marine life. Phosphate and/or orthophosphate concentrations are noticeably absent from Table C2-8. Orthophosphate levels are likely to be high in the effluent, and should be considered in a discussion of the potential for algal blooms and resultant hypoxia. The final EIS should include detailed analyses of the potential for water quality, bioaccumulation, and toxicity impacts associated with the full suite of analytes reasonably expected to be present in the effluent, including at a minimum, all constituents listed in Table C2-8 as well as orthophosphate, herbicides, and pesticides (see next point).
- O-05-6 [• There is no discussion of the identities or concentrations of the numerous pesticides and herbicides certain to be present in the discharge water. This is a series flaw in the DEIS across all the alternatives – it is impossible to adequately examine the impacts of any of the alternatives to biological resources, surface water quality, ocean water quality, and ground water quality without this information, including a discussion of the current scientific understanding of the potential for interactions among and between the many

O-05-6
cont.

pesticide and herbicide associated chemicals likely to present, their toxicity, and potential for bio-accumulation.

In summary, the MBNEP believes that the draft EIR fails to adequately consider the impacts of Ocean or Bay-Delta disposal, and the MBNEP concurs with the conclusions reached in two extensive studies already completed: the San Joaquin Valley Drainage Program's 1990 report and the Bureau of Reclamation's 2002 San Luis Unit Drainage Program Plan Formulation Report (PFR), both of which selected "In-Valley" alternatives as the preferred approach.

Thank you for your consideration of these comments. We look forward to seeing them addressed in the Final Environmental Impact Report

Sincerely,



Daniel Berman
Program Director
Morro Bay National Estuary Program

RESPONSES TO COMMENT O-05

O-05-1

See Master Response ALT-S1 for a discussion of source control of drainwater.

O-05-2

Comment noted. No response necessary.

O-05-3

See Master Response ALT-A1 regarding the selection of a preferred alternative.

O-05-4

The Final EIS has been modified to state that Morro Bay and San Francisco Bay are part of the National Estuary Program.

O-05-5

See Master Responses SW-8, SW-13, SW-9, SE-1, SW-12, and SW-3 in regard to impacts from the Ocean Disposal and Delta Disposal Alternatives.

O-05-6

More detailed information about pesticides and herbicides in discharge water has been included in Section 5 of the Final EIS. See Master Responses SW-3 and SW-13.

Private Organizations and Businesses Comments and Responses

COMMENT O-06. THE BAY FOUNDATION OF MORRO BAY, CHRIS CLARK ET AL.



July 25, 2005

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

Re: San Luis Drainage Draft EIS

Dear Ms. Jacquemin,

The Bay Foundation of Morro Bay is adamantly opposed to the Ocean Disposal alternative in the San Luis Drainage draft Environmental Impact Statement (DEIS). We also oppose the two Delta disposal alternatives, and urge the Bureau to implement an "In-Valley" alternative.

The Bay Foundation is a non-profit corporation that has been working to protect Morro Bay, Estero Bay, and the Central Coast of California for almost twenty years. Our mission is to provide leadership in restoring, enhancing, and protecting the marine resources and watersheds of Morro Bay, Estero Bay, and the Central Coast of California. The Bay Foundation serves as the administrator and bursar of the Morro Bay National Estuary Program.

Morro Bay is a State Estuary, is one of 28 estuaries around the country that are part of the US Environmental Protection Agency's National Estuary Program (NEP), and is recognized by the California Coastal Commission as a Critical Coastal Area. The proposed dumping of billions of gallons of toxic drainwater annually into Estero Bay is unacceptable.

O-06-1 We recognize that the San Luis Drainage Unit faces a severe environmental and agricultural problem with water quality. Exporting that problem to the pristine coastline of Estero Point, or to the already beleaguered environment of the Bay-Delta, does not meet the stated goals of the project "*A long term sustainable salt and water balance is needed to ensure sustainable agriculture in the Unit and the region*" (Page 1, Executive Summary, DEIS). The primary goal of a sustainable solution should be to reduce or eliminate the production of contaminated water, and where that is not feasible, to treat the polluted materials. In other words, this problem needs to be addressed at its source.

O-06-2 The draft EIS frames the problem as how to provide drainage to the San Luis Unit. In that narrow view, ocean disposal has been presented as a possible solution. The full picture is that as a consequence of the Unit's geology and hydrology, agricultural practices are generating massive volumes of highly contaminated surface and ground water. Exporting and dumping tens of millions of gallons per day of highly contaminated water into the coastal ocean or the Bay-Delta is not sustainable, and is not a solution to this underlying problem. The Ocean Disposal

alternative as described in the EIS involves the least effort to reduce the production of polluted water and treat polluted water. Specifically it does not include the selenium reduction efforts outlined for the Delta alternatives, nor the reverse osmosis treatment associated with the In-Valley alternatives. Instead it would allow unsustainable practices to continue in the Drainage Unit, maximizing the ongoing production of toxic drainwater, at the expense of our public trust resources.

Specific concerns and questions that the Bay Foundation request be addressed in the final EIR are summarized below:

- O-06-3**
 - No preferred alternative is identified in the draft EIS. This is unusual and makes it more difficult for the public to comment on the DEIS, and for the Bureau to justify their final selection of a preferred alternative.
 - Both Morro Bay and San Francisco Bay are part of the US EPA's National Estuary Program (NEP). While the NEPs are not a regulatory program, NEP status reflects:
 - Federal, state, and local designation of these areas as resources of national significance which already face significant threats, and
 - Federal, state, and local commitments and ongoing efforts to protect and restore these resources.
- O-06-4**

The NEP status of Morro Bay and San Francisco Bay should be referenced in the description of these areas, and the Morro Bay NEP and San Francisco Estuary Project should have been specifically notified of the DEIS prior to its release, received electronic copies via mail, and contacted for comments.
- O-06-5**
 - The discussion of the ongoing impacts of ocean disposal and Delta disposal is inadequate. Dilution is assumed to eliminate any far field impacts to ocean water quality (DEIS Section 5.2.8.3 and Appendix D 2.2), yet only Se, Bromide, TOC, TDS, and Temp seem to be considered in this brief dismissal of the issue. The list of constituents in the drain water (Appendix C, Table C2-8) includes many other pollutants of concern at very high concentrations, many of which are known to bio-accumulate, including mercury, chromium, copper, and nickel, and others of which (nitrate, ammonia) are likely to result in significant algal blooms that could create persistent hypoxic conditions that are toxic to marine life. Phosphate and/or orthophosphate concentrations are noticeably absent from Table C2-8. Orthophosphate levels are likely to be high in the effluent, and should be considered in a discussion of the potential for algal blooms and resultant hypoxia. The final EIS should include detailed analyses of the potential for water quality, bioaccumulation, and toxicity impacts associated with the full suite of analytes reasonably expected to be present in the effluent, including at a minimum, all constituents listed in Table C2-8 as well as orthophosphate, herbicides, and pesticides (see next point)
- O-06-6**
 - There is no discussion of the identities or concentrations of the numerous pesticides and herbicides certain to be present in the discharge water. This is a serious flaw in the DEIS across all the alternatives – it is impossible to adequately examine the impacts of any of the alternatives to biological resources, surface water quality, ocean water quality, and ground water quality without this information, including a discussion of the current scientific understanding of the potential for interactions among and between the many pesticide and herbicide associated chemicals likely to present, their toxicity, and potential for bio-accumulation.

Appendix P6

Private Organizations and Businesses Comments and Responses







In summary, the Bay Foundation believes that the draft EIR fails to adequately consider the impacts of ocean or Bay-Delta disposal, and the Foundation concurs with the conclusions reached in two extensive studies already completed: the San Joaquin Valley Drainage Program 1990 report and the Bureau of Reclamation's 2002 San Luis Unit Drainage Program Plan Formulation Report (PFR), both of which selected "In-Valley" alternatives as the preferred approach.

Thank you for your consideration of these comments. We look forward to seeing them addressed in the Final Environmental Impact Report

Sincerely,

The Bay Foundation of Morro Bay

Bay Foundation Directors

<u>Print</u>	<u>Signature</u>	<u>Date</u>
CHRIS CLARK		7/25/05
GARY E KARNER		7/25/05
GARY RUGGERONE		7/27/05
JOEL NEEL		7/27/05
DAVE PARADIES		7/27/05
KAREN R WORCESTER		7/27/05

RESPONSES TO COMMENT O-06

O-06-1

See Master Response ALT-S1 for a discussion of source control of drainwater.

O-06-2

Comment noted. No response necessary.

O-06-3

See Master Response ALT-A1 regarding the selection of a preferred alternative.

O-06-4

The Final EIS has been modified to state that Morro Bay and San Francisco Bay are part of the National Estuary Program.

O-06-5

See Master Responses SW-8, SW-13, SW-9, SE-1, SW-12, and SW-3 in regard to impacts from the Ocean Disposal and Delta Disposal Alternatives.

O-06-6

More detailed information about pesticides and herbicides in discharge water has been included in Section 5 of the Final EIS. See Master Responses SW-3 and SW-13.

COMMENT O-07. SAN DIEGO BAYKEEPER, GABRIEL SOLMER

July 28, 2005

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

Re: San Luis Drainage Feature Re-evaluation Draft EIS dated May 2005

Dear Ms. Jacquemin,

BUREAU OF RECLAMATION OFFICE OF THE DIRECTOR	
DATE	July 28, 2005
TO	Ms. Claire Jacquemin
FROM	Gabriel Solmer
SUBJECT	San Luis Drainage Feature Re-evaluation Draft EIS dated May 2005



O-07-1

On behalf of San Diego Baykeeper, a grassroots organization dedicated to protecting and restoring the region's bays, coastal waters and watersheds, I am writing to express strong opposition to the Ocean Disposal alternative in the San Luis Drainage draft Environmental Impact Statement (DEIS). We also oppose the two Delta disposal alternatives, and urge the Bureau to implement an "in-Valley" alternative.

We recognize that the San Luis Drainage Unit faces a severe environmental and agricultural problem with water quality. Exporting that problem to the pristine coastline of Estero Point or to the already struggling environment of the Bay-Delta, however, is not the solution. The primary goal of a sustainable solution should be to reduce or eliminate the production of contaminated water, and where that is not feasible, to treat the polluted materials. In other words, this problem needs to be addressed at its source.

The draft EIS frames the problem as how to provide drainage to the San Luis Unit. In that narrow view, ocean disposal has been presented as a possible solution. However, as a consequence of the Unit's geology and hydrology, agricultural practices are generating massive volumes of highly contaminated surface and ground water. Exporting and dumping tens of millions of gallons per day of highly contaminated water into the coastal ocean or the Bay-Delta is not sustainable, and is not a solution to the underlying problem.

O-07-2

Keeping our coastal zones clean is critical to a healthy economy and environment. Polluting our coastal zones with highly contaminated water will hurt communities along the coast. Once discharged into the ocean, the pollution will spread. There is no mention of how far the pollution could spread or the potential impacts that the pollution could have outside the direct area of the watershed. While it is noted that there will be adverse effects to coastal ecosystems for the Ocean Disposal Alternative, the details for the adverse effects are not given nor are any details about potential issues with the other alternatives. We are concerned that the DEIS did not adequately address these issues.

Thank you for your consideration of these comments. We look forward to seeing them addressed in the Final Environmental Impact Report

Sincerely,

Gabriel Solmer
Staff Attorney
San Diego Baykeeper

Cc: Daniel Berman
Morro Bay National Estuary Program

Dave Paradies
Bay Foundation of Morro Bay

1924 Emerson St., Suite 220 • San Diego, CA 92106
619-758-7743 • FAX 619-758-7740
info@sdbaykeeper.org • www.sdbaykeeper.org
1994 founding unit organization and member of the International Waterkeeper Alliance

RESPONSES TO COMMENT O-07

O-07-1

Comment noted. No response necessary.

O-07-2

See Master Responses SW-4 and SW-5 in regard to changes in ocean receiving waters under the Ocean Disposal Alternative.

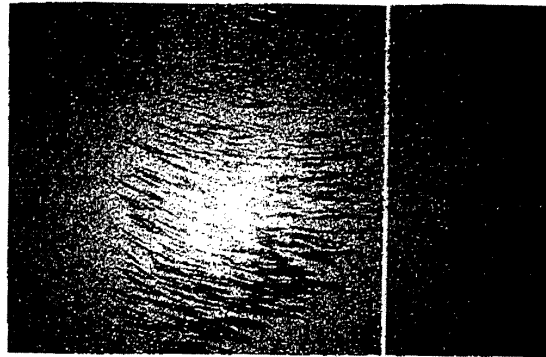
Private Organizations and Businesses Comments and Responses

COMMENT O-08. THE MARINE INTEREST GROUP OF SAN LUIS OBISPO
COUNTY, DANIEL BERMAN



MARINE INTEREST GROUP

COLLABORATIVE
RESEARCH INITIATIVE



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

RE: SAN LUIS DRAINAGE FEATURE RE-EVALUATION: Draft EIS

Dear Ms. Jacquemin:

The Marine Interest Group (MIG) of San Luis Obispo County appreciates this opportunity to comment on the Draft EIS for the San Luis Drainage Feature Re-evaluation, dated May, 2005. The MIG is comprised of numerous and diverse constituencies who have in common the desire to protect and enhance the marine resources of the central coast. Our members include representatives from commercial, recreational, and sport-fishing; coast-based industry, commerce and tourism; local government; environmental and conservation groups; aquaculture; agriculture; energy providers; and estuary/marine reserve interests.

O-08-1

The MIG was convened in 2002 largely in response to the Bureau of Reclamation's quest to provide drainage to the San Luis Unit by suggesting, among other alternatives, that selenium-laced wastewater from irrigation could be piped to San Luis Obispo County and disposed of in the ocean. Unanimous opposition to that approach, and a recognition that land-based activities had to be monitored and addressed if we were to protect our precious marine resources, animated our formation. The MIG strongly opposes the alternative of dumping drainage water in Estero Bay. We support the Bureau's likely preferred alternative of in-valley treatment and disposal.

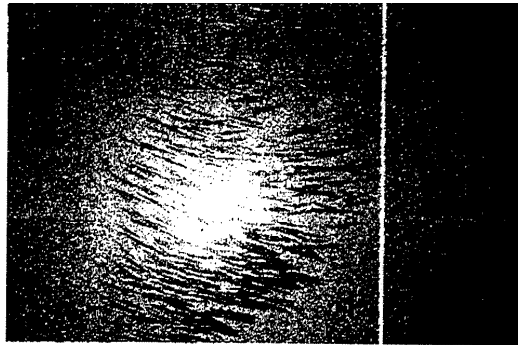
O-08-2

The MIG opposes ocean disposal because estuary and coastal ocean resources are rare, wondrous, and fragile. Clean water is the lifeblood of a healthy estuary/marine ecosystem. Land-based activities that negatively affect these resources must be minimized if not eliminated, especially when other, less damaging alternatives exist. Dumping untreated selenium and pesticide-bearing waste a mile and a half from shore and 15 miles south of the Monterey Bay National Marine Sanctuary doesn't make sense, given the existence of several Valley-based alternatives that are described in the

Private Organizations and Businesses Comments and Responses

MARINE INTEREST GROUP

COLLABORATIVE
RESEARCH INITIATIVE



Draft EIS. The MIG is currently engaged in a number of activities to document our resources, both qualitatively and quantitatively, through grants and in-kind contributions from our stakeholders. We already know that the rich marine environment that is protected to our north does not squander its productivity when it crosses the border from Monterey to San Luis Obispo. While we are not part of a marine sanctuary, our coast is currently the object of the Department of Fish and Game's cooperative Marine Life Protection Act implementation effort, and is literally swimming with life. We also know that pollution knows no political boundaries. Nevertheless, we request that the Valley solve its pollution problem in situ, and not export it great distances to other areas that are certainly not less fertile, less valuable, or less worthy of protection than the Valley.

Selenium causes birth defects in marine larvae, and toxic pesticide waste is among the other constituents of the drainage. The DEIS acknowledges that environmental impacts would necessarily occur from ocean disposal. As a broad-based voluntary organization that represents all stakeholder interests and is dedicated to act in the public interest to protect our unique resources from both marine- and land-based threats, the MIG urges you to select one of the several Valley-based alternatives set forth in the DEIS after completing your study of the impacts involved with the disposal—including the fate of the selenium and the other toxic materials that are present in the irrigation drainage water. Sound science should form the basis of your selection.

We appreciate your consideration of our comments and would be happy to respond to any questions you may have.

Sincerely, *David Berum*, MIG member, on behalf of the full
MIG

The Marine Interest Group of San Luis Obispo County,



Layout by Maria McMassey for the MIG Collaborative

RESPONSES TO COMMENT O-08

O-08-1, 2

Comment noted. No response necessary.

COMMENT O-09. UTL MARKETING, INC., JOHN LEITER

U. S. Bureau of Reclamation
Mid-Pacific Region
2800 Cottage Way
Sacramento, CA 95825
916-978-5061

Attention

Gerald Robbins

Comments per

San Luis Drainage Draft E I S

By

John Leiter

UTL Marketing, Inc.
P. O. Box 1903
Des Plaines, IL 60017
708-436-9228

TABLE of CONTENTS

	<u>Page</u>
Assessment of EIS	1
Questions / Effects	2 - 4
The basic problem	5
Insitu – source point	6 - 7
New direction of thinking	8
Protocol guide lines	9
UTL Marketing, Inc.	10 - 11
Attachment package	

Private Organizations and Businesses Comments and Responses

Assessment of the overall E I S

The E I S is certainly thorough and detailed within its area of focus.

It consists of 8 (eight) options which boils down to basically three options with variables as follows;

1 – Do nothing.

2 – Numbers 2-5 are various ratios of acreage's of land retirement versus various ratios of acreage's of land which is farmed under irrigation and drainage provided to area disposal sites.

3 - Numbers 6-8 are just ship it elsewhere (3 locations).

1

Questions / effects of electing to pursue any of the EIS options

The do nothing option seems to be a non-option as a result of the court ordered "thou shall do something".

The four (numbers 2-5) varied mix of ratios of retired lands and farmed lands with drainage to local disposal, break down into two basic groups for consideration.

A – Land retirements:

1 – the more acreage that is retired, the more negative impact that can be expected on the entire economy of the valley. This goes directly opposite of California's Gov. Schwarzenegger's executive order S-5-05 of Jun. 5, 05 of helping the rebuild valley economy.

2 – The potential environmental impact of the retired lands;

O-09-1

A – if the retired acreage is left fallow (dead) and barren with out cover crops then blowing dust storms with salts, agricultural chemicals etc. can most assuredly be expected.

The magnitude of this likely hood of blowing contaminated dust storms from 100,000 – 400,000 acres of area is quite significant. One has only to drive through the areas involved and you see large acreage's of soils that are white on top.

2

Private Organizations and Businesses Comments and Responses

Questions / effects continued

If this is compared to the Owens lake bed of only 50,000 acres where courts ruled it a severe environmental impact from blowing salts dusts, the San Luis potential for such liabilities is immense.

O-09-2

B - if the retired acreage is to be maintained with cover vegetation then who and at what on going costs (including perpetual funding) will maintain these acreage's? Additionally where will the necessary water for this come from, and it will all be wasted just to stop blowing dust.

B – Drainage of irrigated acreage with local disposal in many “reuse” areas;

O-09-3

1 – this approach can only wind up with a bunch of local environmental disasters over time as the dumped wastes build up in concentrations. This can be observed via the experience and results of the Salton Sea (also Bureau water which has been drained and dumped).

O-09-4

2 – The drainage wastes won't be eliminated but will only be dumped in these reuse areas (and will concentrate over time) which can only result in negative environmental impacts in the future.

The probable future environmental impacts are not limited to the reuse soils. They will also effect wildlife, migratory bird's etc. which will be impossible to keep out of thousands of contaminated acres.

3

Questions / effects continued

O-09-5

3 – will these “reuse” areas be lined or otherwise secured from leakage over time (10, 20, 50 yrs. Etc.) into surrounding environments as the concentration levels build up and a 100-year rain season sets in?

O-09-6

None of the EIS options fix anything

4

The basic problem we find reflected via the entire EIS

O-09-7

The entire EIS reflects a narrow “known options and limitations” capability of 100 years ago, limited to capabilities to deal with salts etc. by leach, flush or drain and dump it elsewhere.

An ongoing example of the Bureau's thinking would be the Imperial / Coachella valley's irrigate and drain / dump approach for the last 100 years. The resulting environmental mess called the Salton Sea must now be resolved at an extremely high cost.

Technologies, knowledge, experiences and just plain accidental findings have come along and evolved in the last 100 years that can probably eliminate and or substantially reduce infield discharge needs.

The Bureau's thinking needs to be addressed / focused at the problem source i.e. insitu with an actual fixing of the problem as the goal!

5

Insitu – source point considerations

O-09-7
cont.

In environmental projects – dealing with a problem at the source is virtually always the successful and cost effective solution.

In writings / positions taken by the USEPA, Cal water board and numerous others regarding the Salton Sea environmental disaster, all say go back to the source i.e. the irrigated farm fields (insitu solution) to find a solution.

Approaching this whole problem from a narrow, focused, single viewpoint can only result in predictably poor but costly results!

Compare the above thinking with an analogy of two horses turned loose on a track to exercise:

one is a racehorse (the bureau), who for his whole life has trained and raced one way around a track.

one is a wild stallion with no preconceived ideas (knowledge).

Result – the racehorse will always run loose around the track counterclockwise because that's all he knows and the stallion will run anywhere because he doesn't know any better.

The Bureau of Reclamation needs to open up to insitu looks, options and thinking and get into the current century.

6

Insitu – source point considerations continued

O-09-8

If an insitu solution (or solutions) is viable then the following net results can occur;

1 – actually solve (fix) the problem, not continue to just move it around with the resulting environmental problems.

Note: if drainage can be eliminated then the court order can be eliminated as having no need.

2 – reduced usage of water for leach, flush and drain efforts.

3 – improved varieties, quantities and qualities of agricultural crops produced.

4 – sustain a viable agricultural economy through out the future.

5 – significant savings to the taxpayers.

6 – can possibly be accomplished insitu for \$200 –300 per acre initially and less every 5 – 10 years.

7 – water use reductions of 20 – 30 % can usually be achieved, which can more than offset the cost of the ongoing insitu solution.

Private Organizations and Businesses Comments and Responses

New direction of thinking for Bureau

We, as most responders, have undoubtedly addressed what we find as deficiencies with this EIS. As in all of life this is the easy part – now the hard part, a new way of looking at these problems.

O-09-9

We suggest and indeed strongly recommend that the Bureau of Reclamation set up a department, division, unit (by whatever name or title) to try, verify, evolve etc. any technology, idea, magic wand etc. that comes along to address these conditions insitu. This might also be accomplished jointly between the Bureau and the USDA research system.

O-09-10

Who better than the Bureau of Reclamation, who owns all the water in the eleven western arid and irrigated states, to find a solution to irrigation water salts? The Bureau of Reclamation, as a result, already owns the resulting liabilities and costs of dealing with the results of this irrigated water. If cost effective insitu solutions are developed and implemented, the Bureau of Reclamation will undoubtedly reflect significant savings to the taxpayers in not having to fund those liabilities.

This suggested department (with a can do, not a why we can't psyche) should do all R & D, testing, documentation etc. in the field only –not in a laboratory because the problems are field conditions not lab conditions.

O-09-11

In all likelihood, the current "drainage" problem and needs can be resolved insitu, resulting in little or no drainage. If some drainage remains in certain conditions, then it will probably be able to be recycled back into the irrigation waters.

O-09-12

The following **RODAK**TM field trial format can be used as a starting point.

8

Note: The remainder of this submittal contains material that does not comment on the Draft EIS and therefore requires no response from Reclamation. Because it is not comment material, it is not included in the Final EIS, but it will be included in the administrative record for this project and is available upon request.

RESPONSES TO COMMENT O-09

O-09-1

The comment makes reference to land retirement leaving fallow (dead) and barren land and creating dust storms. As defined in Section 11.2.2 of the Draft EIS, land retirement is the removal of lands from irrigated agricultural production to another form of land management by means of land purchase or lease. Non-irrigated (retired) lands would be tilled to control weeds approximately twice a year. Lands could also be grazed or sprayed for weed management. This level of dust-generating activity is less than what would occur under many commercial/irrigated agricultural operations. The SJVAPCD requires owners and operators of agricultural operations

in the valley to reduce PM₁₀ fugitive dust from on-farm sources. Land fallowing is identified as one measure that reduces land preparation and cultivation activities. Table 11-3 of the Draft EIS presents conservation measures (including land fallowing) that are taken from SJVAPCD's Rule 4550, which provides conservation management practices for agricultural operations.

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

O-09-2

Land retirement can be accomplished through placement of non-irrigation covenants on the lands and does not necessarily imply a change in fee title ownership of the lands nor require identification of ownership. Compatible (non-irrigated) and foreseeable land management uses were estimated to account for ongoing management costs associated with the land retirement as well as to evaluate foreseeable environmental impacts. Post-retirement land management would be the responsibility of the landowner. Post-retirement land uses beyond the scope of those evaluated would be a separate project subject to all applicable environmental review, permitting, and financing requirements.

Land uses for retired lands include fallowing, dryland farming, and grazing. No water is required for these activities.

O-09-3

The reuse facilities are local managed operations and are assumed to include subsurface tile drains. These drainage systems would be designed to collect percolating reuse water to prevent rising water levels and downslope migration of water and dissolved constituents. In the future, soil and groundwater salinity beneath the reuse facilities will probably increase and a new salt balance will be ultimately achieved determined by the existing soil quality, quality of the drainwater applied, water application rate, and type of plants grown. If desired, salt-affected soils and groundwater could later be reclaimed by applying relatively high-quality irrigation water and removing the leached salts and saline groundwater with the drainage systems. Moreover, drainage systems are intended to prevent the subsurface spread of saline water to other areas.

O-09-4

See Master Responses GW-1 in regard to the effect of evaporation basins on migratory waterfowl and other species, GW-2, MIT-2 in regard to mitigation planning, and MIT-1 in regard to adaptive management and monitoring.

O-09-5

Features of reuse areas are presented in Section 2.3.2.3. Reuse areas would not be lined, but they would be managed operations and are assumed to include subsurface tile drains. These drainage systems would be designed to collect percolating reuse water to prevent rising water levels and the spread of saline water to other areas.

O-09-6

Comment noted. No response necessary.

O-09-7

The comment is noted. Reclamation is required by court order to provide drainage service to the San Luis Unit, as explained in Section 1.1 of the Draft EIS. See Section 1.2 for a discussion of the court order and the background of the proposed project.

O-09-8

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

O-09-9

See Master Responses ALT-T1 and MIT-1, which discuss the evaluation of water treatment options and adaptive management and monitoring, respectively.

O-09-10

Comment noted. No response necessary.

O-09-11

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

O-09-12

Additional information is needed to evaluate the recommended technology, e.g., reports of scientific or academic evaluation, or independent verification of tests and results. See Master Response GEN-5.

Private Organizations and Businesses Comments and Responses

COMMENT O-10. MORA ENTERPRISES, DANIEL MORA

Daniel Mora D.V.M.
34077 County Road 25
Woodland CA. 95695

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

Hello. My name is Daniel Mora. I am a Veterinarian and a Farmer in Yolo County. Besides my veterinary practice, my wife and I grow vegetables that we sell at the certified Woodland Farmers Market that we founded, own and have operated since 1996. We have both been involved with agriculture all our lives.

I have been interested in agricultural drainage since Kesterson first became news. I attended the public meetings and participated in the working group discussions for the San Joaquin Valley Drainage Project.

I was the token "crazy inventor" with the crazy solar machine that would solve all the problems of agricultural drainage.

I presented a Modular Solar Distiller that would take the place of evaporation ponds. The "**Mora Modular Solar Distiller**" has many advantages because it can:

- Contain and isolate the drainage so that the public, livestock, wildlife and the environment are not exposed to the drainage.
- Separate water from the inorganic salts and collect the water so that it can be reused and or sold.
- Concentrate the salts into dry forms or concentrated brines to facilitate industrial reclamation of these minerals.
- Be maintained, emptied, enlarged, and/ or repaired without decreasing production from the entire structure.

O-10-1

Evaporation ponds have been mentioned as the end means of dealing with the last portion of drain water that is left over after reuse and water treatment for the In-Valley alternatives for drain water treatment. Evaporation ponds do not provide a complete solution for disposal of drainage waters.

Fact of the matter is that these evaporation ponds will become toxic waste pits within a few years. If they are efficient they will eventually fill with salts that will have to be removed or somehow entombed to ensure that the contents do not contaminate ground water or the environment.

It is recognized that these ponds will be a nuisance attractant to wildlife. Measures to discourage wildlife usage have been recommended. These include pond design and creating "safe" wildlife habitat areas nearby to attract the wildlife away.

Private Organizations and Businesses Comments and Responses

The “**Mora Modular Solar Distiller**” addresses and solves these problems.

- Wildlife will not be able to come in contact with the concentrated drain waters. The Modular Solar Distiller is totally enclosed.
 - If a section of the Modular Solar Distiller begins to leak it can be easily detected, isolated, and repaired or replaced quickly without having to disrupt the entire structure. The pieces are above ground on piers and designed to be easily removed and replaced.
- The Modular Solar Distillers are designed to facilitate the harvest and collection of the salts that accumulate so that industrial reclamation becomes more economic.

O-10-2

The “**Mora Modular Solar Distiller**” truly is the answer to dealing with the agricultural drainage problems of the San Joaquin Valley and the San Luis Drainage Unit.

The Modular Solar Distiller will allow a **complete drainage solution** that includes **complete disposal of the drainage waters and their salts**. There will be **no permanently poisoned land and farmland retirement does not have to take place**. Even the land that the Modular Solar Distillers are erected on could have secondary uses. Many agricultural crops could be grown in the shade cast by the Modular Solar Distiller. There would also be ready source of distilled irrigation water available all along the Modular Solar Distiller.

A feature of the Modular Solar Distiller is the ability to customize the size of a facility to the size of the problem and to be quickly assembled. There would be minimal soil excavation. The concrete piers can be quickly constructed and the Modular Solar Distiller placed on top of the piers with a crane. Final leveling/grade can be accomplished with “screw type” jacks incorporated into the design.

By utilizing the Modular Solar Distiller adverse environmental effects and risks are also minimal. Toxic exposure is minimized while allowing for complete monitoring and maintenance of the structure. The risk of contaminating the land that the Modular Solar Distillers are erected over will be minimal. There will be no need to haze wildlife away or to discourage wildlife from utilizing this area. Wildlife habitat could be increased by using fresh water, generated by the Modular Solar Distiller, to create surface watering holes strategically placed throughout the facility.

Technical feasibility is easily demonstrated by any water project that uses sections of precast concrete pipe. These concrete pipe sections can be as large as the concrete floors of the Modular Solar Distiller. They are also assembled with joints that are water - tight. The technology and skills necessary to construct the Modular Solar Distiller are in use every day in construction projects everywhere. There does not have to be a technological breakthrough in order for

Private Organizations and Businesses Comments and Responses

the Modular Solar Distiller to operate. All of the technology is presently available. Minor modifications will allow off-the-shelf utilization of materials and machines.

The cost effectiveness of Modular Solar Distillers will be much better than evaporation ponds. Specially constructed, impermeable, evaporation ponds are expensive. Their true expense can only be accurately calculated when one incorporates the cost of permanently losing the land that the ponds will be constructed upon. The risk of contamination will always remain. Although evaporation ponds are being planned, there is still a risk that approval of evaporation ponds may become a political and legal nightmare that will delay implementation of drainage service to the San Luis Unit.

Another cost of evaporation ponds is the price of having to retire farmland because the evaporation ponds cannot handle all of the drainage produced. A complete solution must allow for the utilization of all available farmland while accommodating and processing all of the drainage produced. Retiring farmland not only makes the land agriculturally unproductive, but farmland will have very little utility as wildlife habitat without extensive restoration costs.

A truly cost effective drainage solution will resolve these issues. Modular Solar Distillers can avoid the legal and political problems by containing the pollutants. With adequate facilities, farmland will not have to be retired and perhaps agricultural productivity can be increased with decreasing soil salinity due to improved drainage.

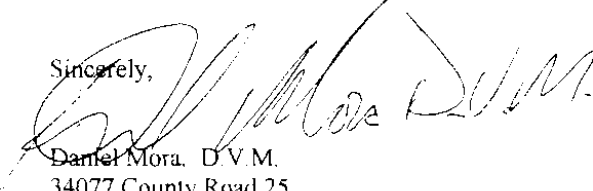
There will be no hidden costs with the Modular Solar Distiller. **Every one will benefit from the total, complete solution that Modular Solar Distillers offer.** Many jobs will be created. Farmers will benefit. The environment will benefit. There will be no losers with Modular Solar Distillers.

Although I have not given any specific numbers as to the cost of the Modular Solar Distillers, I am willing to make this offer. **Within (9) nine months of request, I will deliver at my cost, a prototype of the “Mora Modular Solar Distiller” for testing, if the Department/ Bureau will fairly and objectively evaluate the test results and consider Modular Solar Distillers as an alternative to evaporation ponds.**

Enclosed is a copy of a grant proposal describing the “**Mora Modular Solar Distiller**” and the reviewers’ comments. I put aside development of the Modular Solar Distiller at that time because I was accepted to the Veterinary School at U.C.Davis in 1996. I graduated in 2000 and have since been developing my veterinary practice.

I enclose this proposal to give more information about my Modular Solar Distiller. I am not necessarily looking for development funds at this time. I will

O-10-2
cont. [foot the bill to test the prototype so that it can be fairly evaluated. I would enjoy an opportunity to demonstrate the “Mora Modular Solar Distiller”. I know it would solve all your problems.

Sincerely,

Daniel Mora, D.V.M.
34077 County Road 25
Woodland, CA. 95695
(530) 666-2626

Note: The remainder of this submittal contains material that does not comment on the Draft EIS and therefore requires no response from Reclamation. Because it is not comment material, it is not included in the Final EIS, but it will be included in the administrative record for this project and is available upon request.

RESPONSES TO COMMENT O-10

O-10-1

Evaporation basins are one component of the drainage system that includes source control, reuse, Se treatment, and RO.

O-10-2

This technology/option was evaluated and screened out during the development of alternatives as described in the PFR. See Master Response ALT-T1 in regard to the evaluation of water treatment options and technologies.

Appendix P6

Private Organizations and Businesses Comments and Responses

COMMENT O-11. SUPERIOR SALT, INC. (1 OF 2), GERALD GROTT

July 28, 2005
Fax No. 916-928-5005
To: Attention MP 100
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95623

Superior Salt, Inc.
5076 Lelia Lane
Twentynine Palms, CA 92277
Phone (760) 361-1640
Fax (760) 361-0944

BUREAU OF RECLAMATION SACRAMENTO, CALIF. 95833	
ATTN: MP 100	
DATE	7/28/05
TIME	10:00
BY	cg/2/8-405

From: Gerald J. Grott, President, Superior Salt, Inc.

Attached are my comments regarding San Luis Drainage Program Re-evaluation---Draft Environmental Impact Statement

Moving drainage away from the farms is a problem in engineering, but the ultimate disposal of drainage is better viewed as a 'Mining Venture' to produce products in serious need so as to defray the overall net costs of disposal. This requires that the Moving

Phase be designed to attain the lowest overall net costs, so as to take advantage of the value of recycled salts; a value 'as delivered' in SJV, of \$500 -\$1000/ ac.ft. of drainage. Wages can be the largest single cost for recycling these salts and the recycled irrigation drainage will be the lowest-net -cost "new water" in California.

My salt experience started with 'drainage' in response to a 1964 offer from a Japanese trading company to purchase 2,000,000 tons/year of sodium chloride. We viewed the Salton Sea as a prime source and spent many months planning the recovery by solar evaporation. Refusal by the R R to issue a conventional export rate for sodium chloride killed that business which would have "saved" the Salton Sea. So I watched and waited.

Starting with by-product brine from washing storage cavities for LPG in AZ. We developed methods for profitably producing High Purity solar salt in small operations. We voluntarily became the first monitored operation in the USA. At the request of oil producers we started a California operation and re-processed waste salts purchased from chemical companies. In less than 20 months of production we had 10 % of California's salt consumption. These successes brought about a 1985 merger with what was then the worlds largest salt company. The year after the merger they closed the reprocessing operation. When Brian Smith's 1992 paper spoke to the effect that --if some one would take the crude salts off their hands at less than land fill costs--- I again started serious work with drainage. The economics are better than ever. The present delivered cost in SJV includes trucking that averages three times the direct cost of producing that solar salt Smaller local salt operations can be very profitable even if costs are higher than the costs at huge, but distant, operations Best of all, local production creates local jobs.

Classification	ENV 6.00
Project	SLP
Control No.	501036
Folder ID	58916

SUMMARY

**We Should Be "Mining " Irrigation Drainage
RECYCLE THE WATER - RECYCLE NUTRIENTS - SELL EXCESS SALTS**

Low Cost, Low Energy, Water Softening Can Recover Calcium and Magnesium Chlorides from Irrigation Drainage with Local Delivered Values Ranging from \$455/ ac ft in the Northerly Area on up to \$784 - \$1172/ac ft in the Westlands North, plus sodium salt values. San Joaquin Valley farms badly need calcium and magnesium chloride for meeting the recently ordered dust control, for fast leaching of sodium from less productive land, and for rapid tailoring of the Sodium Adsorption Ratio on producing land [and a new use] . Recycle these salts to cut farming costs and improve farm yields. Selenium is not removed in the softening brine so these valuable salts can be recovered using solar evaporation of that brine. Softening also simplifies further desalination by Reverse Osmosis.

NEW TECHNOLOGY REMOVES SODIUM FROM DRAINAGE

Cheap, cheap sodium removal by "Water Hardening"[™]
Use an ordinary water softener and use recycled calcium chloride for regeneration of the resin. The current resins were not designed for this but Water Hardening[™] still takes out enough sodium to make a lot of brackish water usable. Reducing sodium content of brackish groundwater by ion-exchange with calcium lowers the SAR without adding to the salinity. We really need a lot more Calcium Chloride.

And yet another process for sodium removal.
After using Water Softening to Harvest the Calcium & Magnesium, use Ammonium Fertilizer to remove the Sodium by Ion Exchange and Get Fertilized Water for Recycling to the Fields. (SAR = Zero)
This ion exchange does not remove the nitrates; they are also recycled back to the fields instead of becoming pollutants.

Recover sodium chloride: the conversion of solar evaporation ponds in San Diego and San Francisco Bays is reducing California Production of Sodium Chloride by 550-600,000 tons/year. A new nano-process refines crude sodium chloride using 80 % less energy than competitive processes. Do not bury salt, refine it and sell it.

Store solar energy using the Phase Change Energy (PCE) of the decahydrate of 106 BTU/ lb at 91°F, or the solid state PCE of 27 BTU/lb @ 465 °F . Sodium sulfate recycled from drainage will provide a stable supply with stable pricing. Recover this low cost sodium sulfate and use it to spark local employment in building solar HVAC for schools, hospitals, and other public buildings, for commercial refrigeration of farm products, and for temperature modulation of greenhouses and animal housing.

First Objective- Water Conservation by Minimizing Evaporation

Water is too precious to waste by evaporation.

The Draft EIS wisely offers a plan to move drainage in pipelines that reduce losses to evaporations as well as the buildup of organics.

Second Objective--Conservation of the Quality of Groundwater

High Quality Groundwater at the Lower Levels is too precious to be contaminated with saline drainage.

Method; Use Geologic and Strata Information to Classify Areas Where Upper Level Drainage is Contaminating Better Quality Water at Lower Levels.

O-11-1

1-Wells currently withdrawing Better Quality Water from below saline drainage must have the annulus outside the casings sealed in a manner that stops the travel of saline water down along the outside of the well casing.

For existing wells, use oil field practices for perforating and cementing the annulus through the perforations at a selected interface; also seal new wells. 2- Saline drainage should be withdrawn using Directionally Drilled Wells.

Horizontal casing at a distance below the surface will withdraw saline drainage. This soil filtered water eliminates the need for chemical pretreatment, eliminates pretreatment sludge, and retains valuable calcium and magnesium for recovery and recycling.

This pumping will lower the overall saline water table and eliminate the need for further tiling.

And the horizontal well(s) automatically averages the water salinity from a relatively large area and smoothes out all following operations.

Third Objective--Use technology that results in the best economic and ecological improvement for the entire San Joaquin Valley.

Every 1000 ppm TDS in irrigation drainage is 2700 pounds of contained solids, mostly usable salts of one kind or another.

The nutrients and salts in irrigation drainage at the farm have a delivered value ranging from \$455/acre foot to as high as \$1172 / acre foot.

O-11-2

San Joaquin Valley Agriculture is buying a lot of sodium chloride.

Additionally, the 140,000,000 bbls/year of Heavy Crude typically produced by steam assist in the San Joaquin Valley all depends on a regular supply of salt, hundreds of thousands of tons of salt, to soften the water for steam.

A lot of that salt is already being shipped in from Mexico.

Lets keep that money in the San Joaquin Valley.

Desalination of the drainage must be directed at recycling water, nutrients, and salts.

Everybody knows about the water so lets talk some more about the salts.

**Recycle to Create Jobs Instead of More Waste Dumps
Markets for Sodium Chloride "Mined" from Irrigation Drainage**

DWR reports that 6,000,000 tons/year of salts coming into SJV with 'imported' water are moving south and have no exit. Several years ago Mitsubishi surveyed the Pacific Markets and decided there was a need to expand their production on Baja by 7,000,000 tons/year. Environmental considerations foiled that attempt and no other suitable location has been found in the Pacific. The present California market and Pacific Export Markets can absorb every pound of commodity salts in that 6,000,000 tons of incoming salts. Have something to ship back in those empty ships that brought us our imports.

Recovering these salts in usable or saleable form first requires the separation of the salts with Multivalent Cations (like calcium and magnesium) from the salts with Monovalent Cations like sodium and potassium).

Examples-

Reduce the importation of salts into San Joaquin Valley.

1--Recycle Fertilizers and Soil Modifiers--Calcium, Magnesium, Nitrates

a- Soil Tilth--Managing the Sodium Adsorption Ratio of Farm Soils (SAR)

Irrigation water from the mountains is bringing millions of tons of sodium chloride to the valley farmland each year. Calcium is needed to counteract the sodium and maintain soil tilth.

But the irrigation water from the mountains has always brought in more calcium than the plants have used and, except for the small amount drained out through San Francisco Bay, all of the calcium from all of the gypsum ever brought into the San Joaquin Valley has ended up in the saline drainage.

Gypsum works but the overall cost is very, very high. Even if gypsum leaches sodium chloride at 100% efficiency it still takes 124 # of calcium sulfate to leach 58 pounds of sodium chloride, and both salts end up in the drainage.

Based on sodium chloride content, this is an increase of 213% in the salinity. It is no wonder that much of the farmland in the San Joaquin Valley is overloaded with a high salty water table.

But if calcium is continually recycled from the millions of acre feet of old drainage now underground in the San Joaquin Valley, little more gypsum will ever be needed, and the increase in salinity from the use of gypsum will stop.

b- Nitrates should be recycled back to the fields. This not only saves fertilizer, it reduces the nitrate pollution of other water.

c- Magnesium Fertilizer should be recycled to the fields or separated to produce a saleable product.

O-11-3

2- Dust Control

Agriculture is being required to meet the same requirements for Dust Control as everyone else. Calcium and magnesium chloride are the very best materials for dust control on farms because these materials are also good for the soil.

But the supply of calcium chloride from natural sources in California is at full

production and some calcium chloride is already being shipped in from as far as Michigan.

The supply of magnesium chloride as a byproduct of California's solar salt production from seawater will soon be reduced to about 40% of its historic volume. The magnesium chloride now trucked in from Utah is also at full production as a by-product of the production of other salts. (and the rising level of the Great Salt Lake is diluting that salinity for a decrease in that production).
San Joaquin Valley can be a stable long term source calcium chloride.

Sell Sodium Chloride In California

California is already importing about 250,000 tons of sodium salts /year and now the conversion of solar salt ponds in San Diego Bay and San Francisco Bay to use by Fish & Game is cutting California's solar salt making capacity by an additional 550,000 tons/year.
Instead of importing more salt from Mexico and Utah we need to produce a lot of that of salt right in the SJV.
Heavy oil production by steam assist is typically about 140 million barrel/year and 40 % of California's crude oil production. Making this steam from high TDS water requires a lot of salt for water softening.
Agriculture, industry, and the oilfields are using large quantities of sodium salts, at least 300,000 tons/year in SJV alone.

Export Sodium Chloride to Pacific Nations

Mitsubishi, in partnership with Mexico, produces about 6 million tons/year of solar salt from seawater at their Baja California operation.
To meet the rapidly growing Pacific Markets, Mitsubishi attempted to expand that operation by a startling 7,000,000 tons/year.
Environmental considerations blocked that expansion and Mitsubishi has not found another environmentally suitable site in a politically stable area.
California has idle capacity at the bulk export loaders at Port Los Angeles.
All California Ports have a huge surplus of empty containers and light loaded container ships returning to Pacific nations from whom we are receiving imports.
New energy saving technology allows our producing refined salt products at highly competitive costs to Pacific Nations.
This opportunity to export offers an excellent alternative to environmentally costly and cash costly disposal options.
Make Jobs- Not Dumps.

3-Sell Sodium Sulfate

Utilization of Solar Energy by Storage in Sodium Sulfate
Sodium Sulfate has always been the great hope of the advocates of solar energy storage. This method for energy storage is probably the most studied of all methods. When I typed in Sodium Sulfate Energy Storage, a Google Search reported 209,000 citations.

Private Organizations and Businesses Comments and Responses

Data and experience from more than 55 years of patents, technical papers, and pilot operations are available for exploitation and most of the more valuable patents have expired.

A "good question" is to ask why this know-how lays idle.

The USA has always been a net importer of sodium sulfate and investors have been unwilling to be dependent on pricing by foreign suppliers, many of which are less than politically stable.

The economical natural resources in the USA have been at max production for all of that time.

Most US production has been as by-products of the neutralization of acids used in making synthetic fibers. Much was a co-product of making hydrochloric acid from sulfuric acid and sodium chloride, now all closed. No business wanted to depend on imports from politically unreliable nations.

The millions of tons of sodium and sulfate content in the SJV irrigation drainage (and in the Salton Sea Area) can furnish a reliable and continuing supply with which to spark a major new manufacturing industry in California.

=====

Conclusion

O-11-4 With Operational Costs Defrayed by Recycling the Water and Salts, the CVP water that can be released from irrigation use by treating drainage for recycling to agriculture will be the very lowest net cost source of "new water" for California, a net cost less than half that for desalting seawater.

=====

Also attached; before and after analysis treating brackish water by Water Hardening™

Calculation of Values of calcium and magnesium chloride recycled from drainage.

The water softening described below used irrigation drainage brought from Red Rock Ranch to Twentynine Palms, CA by personnel of California. DWR. Analysis attached; As Received, As Softened, and After ion exchange with ammonium. The latter is the "Fertilized Water."

Also attached are 3 flow sheets, Figures 3, 4. And 5, for recovering ammonia from the "Fertilized Water" produced in this same test. Figure 2 at 30°C is based on 24/7 using solar heat stored in sodium sulfate at the 91 ° F Phase Change Temperature and a 5° Delta T for heat exchangers. The 75° C is based on 24/7 using heat stored in a non-convective solar pond and a 10° Delta T for the heat exchangers. These and other well known methods for recovery of ammonium allow removal of essentially all of the sodium with a minimum of ammonium retained in the recycled irrigation drainage (when fertilization is needed least). The same methods are used to recycle ammonium from spent regeneration brine.

Note: The remainder of this submittal contains material that does not comment on the Draft EIS and therefore requires no response from Reclamation. Because it is not comment material, it is not included in the Final EIS, but it will be included in the administrative record for this project and is available upon request.

RESPONSES TO COMMENT O-11

O-11-1

Previous geologic, hydrologic, and water-quality investigations indicate that historical irrigation has impacted the upper 20 to 200 feet of the saturated groundwater zone. In California, water supply well construction specifications are governed by State, county, and local ordinances. The comment regarding recommended well construction specifications is noted.

The purpose of the drainage project is to manage the shallow water table, collect and dispose of shallow groundwater from the root zone, and ensure a long-term sustainable salt and water balance. In the drainage study area, withdrawal of the shallow, saline groundwater (20 to 50 feet below the water table) is typically achieved using subsurface tile drains, which are analogous to horizontal wells. Plans to reclaim deeper salt-affected groundwater are not included as part of the project purpose.

O-11-2 - 4

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

COMMENT O-12. TAXPAYERS FOR COMMON SENSE, STEVE ELLIS



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

August 4, 2005

Dear Ms. Jacquemin,

On behalf of Taxpayers for Common Sense, a national non-profit budget watchdog, I am writing to comment on the Bureau of Reclamation's Draft Environmental Impact Statement for the San Luis Drainage Feature Re-evaluation. TCS strongly urges the Bureau to require the farmers of Westlands and other irrigation districts of the San Joaquin Valley to shoulder the cost of dealing with the drainage problem, rather than forcing this cost onto federal taxpayers.

O-12-1

Westlands has already been given significant subsidies, both to irrigate and drain its land. Much of the cost to irrigators was transferred to federal taxpayers by claiming "wildlife preservation" benefits, before the bird deformities at Kesterson were discovered. Together, the non-reimbursable cost paid by the federal government of bringing the water to and from Westlands has cost federal taxpayers \$750 million.¹ Federal taxpayers should not be forced to cover the costs that should be rightfully paid by the wealthy agribusinesses of the Westlands district to retire land that never should have been irrigated in the first place.

We understand that the Bureau has an obligation from the 9th Circuit Court of Appeals to provide drainage for this area, but the solution should not come entirely at taxpayer expense. The Bureau has put forth several possible alternatives for solving the drainage problem and reducing toxic selenium contamination. The Bureau has indicated in the DEIS that its preferred alternative will likely involve in-valley drainwater storage and land retirement. We believe strongly that the bulk of the cost of land retirement should be borne by the local governments and the irrigation districts. The Bureau would not have been forced into the position of providing drainage to this area if the Westlands Water District had not insisted on bringing lands into production that were known in advance to have a serious drainage problem.

Indeed, the 9th Circuit Court's ruling did not absolve Westlands of its responsibility to solve its own drainage problems. In 1985, Westlands signed an agreement promising to

¹ Dr. E. Phillip LeVeen, "Kesterson as a Turning Point for Irrigated Agriculture." Proceedings of the Second Selenium Symposium. Berkeley, CA. March 23, 1985.

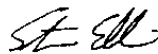
Private Organizations and Businesses Comments and Responses

take the lead in finding drainage solutions. Westlands should follow through with this commitment, instead of receiving further subsidies from the Bureau of Reclamation and federal taxpayers.

- O-12-2 In addition, we are concerned that the DEIS does not address the alternative presented in the "Drainage Without a Drain" report.² This report details a proposal for handling the selenium problem using only improved irrigation efficiency, drainwater reuse, and land retirement. This avoids the need to build evaporation ponds, which would result in enormous costs down the road. All of the in-valley alternatives would require construction of evaporation ponds, which in total acreage would be comparable in size to Kesterson Reservoir. The concentration of selenium in the water entering these ponds, 10 ppb, is higher than levels that have been known to be harmful. TCS strongly believes that the Bureau should investigate drainage alternatives that do not involve evaporation basins. Otherwise, we believe that the in-valley drainage alternatives are likely to result in another Kesterson situation, and taxpayers will be faced with the expense of both cleaning up that site and finding yet another drainage option.
- O-12-3
- O-12-4 Moreover, the Bureau is also engaged in a water contract renewal with the Westlands Irrigation District. However, under the DEIS proposed alternatives, up to almost half of the Westlands could be retired from production. If the Bureau adopts an alternative that involves retiring Westlands land, then the amount of water promised in the Westlands contract should be proportionately reduced. Otherwise the Bureau will be promising much more water than is actually required to irrigate Westlands, allowing the district to escape from the tiered pricing scheme of the Central Valley Project Improvement Act, which was designed to reduce federal taxpayer-financed water subsidies and institute a fairer system of water pricing. Further, allowing Westlands to retain these water rights will only perpetuate current drainage problems in other areas and provide an opportunity for the District to sell its excess water at inflated prices to other users.

Again, Taxpayers for Common Sense strongly urges the Bureau to investigate alternatives that do not involve evaporation ponds and to require irrigators to pay for the cost of the alternative adopted.

Sincerely,



Steve Ellis
Vice President of Programs

² The Bay Institute, Contra Costa County, Contra Costa County Water Agency, Contra Costa Water District, Environmental Defense, "Drainage Without a Drain: Toward a Permanent, Responsible Solution to the Agricultural Drainage Problem in the San Joaquin Valley", 2003.

RESPONSES TO COMMENT O-12

O-12-1

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

O-12-2

The In-Valley Alternatives incorporate features of the report "Drainage Without a Drain" to contribute to a complete drainage solution.

O-12-3

The comment states that Reclamation should investigate In-Valley Alternatives that do not involve evaporation basins. Evaporation basins were selected as the best available disposal option for these alternatives. See Master Response ALT-T1.

O-12-4

See Master Response GEN-2 in regard to use of excess water under the Land Retirement Alternatives.

Private Organizations and Businesses Comments and Responses

COMMENT O-13. THE OCEAN CONSERVANCY, KAITILIN GAFFNEY

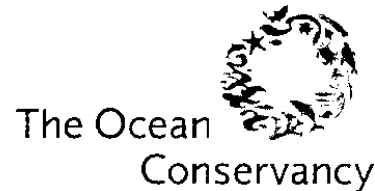
Advocates for Wild, Healthy Oceans

55 C Municipal Wharf
Santa Cruz, CA 95060
831.425.1363 Telephone
831.425.5694 Facsimile
www.oceanconservancy.org

Formerly the Center for
Marine Conservation

August 23, 2005

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



Re: San Luis Drainage Feature Re-evaluation Draft Environmental Impact Report

Dear Ms. Jacquemin,

Please accept the following comments regarding San Luis Drainage Feature Re-evaluation Draft Environmental Impact Statement (DEIS) on behalf of The Ocean Conservancy and our more than 25,000 California members. We strongly oppose the Ocean Disposal alternative in the San Luis Drainage DEIS and urge the Bureau to implement an "in-Valley" alternative that addresses pollution at its source through land retirement and drainwater reduction strategies.

O-13-1

The Ocean Conservancy is extremely familiar with the many problems associated with contaminated agricultural runoff. We have worked on this issue at both the state level, and on the Central Coast, for many years. Our organization recognizes the severe problems to birds and wildlife caused by toxic selenium at the Kesterson Wildlife Refuge. However, we believe the appropriate method of addressing agricultural contamination is source reduction, and not attempts to export contaminated pollution to other areas. We are particularly opposed to proposals to increase harmful discharges to the sensitive coastal environment. The Central Coast of California is recognized as globally important for biodiversity because of its high productivity and the large number of species of fish, invertebrates, sea turtles, birds and marine mammals it supports. Any proposal to discharge to the Central Coast large volumes of severely contaminated agricultural wastewater known to have caused deformities and fatalities in wildlife should not be considered a viable alternative for the purposes of environmental review.

The Ocean Conservancy recommends the following specific changes to the DEIS to ensure compliance with the National Environmental Policy Act:

O-13-2

- Identification of an in-Valley alternative that relies on land retirement and drainwater reduction as the "preferred alternative".

Private Organizations and Businesses Comments and Responses

The Ocean Conservancy
August 23, 2005
Page 2

- O-13-3
- Identification of impacts to the living resources of the Morro Bay National Estuarine Research Reserve and the Monterey Bay National Marine Sanctuary as "potentially significant". The Monterey Bay National Marine Sanctuary has permit authority over discharges outside Sanctuary boundaries of "any material or other matter that subsequently enters the Sanctuary and injures a Sanctuary resource or quality." 15 CFR §§ 944.5(a)(3), 944.5(e). The Monterey Bay National Marine Sanctuary Advisory Council, which advises the Sanctuary Superintendent, has voiced "strong and serious concerns" about the project. The EIS must examine the potential need for a permit from the MBNMS and the likelihood of obtaining one.
- O-13-4
- Inclusion of an analysis of the costs of pre-treating the discharge in the Ocean Disposal Alternative. Given the severity of contamination associated with this wastewater, there should be no assumption that the contaminated drainwater could be discharged to the ocean without significant pre-treatment to remove pollutants.
- O-13-5
- Identification of the full range of contaminants likely to be contained in the discharge (pesticides, fungicides, herbicides, nutrients and metals), their potential concentrations, and an analysis of their potential impacts including mass loading events and any synergistic effects. We believe that such analysis would clearly demonstrate that the Ocean Disposal Alternative is inconsistent with the California Ocean Plan and the Water Quality Control Plan for Region Three of the California State Water Board.
- O-13-6
- The DEIS must include a more detailed and specific analysis of the potential cumulative effects of the Ocean Discharge Alternative in terms of existing and potential pollutant sources in the area.
- O-13-7
- Detailed analysis of potential bioaccumulation of selenium (and any other contaminants contained in the discharge) in fish, invertebrates, birds and marine mammals. Southern sea otters should be given particular attention given their status as "threatened" and their known vulnerability to pollutants.
- O-13-8
- Finally, The Ocean Conservancy participated in the Central Coast Regional Water Quality Control Board's effort to adopt a new conditional waiver of waste discharge requirements for irrigated agriculture. This effort resulted in unanimous adoption of a program that requires Central Coast farmers to take significant steps to address farm runoff. Given the Central Coast farmers' recent commitment to reducing agricultural pollution from their farms in this area, any proposal to export contaminated agricultural wastewater from outside the region into this sensitive coastal area is particularly egregious.

Thank you for your consideration of our comments.

Kaitilin Gaffney
Central Coast Program Manager

RESPONSES TO COMMENT O-13

O-13-1, 2

Comment noted. No response necessary.

O-13-3

See Master Responses REG-1 in regard to obtaining the necessary permits for the Ocean Disposal Alternative and GEN-1 in regard to the level of detail of the EIS analysis.

O-13-4

See Master Response SW-6 in regard to the need for Se removal for Ocean Disposal Alternative discharges.

O-13-5

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

O-13-6

See Master Responses CUM-1, SW-8, SW-13, SW-9, SE-1, and SW-12 in regard to cumulative effects of existing and potential pollutant sources in the area.

O-13-7

See Master Responses SW-8, SE-1, and SW-12.

O-13-8

Comment noted. No response necessary.

COMMENT O-14. FRIENDS OF THE ELEPHANT SEAL, ANN E. GROSSMAN

Friends of the Elephant Seal
P.O. Box 490
Cambria, CA 93428
(805) 924-1628



200 — ajl/8-25-05

August 22, 2005

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

RE: San Luis Unit of the Central Valley Project Public Comment on the Draft EIS

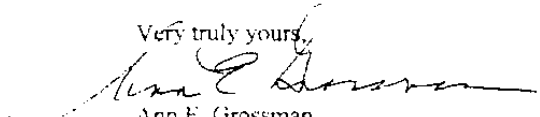
Dear Ms. Jacquemin,

At the August 5, 2005 meeting of the Monterey Bay National Marine Sanctuary Advisory Council, I learned of a plan proposed by the Bureau of Reclamation to discharge agricultural drainage from the San Luis Unit of the Central Valley Project into Estero Bay at a site 13 miles south the Sanctuary's southern boundary. Those in attendance heard public comment from a federal congressional representative, county supervisor, estuary director and general public members all of whom expressed deep concern for the ecological impacts of the ocean discharge. SAC members also expressed concern for the potential ecological impacts based on their knowledge and expertise of ocean health and water quality issues.

As President of *Friends of the Elephant Seal*, a central coast non-profit dedicated to educating people about elephant seals and other marine life and to teaching stewardship for the ocean off the central coast of California, I felt the need to bring this to the attention of our Board of Directors. The *Friends of the Elephant Seal* agreed to voice their strong and serious concern about the proposal to discharge these wastes into the ocean. Specifically, we wish to convey the following concerns:

- | | |
|--------|---|
| O-14-1 | • The export of historically retained agricultural runoff from one water basin to another is inconsistent with the obligation of regional responsibility imposed on agriculture by the California State Water Quality Control Board. The adverse impact of accumulated selenium, known for its toxicity to wildlife, as well as other possible agricultural runoff, poses a threat to the marine environment. |
| O-14-2 | • The population growth of the Southern Sea Otter, a threatened species under the Endangered Species Act, is sluggish and uncertain; due in large measure to elevated mortality. Contaminants and disease contribute significantly to this mortality. |
| O-14-3 | • Nutrient loading is known to lead to locally enhanced primary productivity that can lead to hypoxic conditions in the vicinity of the effluent. Contaminants in this effluent can be bioaccumulated in the marine food chain and be transferred to |
- ENQ: [signature]
8/23/05

- O-14-3** migrating marine mammals, birds and fish impacting marine ecosystems far beyond
cont. the point of discharge.
- The central coast agricultural community has demonstrated their very strong commitment to maintaining and improving water quality in nearshore marine ecosystems. The proposed discharge could overwhelm and undo the very positive outcomes of this partnership.
- O-14-4**
- O-14-5** In conclusion, we wish to express our strong and serious concerns over the potential impacts this project will likely have over the Central Coast waters and marine resources far beyond the point of discharge.
- O-14-6** We request an extension of time to make further public comment on this project. We strongly encourage the Bureau of Reclamation to fully evaluate the potential impacts from ocean discharge of this drainage. We also encourage you to explore alternatives to ocean discharge of the San Luis Unit of the Central Valley Project drainage.
- O-14-7**

Very truly yours,

Ann E. Grossman
President of Friends of the Elephant Seal

RESPONSES TO COMMENT O-14

O-14-1

Comment noted. No response necessary.

O-14-2

See Master Responses SW-8, SE-1, and SW-12 for discussion of the effects of Ocean Disposal Alternative discharge on near-field water quality, bioaccumulation, and special-status species.

O-14-3

See Master Responses SW-8, SW-13, SW-11, and SE-1 in regard to the effects of Ocean Disposal Alternative discharge on water quality in Estero Bay, nutrient levels, and bioaccumulation in marine life.

O-14-4

The comment is noted. No water quality changes are expected to result from the Ocean Disposal Alternative that would affect agricultural discharge requirements for Central Coast farmers. See Master Response AG-1 for additional discussion.

O-14-5

See Master Responses SW-8, SW-13, SW-11, SW-9, SE-1, and SW-10.

O-14-6

See Master Response GEN-4.

O-14-7

See Master Responses SW-8, SE-1, and SW-9 in regard to the effects of the Ocean Disposal Alternative on the discharge vicinity and the potential for bioaccumulation and ecotoxicity effects.

O-14-8

Comment noted. No response necessary.

COMMENT O-15

Note: This comment was reassigned as Comment L-26. See Appendix P5.

COMMENT O-16.

North Coast Advisory Council
P. O. Box 533
Cambria, CA 93428

August 29, 2005

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

[illegible]

RE: San Luis Drainage Re-evaluation Draft

Dear Ms. Jacquemin;

The North Coast Advisory Council is a group of elected people representing the communities of northwestern San Luis Obispo County. The council advises our County Supervisor Shirley Bianchi, the Board of Supervisors and other public agencies on issues that affect our community. Our primary duties are advising on Land Use issues.

O-16-1

The North Coast Advisory Council voted unanimously at this month's meeting to file a formal complaint against the dumping of contaminated irrigation tail waters into the very delicate Estero Bay ecosystem. The North Coast Advisory Council joins the San Luis Obispo County and its' Board of Supervisors protesting the dumping of agricultural wastewater from the San Joaquin Valley into our coastal waters.

The project threatens our exemplary coastline and marine life. They are the pride and joy of the Central Coast residents, as well as, all of California. People come from all over the world to visit our pristine coast. The tourism industry is the economic mainstay of our coastal communities from Morro Bay to San Simeon.

O-16-2

Sufficient research has not been done to protect the marine wildlife and the local marine industries.

O-16-3

Creating a 200-mile pipeline across coastal foothills to dump into a pristine bay is not reasonable.

A problem created in the valley must be resolved there.

Sincerely,

Caree Bloodmunt

Carol Broadhurst, Corresponding Secretary

Cc: Shirley Bianchi, County Supervisor
Board of Supervisors
Diane Feinstein, Senator
Barbara Boxer, Senator
Congressman Bill Thomas
Congresswoman Lois Capps
Congressman Jim Costa
Assemblyman Sam Blakeslee
Anne Wyatt, NCAC Chair
Mark DiMaggio, NCAC Environmental Representative
Teresa Campbell, NCAC Environmental Representative, Alternate

Classification E X A M P L E
Project
Accession No. 61-3-50
Date

RESPONSES TO COMMENT O-16

O-16-1

Comment noted. No response necessary.

O-16-2

The comment states that insufficient research has been conducted to ensure protection of the local marine wildlife if the Ocean Disposal Alternative were selected. The Final EIS has been revised to include expanded analysis of the potential for impacts to aquatic resources as a result of the Ocean Disposal Alternative. Reclamation has performed a reasonable level of research as required by NEPA in conducting the additional analysis. Results of the expanded analysis indicated impacts to ocean resources would not be significant. Also see Master Responses SW-8, SE-1, SW-9, and SW-12.

O-16-3

See Response to Comment O-16-2 and Master Response SW-10.

Private Organizations and Businesses Comments and Responses

COMMENT O-17. GREENSPACE, RICHARD HAWLEY



Claire Jacquemin
U.S. Bureau of Reclamation, Mid-Pacific Region
2800 Cottage Way, MP-720, Room W-2830
Sacramento, California 95825

By FAX 916-978-874

August 30, 2005

Dear M/s Jacquemin:

- Greenspace-the Cambria Land Trust opposes the dumping of selenium tainted waste into the Pacific Ocean near Cayucos and Morro Bay from the San Luis Drainage as outlined in the Draft EIS. There are numerous reasons why this scheme is fraught with legal issues but foremost is the fact that the DEIS is woefully inadequate and fails to address the California Coastal Act, the County of San Luis Obispo's General Plan and Title 8 of the County of San Luis Obispo's Health and Safety Code and violates the United States Clean Water Act. Further the Public Trust Doctrine guarantees that coastal resources will not be used for such short-sighted schemes and irresponsible acts such as dreamed up in the Ocean Disposal Alternative. It poses a threat to the endangered steelhead run on Toro Creek, the genetic reproduction of the Sea Otter and other marine mammals and fishes and a threat to the Morro Bay Estuary.

Using the Pacific Ocean as a dumping ground for tainted water that was caused by careless planning in other watersheds does not solve the basic problem of the need to deal with a closed water system created by agencies of the U.S. Government. It merely passes it on to others in less populated areas thereby creating a social justice issue.

- O-17-3 The contaminants in the tainted waste water likely have not been fully identified and likely are cancer causing elements threatening human life for residents and visitors. The visitor-serving economy of the area would certainly suffer huge financial losses creating hundreds of law suits.
- O-17-4
- O-17-5 The Ocean Disposal Alternative must be eliminated. Your pollution needs to be fixed locally and dealt with locally. A desal plant located at the source of the pollution may be your best alternative. Reusing the reclaimed water on fiber production and disposing of the toxic effluent at a certified toxic land fill is the best alternative I can see to your problem.
- O-17-6

Thank you for the opportunity to make comments on this issue.

Best regards,

RICHARD HAWLEY
EXECUTIVE DIRECTOR



PO Box 1305
Cambria, CA 93423
305.927.2866 (v)
805.927.7535 (f)
rick@greenspacecambria.org
www.greenspacecambria.org

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RESPONSES TO COMMENT O-17

O-17-1

Regulatory and compliance requirements are summarized in Section 4 and discussed in detail in Appendix L. The Draft EIS did not specifically include the San Luis Obispo General Plan and certain other local plans and programs in the discussion of regulatory compliance since Federal jurisdiction overrides local land use planning, but as stated in Section 4 of the Final EIS,

Reclamation will coordinate with State, regional, and local agencies to ensure consistency with relevant regulations, plans, and policies. As discussed in Appendix L, the proposed project would need to comply with numerous CWA provisions.

O-17-2

See Master Responses SW-8, SE-1, and SW-12.

O-17-3

See Master Responses SW-8, SW-13, SE-1, and SW-10.

O-17-4

Note that the Draft EIS analysis did not indicate a significant impact to tourism from the Ocean Disposal Alternative; therefore, no economic impact is expected. See Master Response SW-10.

O-17-5, 6

Comment noted. No response necessary.

COMMENT O-18. MONTEREY BAY AQUARIUM, MICHAEL SUTTON



August 30, 2005

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

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

Dear Ms. Jacquemin:

- O-18-1 Thank you for the extended opportunity to comment on the San Luis Drainage Feature Re-Evaluation Draft Environmental Impact Statement (EIS). Agricultural drainage discharge from the San Luis Unit would pose significant harm to central California's nearshore marine ecosystem, including its resident population of southern sea otters, *Enhydra lutris nereis*, which is listed as "threatened" under the Endangered Species Act. The discharge of potentially hazardous effluent into the marine environment is also inconsistent with the mandate in the California Ocean Protection Act to protect and conserve the state's ocean resources, which are critical to the state's environmental and economic security, and integral to the states' high quality of life and culture. For these reasons, the Monterey Bay Aquarium strongly recommends that the Bureau of Reclamation reject the ocean discharge alternative included in the Draft EIS.
- O-18-2
- O-18-3

- O-18-4 The ocean discharge alternative would release as much as 18 million gallons of contaminated effluent per day into Estero Bay, adding to the 530 million gallons per day currently flowing into these waters from the Duke Energy power plant, mariculture operations, and the Morro Bay/Cayucos wastewater treatment plants. Of special concern are the high concentrations of nitrate, sulfate, boron, strontium, selenium, arsenic, lead, and mercury in the discharge. Elevated nitrate levels in particular contribute to harmful phytoplankton blooms, and the bioaccumulation of each of these contaminants in the marine food webs causes negative impacts throughout areas far beyond the point source. Drainage from the San Luis Unit also contains the chlorinated pesticide porpyrifos and the chlorophosphate diazinon, known to be highly toxic to birds and mammals. The potential impacts of these chemicals are not addressed in the Draft EIS.

Populations of many marine animals are already under great stress from land-based pollutants. For example, 10 percent of southern sea otter deaths (reported between 1992 and 2002) are caused by land-borne pathogens and contaminants. Increasing the amount of contaminated effluent into this fragile marine ecosystem would further degrade coastal water quality and increase the risk to marine life. Therefore, we strongly recommend that you reject the ocean discharge alternative in the Draft EIS.

Sincerely,

Michael Sutton
Vice President

RESPONSES TO COMMENT O-18

O-18-1

See Master Responses SW-8, SE-1, and SW-12.

O-18-2

Construction and operation of the Ocean Disposal Alternative would be subject to a variety of regulatory compliance actions, as stated in Section 4. See Master Response REG-1 for additional discussion of regulatory compliance for the Ocean Disposal Alternative.

O-18-3

Comment noted. No response necessary.

O-18-4

See Master Responses SW-8, SW-13, and SW-9.

COMMENT O-19. PASOWATCH, SUSAN HARVEY



FAX TO: Ms. Claire Jacquemin
FAX NUMBER: 916-978-5094
NO. OF PAGES: 1

FROM: Susan Harvey, President
FAX NUMBER: 805-238-3047
VOICE: 805-239-0542

August 30, 2005

Dear Ms. Jacquemin,

PasoWatch opposes any consideration of an Ocean Disposal alternative for the San Luis Drainage selenium tainted water.

O-19-1

PasoWatch requests that you permanently remove the Ocean Disposal option from the list of alternatives. Contaminated water must be dealt with in the watershed in which it is produced. The Draft EIS does not address the potential impacts associated with the Ocean Disposal Alternative. While generally, the claims made that the Ocean Alternative has a low possibility of being chosen may have led to a minimal investment in studying the issue, this is faulty reasoning and an unwise economy. The public and decision makers are left without sufficient information on which to base a sound decision regarding the Ocean Alternative. Without a complete analysis of the Ocean Alternative, the legal grounds for a decision for this option would seem fragile at best. If the ocean alternative is to remain, a complete and realistic assessment must be completed addressing: the impacts on Marine habitat, impacts on wildlife and habitat of the specific pipeline corridor; impacts of accidental leaks— detection and recovery plans; and issues of eminent domain that may arise.

O-19-2

The County of San Luis Obispo recently completed the EIR for a proposed Nacimiento Water Pipeline for the North half of the County. The first Draft EIR thoroughly and accurately described the pipeline route. The siting of the original pipeline route raised so many questions and objections, that a revised Draft EIR was undertaken with full analysis and disclosure of an alternate route. The publishing of the Revised Draft EIR allowed for a second comment period before a Final EIR was published. The length and detail of the EIR process reflected the complexity and importance of the project. The Final EIR was a massive document, costing hundreds of thousands of dollars and years of preparation and containing nothing approaching the non-quantifiable environmental questions that an ocean outfall would trigger. The cost for the Nacimiento pipeline will be in the tens of millions of dollars for a considerably less controversial and shorter pipeline. To properly and completely address the issues of an Ocean Alternative would require even greater study and cost. The residents of San Luis Obispo County are unlikely to settle for a less than thorough analysis of the project. Remove the Ocean Alternative from consideration.

Respectfully,

Susan Harvey, President
P.O. Box 240
Creston, CA 93432

RESPONSES TO COMMENT O-19

O-19-1

If the Ocean Disposal Alternative were advanced for further consideration, the issues identified in the comment would be addressed in later design phases.

O-19-2

Comment noted. No response necessary.

COMMENT O-20. ENVIRONMENTAL CENTER OF SAN LUIS OBISPO COUNTY, TIM LASALLE

From: Timothy LaSalle <tim.lasalle@gmail.com>
To: <cjacquemin@mp.usbr.gov>
Date: 8/30/2005 11:19 AM
Subject: selenium dumping

I am writing to strongly oppose any consideration of dumping these contaminated farm run - off waters into the ocean, here on the Central Coast or into any body of water that will eventually find its way into the sea.

O-20-1 Remember please, when it comes to wastes, especially toxic wastes, there is no away in trying to dispose of it. The ecological damage will continue, only out of some people's site to be seen and experienced by others. In this case by other species and potentially fishermen.

No to Central Coast dumping!

Tim LaSalle
Interim Executive Director
Environmental Center of San Luis Obispo County

RESPONSES TO COMMENT O-20

O-20-1

Comment noted. No response necessary.

COMMENT O-21. THE OTTER PROJECT, LEAH ROSE



The Otter Project
www.otterproject.org

150 ← 9/21/9-30-05

August 24, 2005

Ms. Claire Jacquemin
Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825
FAX: (916) 978-5094
Email: cjacquemin@mp.usbr.gov

MP

RE: San Luis Unit of the Central Valley Project
Public Comment on the Draft EIS

Dear Ms. Jacquemin,

O-21-1 [The Otter Project appreciates this opportunity to comment on the Draft EIS for the San Luis Drainage Feature Re-evaluation. We oppose the Ocean Disposal Alternative, which proposes to discharge the reused drainwater into the Pacific Ocean at Point Estero. Point Estero lies in habitat range of the California sea otter, and dumping the drainwater in the ocean could pose a fatal threat to sea otters.

O-21-2 [The Ocean Disposal Alternative will release concentrated amounts of selenium and a myriad of pesticides and other pollutants into the marine environment. As we learned from the Kesterman Reservoir, selenium is an element known to bioaccumulate and is toxic in wildlife. Fish and birds exposed to small quantities of selenium experience developmental and genetic disorders, and selenium is also of great concern because it can bioaccumulate in high concentrations in food resources that are eaten by animals and people¹. Marine mammals, such as the sea otter, are the top predators of the marine food web and therefore the most susceptible. While there is no research on the effects of selenium on sea otters, there is plenty of research pointing to pollutants in the water as causing immune suppression and ultimately death in sea otters.

Sea otters are highly vulnerable to the contaminants already introduced to the ocean. Current trends show that the sea otter population is growing sluggishly, if at all. This is due to increased mortality as evidenced by an alarming number of prime-age and juvenile sea otters washing up on shore each year. A significant proportion of these deaths are attributed to the high level of contaminants already in the ocean and the consequent infectious diseases². High levels of pathogens and contaminants in the ocean weaken the sea otter's immune system, making them more susceptible to disease and death. Sea otters are a non-migratory species with a limited habitat range, and therefore known as an 'indicator' species. Their current mortality patterns indicate to us that the ocean is already excessively polluted.

¹ Sustainable Economic Development. Plan for Taiwan County Coastal Area, Taiwan: Center for Safe Energy.

² Nakata, H. et al. 1998. Accumulation pattern of organochlorine pesticides and polychlorinated biphenyls in southern sea otters (*Enhydra lutris*) found stranded along coastal California, USA. Environmental Pollution 103:45-53

The Otter Project, Inc.

A Nonprofit Organization

O-21-3

The sea otter is a federally protected species, listed as 'threatened' under the Endangered Species Act. If adopted, the Ocean Disposal Alternative will require a Section 7 consultation with the US Fish and Wildlife Service (FWS). Before this alternative could proceed, the FWS would look to the best available science to analyze the effects the proposed action would have on the sea otter. Given the amount of contaminants found in drainwater, it is unlikely that the FWS will recommend moving forward with this alternative because of the adverse effects it could have on the sea otter.

Thank you again for this chance to comment on the Draft EIS for the San Luis Drainage Feature Re-evaluation.

Sincerely,



Leah Rose
Policy Manager
The Otter Project

RESPONSES TO COMMENT O-21

O-21-1

Comment noted. No response necessary.

O-21-2

See Master Responses SW-8, SE-1, and SW-9 in regard to Se in drainwater discharged under the Ocean Disposal. Master Response SW-13 discusses other constituents in the drainwater.

O-21-3

See Master Responses SW-8, SE-1, and SW-12.

COMMENT O-22. SUPERIOR SALT, INC. (2 OF 2), GERALD J. GROTT

Superior Salt, Inc.

5076 Lelia Lane
Twentynine Palms, CA 92277
Phone (760) 361-1640
Fax (760) 361-0944

September 1, 2005

Fax No. 916-978-5114

To: Attention MP 100

Bureau of Reclamation

2800 Cottage Way

Sacramento, CA 95623

From: Gerald J. Grott, President, Superior Salt, Inc.

Attached are Additional comments regarding San Luis Drainage Program Re-evaluation---Draft Environmental Impact Statement

This information is a follow-up on the information sent by Fedex and a correcting fax on August 1, 2005.

The proposed strategy for Sustainable Irrigated Agriculture in the San Joaquin Valley is based on recycling drainage collected from a first use, along with groundwater as necessary for a second use on a crop more tolerant to salinity, such as cotton.

Drainage that becomes too salty for recycling to irrigation will be evaporated and the mixed salts are to be sent to solid waste disposal.

- O-22-1 [!--Assuming that the evaporation is ecologically feasible, the proposal for sending the mixed salts to waste ignores the current state of the art for recycling salts.
- O-22-2 [Based on published analysis of the drainage, disposal of the entire mass of mixed salts is more costly than recovery for recycling.
See U S Patent No. 5, 300,123. This process was developed specifically to meet the need for recycling.
- O-22-3 [It was developed following our sale of the world's first, and only, recycling facility for recycling unsaleable solid salts. We were just getting going good and selling 10 % of all of California's commercial sodium chloride when Cargill Salt Company bought the property from we were getting the salt and doing the processing so that we could not renew our lease
But we found other waste salt and were producing at the new location when Morton Salt offered merger. We merged (1985) and Morton closed that facility and that was the end of the first ever salts recycling facility.
- O-22-4 [2--There is no technical reason for future irrigation drainage ever going to waste as such.
There will always be some side streams containing trace elements like boron, molybdenum, and selenium but a very high percentage of the water content will be recycled for irrigation and /or dust control.

- Ways and means
 The maximum amount of Project Water that farmers in the San Luis Unit hope to get is 2 acre foot/acre /year.
 Sodium in amounts equivalent to the excess sodium in 2 acre feet/acre per year can be removed from the first drainage simply by ion exchange with hydrogen (sulfuric acid), calcium, magnesium, and ammonia and ammonium fertilizers when used in quantities for optimum yields of high value crops.
- Removal of sodium from that first drainage using these cations found in soil amendments and fertilizers in common use, and using ammonium hydroxide for at least an equivalent reduction of chloride and sulfate anions, makes the recycled drainage more valuable for irrigation than the Project Water.
- O-22-5 The required calcium and magnesium can be recycled from present drainage in areas of high-water tables.
- The End of Drainage Disposal from Future Irrigation**
 In recycling this "first" irrigation drainage, great improvement can be made by separation of sodium salts for sale while using separated calcium and/or magnesium to tailor recycled "first drainage" and/or brackish groundwater to the optimum analysis for maintaining soil tilth and crop yield.
- The Accumulation of Drainage in the San Joaquin Valley is a valuable resource.**
We must use that resource to best economic advantage.
- The calcium recycled from that drainage can replace the gross use of gypsum now contributing a great amount of salinity to soil moisture.**
- The following example gives real numbers for zero additions to salinity when combating excess sodium.**

Private Organizations and Businesses Comments and Responses

Changing SAR With No Addition to TDS

Reduce the sodium in brackish water (or recycled irrigation drainage) before applying the water to the fields. We use ion exchange with elements in fertilizers and materials now commonly used as soil amendments..

Example- This test particular is about changing Coal Bed Methane Water from Hazardous Waste to Usable Water.

This is part of information soon to be presented to legislators from states with CBM production.

The procedure is applicable to most brackish groundwater.

This particular sample was used in screening tests because it is handy and plentiful; all of the ground water in the valley where we have out base salt operation is brackish at 1100-2000 ppm TDS.

Analysis of the Well Water as used in the tests; analysis report attached.

Na in meq = $700/22.99 = 30.44$ meq/l

(Ca + Mg) = $(50/40.08) = 1.248$ $1,248/2 = .624$

Sq. root of 0.624 = 0.79

SAR = $30.44 / 0.79 = 38.53$

Actual results from sodium reduction and calcium increase by ion exchange are shown in analysis report attached.

After ion exchange "Water Hardening"™.

Na in meq = $380/22.99 = 16.52$ meq/l.

(Ca - Mg) = $410/40.08 = 10.229$. $10.229/2 = 5.11$; sq root of 5.11= 2.261

SAR = $16.52/ 2.261 = 7.31$

Using Calcium Sulfate content of Gypsum

For SAR = 7.31 as with using ion exchange ; the square root of denominator must equal $30.44/7.31 = 4.16$

4.16 squared = $17.31 = (Ca+Mg)/2$. ; (Ca + Mg) = $17.31 \times 2 = 34.61$, an increase of $(34.61 - 1.2480) = 33.36$ meq/l.

The meq for calcium sulfate is 135.08

To effect the change of the SAR to 7.8 will require

$(33.36 \times 126.08) = 4206$ ppm CaSO₄. [1ppm = 2.71 #/acre foot of water]

This equates to 11398 # calcium sulfate /acre foot of irrigation water used.

This addition raises the TDS from 1904 ppm to 6110 ppm TDS.

Water at 6110 ppm TDS is too salty for most uses by plants and animals and most fresh water fish. Food fish like Tilapia that do thrive at this salinity do not survive at water temperatures below 40 °F.

This is why gas producers pay such high costs for disposal wells.

Preliminary estimates indicate a strong possibility for recovering the water at less cost than for injection disposal.

Water for Livestock

Table 1. Livestock water consumption for various animals. (University of Virginia)

Livestock	Avg. Consumption (gal/day)	Hot Weather (gal/day)
Milking cow	20-25	25-40
Dry cow	10-15	20-25
Calves	4-5	9-10
Beef	8-12	20-25
Sheep	2-3	3-4
Horse	8-12	20-25

Supplying salt needs via drinking water has been as effective as when supplying salt as blocks or in feed mixes.

But there is a limit.

The common practice of limiting range cattle consumption of protein concentrate by mixing in sodium chloride is based on experience that a range animal will, on the average, quit eating the concentrate when the animal has eaten about ¼ # of sodium chloride.

At the 25 gallon /day level of water intake , about 208 #, the 0.25 # of sodium chloride equates to 1 part in about 832 parts of water= 1202 ppm. Calculated in this manner, the limit for sodium chloride in the drinking water is 1202/ 59.44 (NaCl Meq/l) = 20.22 meq or 465 ppm Sodium.

This water, after hardening, contains 380 ppm Sodium, or 16.52 meq which is 82 % of the calculated limit for sodium chloride.

There is the added advantage of the calcium as mineral supplement.

Additionally, this "Hardened Water is not as rich in calcium and magnesium as is cows milk but there is enough to be of value.

A comparison with the salinity of "cows milk" explains why.

Private Organizations and Businesses Comments and Responses

----- Univ. of Illinois-----.

Mineral Secretion in Milk

Average concentrations for milk salt constituents in whole milk

Constituent	mg/100ml milk
Calcium (Ca)	123
Phosphorous (P)	95
Magnesium (Mg)	12
Potassium (K)	141
Sodium (Na)	58
Chlorine (Cl)	119
Sulfur (S)	30
Citric acid	160

To convert (mg/100 ml) to mg/l multiply (mg/100 ml) X 10

Calcium in milk (1230 mg/l) vs. 530 in hardened water

Magnesium in milk (120 mg/l), versus 1.4 mg/l in hardened water

Sodium (580 mg/l) in milk versus 380 mg/l in hardened water.-----

As evaporation of the water increases the salts content, we can simply use ion exchange to make the water good for irrigation of pasture for the cattle.

RESPONSES TO COMMENT O-22

O-22-1 - 5

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

Private Organizations and Businesses Comments and Responses

COMMENT O-23. LOS OSOS COMMUNITY ADVISORY COUNCIL, CAROLE MAURER

LOCAC

Los Osos Community Advisory Council

August 26, 2005

5/2/850-05

COUNCIL
MEMBERS

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

DISTRICT ONE
Jim De Leo,
Treasurer
Sheri Lorton,
Secretary

Re: Draft EIS for San Luis Drainage Feature Re-evaluation

DISTRICT TWO
Carole Maurer,
Chairperson
Linda Owen

Dear Ms. Jacquemin:

This letter is in response to portions of the referenced document that would have a direct effect on the community of Los Osos.

DISTRICT THREE
Terry Benko
Mike Tott

Los Osos is located at the southern end of Estero Bay and Morro Bay and would therefore be subject to the effects of the Ocean Disposal alternative with drainage of contaminated waters into the Bay. We urge the Bureau to remove this alternative from the plan for the following reasons:

DISTRICT FOUR
William Martinko,
Vice Chair
Kend SwansonATTORNEYS
Carole Leslie
Richard Parker
John Perkins

O-23-1

O-23-2

O-23-3

O-23-4

O-23-5

O-23-6

1. Our relatively pristine coast harbors a wealth of shorebirds, migratory waterfowl and marine mammals. In addition, we enjoy a healthy and active sport and commercial fishing industry. A complete environmental assessment has not been conducted that looks specifically at the effect of untreated selenium-tainted water on the marine life of Estero Bay. The devastation of waterfowl at Kesterson showed the public the horrible effect of selenium on the environment. Combined with the pesticides and other pollutants in this toxic effluent, the likelihood of a similar disaster here in the Bay would be ever present.
2. Estero Bay is adjacent to the southern portion of the Monterey Bay National Marine Sanctuary. With no oceanographic study of the circulation of waters in the Bay it is unknown what effect the discharge might have on that Sanctuary.
3. Regardless of the specific route of the pipeline, it would have to cross through several major fault zones (including San Andreas) making the opportunity for a pipe rupture a potential threat. The resulting spill would cause irreparable damage to sensitive habitats.
4. Tourism is one of the main engines of the economy on the central coast. There are five state parks along the Estero Bay coast. Any ecological disaster would have a severe and long term negative impact on that industry and the residents who depend on the Bay for their livelihood.
5. As stated in the reference document, the Ocean Disposal alternative is the most expensive alternative method to dispose of the effluent. Since other alternatives are available it should not even be considered.

6-7-05
503-57
1012

LOCAC, P.O. Box 7170, Los Osos, CA 93437-7170
E-Mail: locac@lososslaywoodpark.org www.lososslaywoodpark.org/locac

Private Organizations and Businesses Comments and Responses

LOCAC

Los Osos Community Advisory Council

O-23-7 Based on the above reasons we believe that the Bureau should proceed with the anticipated preferred In Valley" alternative and eliminate the Ocean Disposal alternative

Sincerely,



Carole Maurer, Chairperson, LOCAC

CC: San Luis Obispo County Board of Supervisors
 Senator Dianne Feinstein, State of California
 Senator Barbara Boxer, State of California
 Congressman Bill Thomas, 22nd District
 Congresswoman Lois Capps, 23rd District
 Congressman Jim Costa, 20th District
 Senator Abel Maldonado, State Senator, 15th District
 Assemblyman Sam Blakeslee, State Assembly, 33rd District
 Charles Lester, Coastal Commission
 Cayucos Citizens Advisory Council
 Janice Peters, Mayor, Morro Bay and City Council
 LOCAC members

RESPONSES TO COMMENT O-23

O-23-1

Comment noted. No response necessary.

O-23-2

See Master Responses SW-8, SW-13, SW-9, SE-1, and SW-10.

O-23-3

An extensive 3-dimensional analysis of local ocean current dynamics was not conducted as part of the EIS, as it was Reclamation's judgment that this detailed level of analysis was not warranted (see Master Response GEN-1). However, it is important to note that a substantial quantity of ocean current data was collected and utilized in the EIS analysis, including data for different seasons. Temperature, salinity, and current velocity data were gathered from four sources to form the basis of the discharge diffusion analysis (see Section 5.2.2.1, page 5-52). These data indicated that currents in the vicinity of the proposed outfall location would afford substantial effluent dilution. Water quality impairment of the MBNMS is unlikely given its distance (10 miles) from the discharge site and the rapid dilution of effluent that occurs immediately after discharge into the ocean. Once discharged to the ocean, the agricultural drainwater would mix with and be diluted by ocean water. However, the diffuser design analysis

demonstrates 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 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 (e.g., MBNMS) dilution would reduce constituent concentrations to levels well below the water quality standard.

O-23-4

See Master Responses GEO-1, GEO-2, and GEN-3 for discussion of seismic activity in the project area and the potential for pipeline failure.

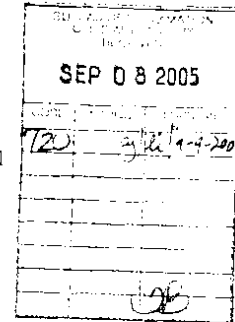
O-23-5 - 7

Comment noted. No response necessary.

COMMENT O-24. ENVIRONMENT IN THE PUBLIC INTEREST, GORDON R. HENSLEY



EPI-Center, 1013 Monterey Street, Suite 202, San Luis Obispo, CA 93401
Phone: 805-781-9932 • Fax: 805-781-9384



August 31, 2005

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

VIA FACSIMILE: 916-978-5094 (original follows via US Mail)

Subject: **Draft Environmental Impact Statement / San Luis Drainage Feature Re-evaluation**

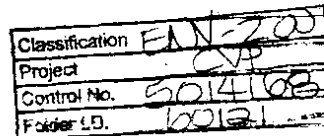
Dear Ms Jacquemin,

The San Luis Obispo Coastkeeper[®], a program of Environment in the Public Interest, is organized for the purpose of ensuring that public officials charged with responsibilities for water quality, watershed and land use planning, and environmental protection comply fully with sound planning principles and with all environmental and planning laws. In regard to the proposed BoR project, the SLO Coastkeeper and our supporters are especially concerned with the alternative outlining 70,000 acre/feet per year of drainage delivered by pipeline to San Luis Obispo County and discharge it to the Pacific Ocean at Estero Bay. We therefore wish to submit the following comments regarding the DEIS for the San Luis Drain Re-evaluation project.

A. DEIS Fails to Explore the Full Range of Alternatives.

O-24-1 [The DEIS Fails to identify a preferred alternative. Absent this information it is impossible for us to evaluate if the proposed project (especially the ocean discharge alternatives) are likely to fulfill the statutory mission, responsibilities, environmental, technical, environmental, or other conditions the Bureau must consider.

SLD Re-evaluation Program



Page 1 of 2

B. DEIS Fails to Demonstrate Compliance with Other Environmental Laws.

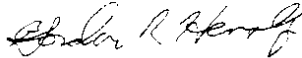
- O-24-2 1. The DEIS does not identify an agency-preferred alternative making a complete evaluation of consistency and compliance with other environmental laws impossible. The CEQ regulations provide that an EIS “shall identify the agency’s preferred alternative or alternatives, if one or more exists (40 C.F.R sec 1502.14(e)).
- O-24-3 2. The DEIS does not discuss proximity of ocean discharge to Morro Bay National Estuary, nor does it fully evaluate the risk to the resident communities of this nationally recognized estuary. The Morro Bay Estuary supports one of the most important wetland systems on California’s coast. Rich in natural diversity, Morro Bay sustains a wide variety of habitats as well as numerous sensitive and endangered species of plants and animals. Similarly, the DEIS fails to discuss potential impacts to the adjoining Monterey Bay National Sanctuary. The DEIS is silent on the special status of both of these extraordinary public trust resources, and fails to evaluate whether the ocean disposal alternative is consistent with the goals of either the NEP or the MBNMS.

C. Conclusion.

- O-24-4 The DEIS fails to support a finding that the objectives of the project can be met or that the ocean disposal alternative is viable, economically feasible, or environmentally acceptable.

SLO Coastkeeper urges that a more thorough and complete analysis be conducted before certification of the DEIS.

Sincerely,



Gordon R. Hensley
San Luis Obispo Coastkeeper

RESPONSES TO COMMENT O-24

O-24-1, 2

NEPA does not require a Draft EIS to identify a preferred alternative if one has not been selected (40 CFR 1502.14[e]). Reclamation had not identified a preferred alternative at the time the Draft EIS was published. See Master Response ALT-A1 regarding the selection of a preferred alternative.

O-24-3

Descriptions of the Morro Bay National Estuary Program and the MBNMS have been added to the Final EIS in Appendix L, Sections L3.1 and L2, respectively. Based on the analysis presented in the Final EIS, the Ocean Disposal Alternative would be consistent with the goals of both the Morro Bay National Estuary Program and the MBNMS. See Master Responses SW-8, SE-1, SW-9, and SW-12.

O-24-4

Reclamation believes that the conclusions of the environmental analysis are supported by the document and that the project will achieve the objectives.

Appendix P6

Private Organizations and Businesses Comments and Responses

COMMENT O-25. FRIENDS OF TRINITY RIVER, CALIFORNIA TROUT, INC., ENVIRONMENTAL WORKING GROUP, NORTHCOAST ENVIRONMENT CENTER, PACIFIC COAST FEDERATIONS OF FISHERMEN'S ASSOCIATIONS, PUBLIC TRUST ALLIANCE, BUTTE ENVIRONMENTAL COUNCIL, AND FRIENDS OF THE EEL RIVER

Friends of Trinity River
California Trout, Inc.
Environmental Working Group
Northcoast Environmental Center
Pacific Coast Federation of Fishermen's Associations
Public Trust Alliance
Butte Environmental Council
Friends of the Eel River
P. O. Box 2327
Mill Valley, CA 94942-2327
415 383 4810

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August 31, 2005

Ms. Claire Jacquemin
U.S. Bureau of Reclamation
Mid-Pacific Region
2800 Cottage Way MP-700
Sacramento, CA 95825
(916)978-5061

CF

RE: Comments on the San Luis Drainage Feature Re-evaluation
Draft Environmental Impact Statement of May 2005

Dear Ms. Jacquemin:

Organizations whose names appear on this letterhead submit the following comments on the San Luis Drainage Feature Re-evaluation Draft Environmental Impact Statement (DEIS) of May 2005. We incorporate by reference our comments of December 14, 2004, January 21, 2005, and February 2, 2005 regarding Central Valley Project (CVP) long-term water contract renewals for the Delta-Mendota Canal, San Luis and Pajaro Valley areas, respectively. We also endorse and incorporate by reference the August 11, 2005 comment letter by Mr. Felix Smith on this DEIS that is enclosed.

The Draft Environmental Impact Statement Should Be Withdrawn

O-25-1

The Draft Environmental Impact Statement (DEIS) should be withdrawn. The document is not in compliance with the requirements of the National Environmental Policy Act. Alternatives are severely limited, as is its geographic area and project scope. As previously indicated in the referenced comments on various CVP long term water contract renewals, all of these separate processes fail to comply with the law and are a piecemeal, inadequate approach to public disclosure.

O-25-2

An Environmentally Preferred Alternative needs to be developed and recommended. It should consider and evaluate alternatives because of irrigation drainage problems and possible solutions in the context of CVP long-term water contract renewals of irrigated seleniferous/saline lands in the San Luis (SLU) and Delta-Mendota (DMC) Units of the CVP. An environmentally preferred

Appendix P6

Private Organizations and Businesses Comments and Responses

Ms. Claire Jacquemin
August 31, 2005
page two

- O-25-2 cont. alternative would maximize land retirement, reallocate water to other CVP uses such as the Trinity, Sacramento and San Joaquin rivers, the San Francisco Bay Delta and wildlife refuges, while reducing toxic drainage problems and minimizing costs and hazards to the public.

No Coordination with Interrelated Bureau Actions

- O-25-3 This DEIS is flawed fatally because it has been developed in the complete absence of any coordination or consideration of water use alternatives, and reduced water deliveries, that exist with the Bureau of Reclamation's (BOR) CVP long-term water contract renewal process. This is especially the case for the San Luis Unit, but also adjacent drainage problem areas such as the DMC to and from which additional water will be transferred to Westlands Water District (WWD), a SLU contractor, via water "assignments."
- O-25-4 A new DEIS should be prepared including evaluation of all contract renewals for the SLU and DMC Units in the context water assignments, toxic drainage prevention and disposal, economic viability, and environmental assurances/risks. The new DEIS and long term contract renewals should not be undertaken until a comprehensive economic analysis is completed and all costs are fully disclosed. A comprehensive economic analysis undoubtedly will show that continued irrigation of seleniferous/saline soils as proposed by the BOR is foolhardy at best.
- O-25-5 The new DEIS and long term contract renewals also should not be undertaken until the Endangered Species Act consultation is completed for all related CVP long-term water contract renewals and drainage projects within the larger geographic area of the San Luis- Delta Mendota Water Authority. Failure to include evaluation in this DEIS of any Reasonable and Prudent Measures required by the Biological Opinion does not comply with existing legal standards for full disclosure and public review.
- O-25-6 The absence of coordination with environmental reviews for related projects and planned actions renders useless and not credible this DEIS.

No Water Needs Analysis

- O-25-7 A realistic water needs analysis for WWD would show that with identified and necessary land retirement of 298,000 acres, WWD would have more CVP contracted water than it can use.
- O-25-8 Why is this not disclosed? Why is land retirement in the northerly area not evaluated?

The San Luis Act of 1960 which authorized BOR to sell water to Districts within the San Luis Unit of the CVP was contingent upon the following:

The Secretary of the Interior "*has received satisfactory assurance from the State of California that it will make provision for a master drainage outlet and disposal channel for the San Joaquin*

Private Organizations and Businesses Comments and Responses

Ms. Claire Jacquemin
August 31, 2005
page three

"Valley . . . which will adequately serve . . . the drainage system for the San Luis Unit or has made provision for constructing the San Luis interceptor drain to the delta designed to meet the drainage requirements of the San Luis Unit. . ."

- O-25-9 The San Luis Drain never was completed, and the San Luis Act's requirements never have been met. How then can BOR not even consider non-renewal of CVP contract water for at least the 379,000 acres of contaminated land identified in this DEIS? This is highly relevant since all lands susceptible to leaching of salts, selenium, boron and other harmful elements that results from agricultural lands irrigated with CVP water are not included in the land retirement alternative. Trinity County has identified that retirement of these lands will result in a CVP water contract savings of 793,000 acre feet of water. We hereby incorporate and endorse the attached Land Retirement Alternative by Trinity County.
- O-25-10
- O-25-11 The DEIS fails completely to consider whether continued irrigation of the San Luis Unit complies with California's prohibitions against wasteful and unreasonable use of water (Water Code Sec 100, and Art X, Sec II, California Constitution).

Inadequate Analysis of Relevant Impacts

Following are issues that highlight BOR's fatally flawed approach to San Luis Unit drainage issues and interrelated long-term contract renewals:

- O-25-12
- The DEIS provides clear evidence that drainage is harmful to the environment no matter where it is disposed and will require large infusions of taxpayer funds to manage, yet the NEPA documents we've seen so far for CVP contract renewals do not disclose this key point.
- O-25-13
- All alternatives provide negative net benefit to the nation. However, maximum land retirement alternative is the least negative alternative, even though the maximum amount of land was not considered for retirement in that alternative.
- O-25-14
- A maximum land retirement alternative undoubtedly would prove more advantageous if the economic analysis incorporated the risk of environmental disasters posed by the "reuse" facilities and the evaporation ponds, or delta or ocean discharge.
- O-25-15
- The BOR did not consider reclaiming water from retired lands and adjusting water contracts accordingly.
- O-25-16
- Water contracts for WWD and others that currently are under consideration should not be renewed until the amount of water to be delivered under the contracts is adjusted to

Private Organizations and Businesses Comments and Responses

Ms. Claire Jacquemin
August 31, 2005
page four

- O-25-16 cont. reflect the decreased amount of land to be irrigated. That then should be factored into drainage need evaluations.
- Any alternative for disposal of drainage should, but did not, create an incentive to maintain control of contaminated irrigation drainage and to provide prompt cleanup and mitigation should a disaster occur. The operators or beneficiaries of CVP water should post a performance bond or obtain commercial insurance. Either of these also would provide an estimate of the true cost of the risk borne by the environment from the large-scale development of re-use systems. If the federal government cannot post a bond, then the beneficiary irrigators and water districts should post the bond.
- O-25-17
- Treatment systems that reduce the concentrations of selenium, boron, and other salts perhaps are promising, but not proven. They are speculative at best and are expensive and energy-consuming.
- O-25-18
- The experimental systems used thus far have not yet been enlarged reliably to meet the needs of the San Luis Unit and adjacent problem drainage areas.
- O-25-19
- Despite longstanding requests from the environmental community, the U. S. Fish and Wildlife Service and United States Geological Survey, the form of selenium in the effluent from the treatment systems has not been made public. Treatment systems that reduce the amount of selenium in the water but change its chemical form can *increase* toxicity of the drainage rather than decrease it.
- O-25-20
- O-25-21
- The disaster at Kesterson proved that waterfowl exposed to selenium will result in deformed offspring or eggs that don't hatch in large numbers. Evaporation ponds cause the same damage. Even the new, improved evaporation pond designs will not prevent waterfowl from being exposed and harmed.
- O-25-22
- The preferred solution should be (but is not) to delay any consideration of evaporation pond alternative until efforts to stop producing drainage (via source reduction, selected groundwater pumping and land retirement) are maximized.
- O-25-23

Impacts Not Evaluated

Several significant impacts are not analyzed or addressed. These include:

- O-25-24 • Mitigation requirements for the construction of evaporation ponds are not defined.
- O-25-25 • Completed Endangered Species Act Consultation with identified mitigation measures and monitoring as well as a clear definition of the "project" for consultation purposes related to CVP contract rate of delivery/reliability. Is it 70% or 100%?

Appendix P6

Private Organizations and Businesses Comments and Responses

Ms. Claire Jacquemin
August 31, 2005
page five

- O-25-26
- National Economic Development analyses are not presented. Given that the Environmental Working Group has identified water and crop subsidies alone to WWD irrigators in 2002 in excess of \$56 million, the economics of an action which continues irrigation of seleniferous/saline soils is not justifiable, but the DEIS does not disclose this fact.
- O-25-27
- The form of selenium present in effluent from treatment plants is not defined, so that the potential adverse effects upon waterfowl are unknown.
 - An analysis of feasibility and a full assessment and disclosure of economic costs are not disclosed and should include:
- O-25-28
1. Power costs and whether subsidized power will be used and its cost.
 2. Costs associated with monitoring, adaptive management, mitigation through Operation and Maintenance costs, and contingency plans for unknown future costs.
 3. Cost of water needed for the mitigation of wetlands and the source of this contaminated water.
 4. Repayment terms are not addressed.
- O-25-29
- The government's potential liability for environmental damage caused by the operation of reuse facilities, evaporation ponds, delta discharge, and/or ocean discharge is undefined, and no provisions for insuring against such liability have been explored, analyzed or presented in this DEIS. The federal government's experience with Kesterson demonstrates how rapidly damage costs can escalate.
- O-25-30
- It has become apparent that CVP long-term contracts that serve the SLU and adjacent lands are proceeding to renewal with very little, and inadequate environmental review or consideration of significant drainage/pollution problems. To ensure compliance, the State Board's broadened definition of what is a reasonable use of water should be tested against contract renewals, the use of associated water, creation of toxic drainage, and the resulting impacts of such use.
- O-25-31
- The plan to conduct feasibility and economic analyses following this DEIS is completely backwards. These two factors are extremely important in the planning process, and they should be considered in the NEPA analysis to help determine a preferred action.

Ms. Claire Jacquemin
August 31, 2005
page six

No Effective and Certain Alternative Evaluated or Presented

O-25-32

All of the alternatives continue to transfer the problem of drainage pollution from the SLU's backdoor to other areas within the state, and/or to create a massive Superfund Site in the aquifer in the western San Joaquin Valley that encompasses hundreds of thousands of acres. None of the alternatives solves the basic, fundamental cause of drainage problems – the application of water to contaminated seleniferous/saline land.

According to the California State Water resources Control Board Decision 1641:

"The subsurface drainage problem is region-wide. The total acreage of lands impacted by rising water tables and increasing salinity is approximately 1 million acres. (SWRCB 147, p.21.) The drainage problem may not be caused entirely by the farmer from whose lands the drainage water is discharged. In the western San Joaquin Valley, the salts originate from the application of irrigation water and from soil minerals, which dissolve as water flows through the soil. The salts are stored in groundwater. As more water is applied, hydraulic pressures increase, water moves downgradient, and salt-laden waters are discharged through existing drainage systems and directly to the river as groundwater accretion (SJREC 5a). Drainage found in a farmer's field may originate upslope and may not have risen into the tile drains on the downslope farmer's land, but for the pressures caused by upslope irrigation. (SJREC 5a, pp.27-29.)" Page 82

"The SWRCB finds that the actions of the CVP are the principal cause of the salinity concentrations exceeding the objectives at Vernalis. The salinity problem at Vernalis is the result of saline discharges to the river, principally from irrigated agriculture, combined with low flows in the river from upstream water development." Page 83

"The source of much of the saline discharge to the San Joaquin River is from lands on the west side of the San Joaquin Valley which are irrigated with water provided from the Delta by the CVP, primarily through the Delta-Mendota Canal and the San Luis Unit." Page 83

"The USBR, through its activities associated with and in the San Joaquin River Basin, is responsible for significant deterioration of water quality in the Southern Delta." Page 83

Floyd Dominy, Commissioner of Reclamation from 1959-69, in the PBS video documentary "Cadillac Desert" said,

Appendix P6

Private Organizations and Businesses Comments and Responses

Ms. Claire Jacquemin
August 31, 2005
page seven

"We went ahead with the Westlands project before we solved the drainage problem. We thought we knew how to solve the drainage problem. We thought the Kesterson Reservoir could be flushed on out into the Delta. We didn't have it solidified. So I made a terrible mistake by going ahead with Westlands at the time we did."

O-25-33

The use of CVP water on drainage impacted lands in the SLU has resulted in a public nuisance and an unreasonable use of water under California law, and halting it should be evaluated as an alternative. We believe such an alternative would be the most cost effective, proven effective and appropriate solution to drainage problems in the San Luis Unit and adjacent drainage problem areas.

For these reasons, we ask that you withdraw the DEIS and reissue a comprehensive DEIS which examines reduction of water amounts in CVP long-term water contract renewals in the affected areas to reduce contaminated drainage, to protect the environment and the health of Californians, and to provide genuine cost effectiveness.

We look forward to your response to our comments.

Yours very truly,

Friends of Trinity River
By: s/ Byron Leydecker, Chairman

California Trout, Inc.
By: s/ Brian Stranko, Executive Director

Environmental Working Group
By: s/ Bill Walker, Vice President/West Coast

Northcoast Environmental Center
By: s/ Tim McKay, Executive Director

Pacific Coast Federation of Fishermen's Associations
By: s/ W. F. "Zeke" Grader, Jr., Executive Director

Public Trust Alliance
By: s/ Michael Warburton, Executive Director

Burte Environmental Council
By: s/ Lynn Barris, Water Policy Analyst

Ms. Claire Jacquemin
August 31, 2005
page eight

Friends of the Eel River
By: s/ Nadananda, Executive Director

enclosures: Felix Smith Letter of August 11, 2005
Trinity County's Land Retirement Alternative

cc: The Honorable Dianne Feinstein
The Honorable Barbara Boxer
The Honorable George Miller
The Honorable Mike Thompson
Mr. Kirk Rodgers
Mr. Steve Thompson

Note: The remainder of this submittal contains material that does not comment on the Draft EIS and therefore requires no response from Reclamation. Because it is not comment material, it is not included in the Final EIS, but it will be included in the administrative record for this project and is available upon request.

RESPONSES TO COMMENT O-25

O-25-1

The alternatives presented in the EIS have been designed to address the purpose and need for the project in accordance with NEPA. The project has independent utility irrespective of other Reclamation actions; therefore, it is not piecemeal.

O-25-2

See Master Response ALT-A1 regarding the selection of a preferred alternative.

O-25-3, 4

See Master Response GEN-6 in regard to the evaluation of contract renewals.

O-25-5

Section 7 consultation was not completed prior to completion of the Draft EIS. However, Reclamation has completed Section 7 consultation for the In-Valley Alternatives, and the findings of the Biological Opinion (included as Appendix M2) have been incorporated into the Final EIS. If an In-Valley Alternative is not identified as the preferred alternative, Reclamation will initiate Section 7 consultation for the preferred alternative. A preferred alternative will be identified and results from Endangered Species Act consultation will be included in the ROD. Issues related to long-term water contract renewals are outside of the scope of this EIS.

O-25-6

Coordination has been ongoing throughout the project planning phases, as evidenced by the Planning Aid Memoranda from the Service that date back as far as 2002.

O-25-7

See Master Response GEN-2 in regard to water contracts.

O-25-8

See Master Response ALT-L2 for a discussion of land retirement in the Northerly Area.

O-25-9

See Master Response P&N-1 in regard to the continued irrigation of drainage-impaired lands.

O-25-10

Comment noted. No response necessary.

O-25-11

See Response to Comment O-25-9.

O-25-12

See Response to Comment to O-25-3.

O-25-13

Retirement of all drainage-impaired lands in the Unit was evaluated in the PFR and is described in Draft EIS Section 2.11.4.1. See Master Response ALT-L2.

O-25-14

The economic analysis used to evaluate the full land retirement alternative did include estimated costs for mitigation of potential impacts to birds using the evaporation ponds.

O-25-15

See Master Response GEN-2.

O-25-16

See Response to Comment to O-25-3.

O-25-17

Following the ROD and funding of the selected alternative, operating permits for an adaptive management and monitoring plan will be developed. Compliance with these permits and plans provides the assurance that unforeseen circumstances will be responded to in an acceptable and legal manner. Performance bonds are not accepted incentives for governmental agencies.

O-25-18, 19

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

O-25-20, 21

See Master Response SE-2 regarding the bioavailability of organic and inorganic forms of Se resulting from biological treatment.

O-25-22

The comment is noted. As discussed in Section 8.2.4.2 and Appendix G, significant effects to waterfowl are expected to occur if one of the In-Valley Alternatives is implemented. Mitigation would be implemented as described in Section 20.

O-25-23

Drainage rates are based on implementation of feasible source control measures. Additional drainage will not be accepted. See Master Response ALT-S1 for additional discussion of source control.

O-25-24

See Master Responses MIT-1, MIT-2, and GW-1 in regard to adaptive management and monitoring, mitigation planning, and effects related to evaporation basins, respectively.

O-25-25

The CVP contract rate of delivery/reliability is 70 percent. See Master Response BIO-2 in regard to ESA consultation, mitigation measures, and monitoring.

O-25-26

The Draft EIS refers to the NED analysis in Section 2.15 and Appendix K. A discussion of the NED analysis is included in Appendix N of the Final EIS.

O-25-27

The effects of Se in treatment plant effluent on waterfowl are discussed in Section 8 and Appendix B.

O-25-28

- (1) Since all project power currently being produced is fully subscribed, any project power needed for additional drainage features would reduce the energy available to current power customers and would need to be replaced. Realistically, the regional energy impact can be described as the amount of energy (acquired on the spot market) needed to operate the project drainage facilities. Power costs were developed using market analysis.
- (2) Mitigation costs are described in Appendix O of the Final EIS.
- (3) Water sources for mitigation of In-Valley Alternatives would depend on the timing and availability of supplies and could include CVP water, State water, or exchanges. For planning purposes, water costs were assumed to be at market rates.
- (4) See Master Response EC-3 in regard to repayment of project costs.

O-25-29

Section 20 of the Final EIS has been revised to include planned mitigation activities for all alternatives. Appendix O provides mitigation cost estimates.

O-25-30

See Master Responses P&N-1 and GEN-6 in regard to reasonable water use and contract renewals, respectively.

O-25-31

Ideally, these analyses should be concurrent. However, the lead agency is responsible for timing (40 CFR 1501.7(b)(2)), and Reclamation determined that the existing schedule best meets the demands of the court order and need for information in decision making. The feasibility and economic analyses will be completed before the Final EIS.

O-25-32, 33

See Response to Comment O-25-9.

O-25-34, 35

See Master Response ALT-L2 in regard to retirement of all drainage-impaired lands.

COMMENT O-26. PUBLIC TRUST ALLIANCE, MICHAEL WARBURTON

PUBLIC TRUST ALLIANCE

A Project of the Resource Renewal Institute
Rm. 290, Bldg. D
Fort Mason Center
San Francisco, CA 94123
August 31, 2005

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

RE: Comments Concerning Draft EIS on San Luis Drainage Feature Re-evaluation

O-26-1 The Public Trust Alliance is a non-profit organization with the mission of
O-26-2 working with public and private actors to protect public values in resources held in trust
for the benefit of all Californians. We want California's air and water to be available in
suitable condition to meet the needs of future generations. The proposed project is part of
a series of Federal actions which, taken together, defy reason and severely strain public
credibility. Important Sovereign concerns of the State of California have been ignored.

O-26-3 A toxic nightmare has been created and extreme costs are being inflicted on the
public and the environment for the benefit of a limited few private water users and
potential sellers. Continuing to apply publicly subsidized water in a manner that releases
O-26-4 toxic concentrations of dangerous substances into our environment cannot be evaluated
without a complete accounting of costs and benefits. In this case, the scope of the public
review process has been inappropriately segmented and perhaps illegally directed toward
O-26-5 continuing unreasonable use of California's water resources. We see the environmental
review process as a way to support rational public management of natural resources and
to insure that there is some element of informed public consent inherent in legitimate
public action. But to accomplish these purposes, the evaluation process has to be broader
O-26-6 than the artificially truncated discussion presented in this DEIS.

We would like to endorse and incorporate by reference the comments on this
DEIS submitted by multiple organizations including the Friends of Trinity River with
today's date, and previous comments by that organization relating to the renewal of long
term CVP contracts on 12/14/04, 1/21/05, 2/2/05. We also endorse and incorporate by
reference the comments of Felix Smith on this DEIS dated 8/11/05.

O-26-7 We are curious to know what authorities and values have led you to suspend and
ignore the California public interest in the reasonable use of its water resources, and the
express mandate by the California Supreme Court that Public Trust interests be
considered in the planning and evaluation of the use of water in California. We thought

Appendix P6

Private Organizations and Businesses Comments and Responses

that you might be deriving authority from the Federal Reclamation Act, but there have always been provisions in that law (eg. Section 8) requiring that water deliveries be consistent with State law, which has, in its turn, always protected public interests.

O-26-8 The Draft Environmental Impact Statement Should be Withdrawn

O-26-9 The project is inadequately characterized as an action that is required to mitigate some kind of existing condition when in fact that condition is itself a discretionary action of the Bureau of Reclamation. The water is being supplied for agricultural use on land in the project area to contractors by a public action (contract renewal) and it is that action which must be evaluated and reasonable alternatives explored. If the project purpose is described as the treatment of toxic releases from irrigation, maximum source reduction through non renewal of contracts must be a project alternative.

O-26-12 The Geographical Extent of the Project and Impacts Is Too Narrow

O-26-13 In many ways, this project has impacts on the entire state of California, and on what the State will become. The fact that Westlands Irrigation District will come into control of far more water than it could ever reasonably use for agriculture is not disclosed or discussed in this environmental impact statement. The sale of "surplus" water for urban use is a major concern of public governance in this state and a relevant question is who should be making which decisions and exactly who would benefit from the resale of public water, especially water which has been imported from remote basins for only a few decades. The impacts on areas of origin for water must be reasonably evaluated and not treated as somehow "solved" in the decisions establishing the CVP.

O-26-15 Water Rights are Subject to the Public Trust and Reasonable Use Doctrines

O-26-16 In California, when water uses might change or discretionary actions (eg. Contract renewals, etc.) are taken by public authorities, an inquiry must be made regarding whether the proposed management is consistent with long term public interests in certain protected uses, including fishing and ecological protections. Also, California trustees are responsible for ensuring that any changes in uses are reasonable with regard to statewide interests. This requires a rational evaluation of the costs and benefits from a public perspective and not just with respect to what particular actors might pay. These concerns are inadequately addressed in the current DEIS.

O-26-17 In summary, there are fatal problems with proceeding with public action on the basis of this Draft Environmental Impact Statement because it does not address fundamental public interests and thus cannot serve the purpose of NEPA analysis.

Respectfully submitted,

Appendix P6

Private Organizations and Businesses Comments and Responses

Michael Warburton
Executive Director

The NEPA process is intended to allow public input in the consideration and design of public actions where irreversible environmental impacts might be involved and to perhaps change plans if disclosed impacts are found to be unacceptable. Usually, a specific project is proposed and a "preferred alternative" is selected by the sponsoring agency from among several reasonable alternatives considered to accomplish the purpose of the project, and the various impacts of the alternative actions are compared to a "no action" alternative. This process is intended to involve public comments on documentation to enhance public deliberation to ensure the implementation of the most beneficial version of a public project. But in this case, an ill-considered history of applying publicly subsidized water to selenium-contaminated soil has led to a toxic nightmare. The lead agency hasn't been able to define a "preferred alternative" to provide drainage partly because all the considered "alternatives" are both very costly and involve irreparable ecological impacts. Even though a Federal Court reached a conclusion regarding an isolated federal issue defined by applicable federal concerns, the document relates to a project that will be implemented in the State of California, and key Californian public concerns have been deliberately avoided in supporting a systemically unreasonable and ecologically unsustainable pattern of conduct. Important public interests have simply not been considered as an unreasonable activity is being extended into the future at unreasonable public cost. The delivery and application of water under Federal supervision has occurred for a number of years, and all project participants have long been aware that actions by the Bureau of Reclamation are supposed to be conducted in a manner consistent with State water rights law, and that the State has a fundamental interest in the reasonable

NEPA process to publicly determine if government actions are consistent with long term public interests and to fully disclose the environmental impacts associated

Inaccurate action definition

Draft describes the action as providing drainage to

The lead agency has not advanced a preferred alternative

The process described is so convoluted and so repeatedly interrupted by litigation which did not address questions of the state public trust interest in the reasonable use of water that a mandate by a Federal Court

Note: The final page of Comment O-26 appears to contain material that was not intended to be part of the formal submission and therefore requires no response from Reclamation.

RESPONSES TO COMMENT O-26

O-26-1

See Master Response P&N-1.

O-26-2

Without more information about which sovereign concerns are perceived to have been ignored, no response is possible.

O-26-3

The commenter's opinion is noted. No response necessary.

O-26-4

See Master Response P&N-1. Construction and O&M costs are discussed in Section 2, and mitigation cost estimates are presented in Appendix O.

O-26-5

It is unclear how the scope of the public review process has been inappropriately segmented as stated in the comment. The public review process was conducted in compliance with NEPA and is described in Sections 21 and Appendix P1. The proposed project has independent utility relative to other Federal actions.

O-26-6

Reclamation believes that the Draft EIS is in compliance with the requirements for environmental review as required by NEPA. See Master Response P&N-1 and Response to Comment O-26-5.

O-26-7

See Master Response P&N-1.

O-26-8

The commenter's opinion is noted. No response necessary.

O-26-9

The proposed action is not a discretionary action as the comment suggests. See Master Response P&N-1.

O-26-10, 11

Renewal of water contracts is addressed in Master Response GEN-6.

O-26-12

Reclamation believes that the geographical extent and impacts of the project have been adequately described in the EIS.

O-26-13

Section 12 provides estimates of the value of water made available by land retirement under the alternatives. The In-Valley/Drainage-Impaired Area Land Retirement Alternative makes water available in excess of the demands for irrigation within the San Luis Unit. Reclamation policy is that this water would be available for other CVP uses, including agricultural use, urban use, and refuge water supply.

O-26-14

The impact from CVP water rights has been described in the CVPIA and the EIS prepared for the implementation of the CVPIA.

O-26-15, 16

See Master Response P&N-1 in regard to the authorization of the San Luis Act to provide water and drainage service to the San Luis Unit.

O-26-17

The proposed project has independent utility as required by law. NEPA does not require analysis of broad public interest issues not pertinent to this Federal action. See Master Response P&N-1.

COMMENT O-27. CALIFORNIA COASTKEEPER ALLIANCE, LINDA SHEEHAN



September 1, 2005

Ms. Claire Jacquemin, Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825
E-mail: cjacquemin@mp.usbr.gov

VIA E-MAIL

Re: San Luis Drain Reevaluation Draft Environmental Impact Statement (DEIS):
Ocean Discharge Alternative

Dear Ms. Jacquemin:

On behalf of the California Coastkeeper Alliance, a coalition of community-based Waterkeeper programs spanning the California coast from Humboldt Bay to San Diego and extending into the Delta, we thank you for the opportunity to review the San Luis Drain Reevaluation Draft Environmental Impact Statement (DEIS). These comments include and incorporate by reference the comments of David Beckman and Anjali Jaiswal of the Natural Resources Defense Council, submitted September 1, 2005.

- O-27-1 [The DEIS's proposal to convey 70,000 acre/feet per year of agricultural wastewater by pipeline to San Luis Obispo County and discharge it to the Pacific Ocean at Point Estero is unsound and should be rejected. As indicated in the attached 1995 comment letter, ocean disposal of agricultural wastewater is unfortunately not a new idea, but is just as fatally flawed as it was a decade ago. The DEIS fails to fully evaluate the enormous economic and environmental costs of the ocean disposal alternative. If these costs had been properly evaluated, the alternative would have been rejected during preliminary review because it fails to meet at least three of the fundamental objectives of the Project: (1) it fails to provide drainage service in a cost-effective manner; (2) it fails to provide drainage service in a timely manner; and (3) it fails to provide drainage service that minimizes adverse environmental effects and risks. It also is inconsistent with the Clean Water Act and regulations for Enclosed Bays and Estuaries, including the Morro Bay National Estuary Program.
- O-27-2 [
- O-27-3 [
- O-27-4 [The DEIS's evaluation of the ocean disposal alternative and its environmental impacts is fatally flawed, and for many of the same reasons, the evaluations of the two Delta alternatives are also seriously flawed. We respectfully request that the Bureau of Reclamation either delete all three alternatives immediately from further consideration, or conduct an appropriate analysis of them now.

Sincerely,

A handwritten signature in black ink, appearing to read "Linda Sheehan".

Linda Sheehan, Executive Director
California Coastkeeper Alliance
P.O. Box 3156
Fremont, CA 94539

Note: The remainder of this submittal contains material that does not comment on the Draft EIS and therefore requires no response from Reclamation. Because it is not comment material, it is not included in the Final EIS, but it will be included in the administrative record for this project and is available upon request.

RESPONSES TO COMMENT O-27

O-27-1

Comment noted. No response necessary.

O-27-2

Reclamation disagrees with the comment that impacts and costs for the Ocean Disposal Alternative have not been taken into account. Appendix O of the Final EIS provides mitigation cost estimates for the Ocean Disposal Alternative as well as other action alternatives. See Master Responses SW-4, SW-5, and SW-9 through SW-15 for additional discussion of effects of the Ocean Disposal Alternative.

O-27-3

Construction and operation of the Ocean Disposal Alternative would be conducted so it would not be in conflict with the programs that the commenter identified. See Section 4 and Master Response REG-1 in regard to regulatory compliance for the Ocean Disposal Alternative.

O-27-4

The comment is noted. All of the project alternatives have been analyzed to the same level of detail. The EIS provides sufficient detail to compare alternatives on the basis of their environmental impacts.

Private Organizations and Businesses Comments and Responses

COMMENT O-28. NRDC AND OTHER JOINT COMMENTERS,
HAL CANDEE ET AL.

From: "Candee, Hal" <hcandee@nrdc.org>
To: <cjacquemin@mp.usbr.gov>
Date: 9/1/2005 1:59 PM
Subject: Additional NRDC Comments on Drainage DEIS
CC: "Frank Michny" <FMICHNY@mp.usbr.gov>, "Candee, Hal" <hcandee@nrdc.org>

To: Ms. Claire Jacquemin
 Bureau of Reclamation

From: Hal Candee, NRDC

RE: Additional NRDC Comments on Drainage DEIS

By now, you should have received a large FedEx package from us containing over 500 pages of documents that we wish for the Bureau to consider as part of our comments on this Draft EIS, along with a short cover letter from me. You should have also received joint comments from the Bay Institute, Environmental Defense and NRDC which are also attaching materials to be considered. And later today you will receive a separate letter from NRDC's Southern California office focusing on the ocean discharge and Delta discharge alternatives in the Draft EIS.

In connection with each of these comments, as well as NRDC's presentation at the Bureau's public workshop in Concord, I am attaching some additional materials for your review and consideration. We request that they be included in the record for this Draft EIS along with all of the other materials mentioned above.

O-28-1a The first is NRDC's recent brief in the Friant litigation. Not only does it discuss issues relating to the adequacy of your NEPA review of these drainage issues, it also sets out relevant case law governing the Bureau's need to comply with state and federal requirements of reasonable and beneficial use. The Bureau's plan to continue delivery of CVP water to the full Westlands Water District despite all of the documented drainage problems and unresolved drainage solutions is contrary to federal and state requirements for ensuring reasonable and beneficial use of water.

O-28-1b Next is the Court's recent ESA ruling on the Friant contracts. As you know, the Court found a violation of the ESA in the Bureau's failure to ensure that any Section 7 consultation looked at the full activity authorized, in this case full deliveries under the Friant CVP contracts. Similarly, in analyzing the effect of your drainage options under the ESA, the Bureau must analyze the impact on listed species and their habitat of delivering the full amount of water under the Westlands and other San Luis and DMC Unit contracts. This must also include all water being acquired by San Luis and DMC Unit contractors and farmers via contract assignment, transfer, forbearance agreement, exchange, district acquisition, or any other means. Failure to include all of these sources of water supply in analyzing the impacts under ESA will be a violation of law.

O-28-1c Next, we request that the Bureau include in its review, and in its record for this DEIS, the full record in the Sumner Peck litigation. Not only did that case lead to this DEIS in the first place, but during that proceeding the Bureau's attorneys presented the Bureau's own positions on the environmental effects of drainage, including the likely impacts to the Delta of extending the Drain. See, for example, the Deposition of Joseph Skorupa, July 8, 1994. We are attaching herewith a single document from the consolidated Peck-Firebaugh litigation to provide the citation but request that the Interior Department's copy of the entire court file in the Peck case be included in the present record.

O-28-2 [Finally, an important policy matter for the Bureau to consider is the massive cost of these various alternatives and the clear federal statutory requirement to collect full reimbursement for all drainage-related costs (including land retirement). This mandate arises not only from federal reclamation law, but also from the annual appropriations riders that govern the Bureau's operations each year. As part of this issue, we urge the Bureau to consider the massive subsidies already being bestowed on the mere 400 farm operations that use the 1 million acre feet or more of Westlands water supply, including the subsidies documented in the 3 attached documents from the Environmental Working Group.

Thank you for considering our additional comments.

Hamilton Candee
Senior Attorney; Co-Director, Western Water Project
Natural Resources Defense Council
111 Sutter Street, 20th Floor
San Francisco, CA 94104
Tel: 415.875.6100 ext. 144
Fax: 415.875.6161
HCandee@nrdc.org

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Appendix P6

Private Organizations and Businesses Comments and Responses



NATURAL RESOURCES DEFENSE COUNCIL

September 1, 2005

Via U.S. Mail, Facsimile, and E-mail

Ms. Claire Jacquemin
Bureau of Reclamation
2800 Cottage Way
MP-700
Sacramento, CA 95825
Facsimile: (916) 978-5094
E-mail: cjacquemin@mp.usbr.gov

BUREAU OF RECLAMATION CITY OF SACRAMENTO RECEIVED
SEP 06 2005
PROJECT NO. 9/7/05
NATURAL RESOURCES DEFENSE COUNCIL

Re: NRDC Comments on Drainage DEIS: Ocean Disposal Alternative

Dear Ms. Jacquemin:

On behalf of the Natural Resources Defense Council and our more than 550,000 members, over 110,000 of whom are Californians, including many from the Central Coast, we submit the following comments on the San Luis Drain-Reevaluation Draft Environmental Impact Statement (DEIS). Thank you for the opportunity to review the DEIS. NRDC will also submit additional comments on this DEIS under separate cover in conjunction with the Bay Institute and Environmental Defense.

O-28-3 Although our review indicates that the DEIS is flawed in a number of other
regards, these comments will be limited in scope to the ill-conceived 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. The
Bureau of Reclamation (Reclamation), and consequently the DEIS, fails to fully
evaluate the costs – both economic and environmental – of this alternative. If these
costs had been evaluated, the alternative would have been rejected during preliminary
review because it fails to meet fundamental objectives of the project: (1) it fails to
provide drainage service in a cost-effective manner; and (2) it fails to provide drainage
service that minimizes adverse environmental effects and risks. Accordingly, we urge
O-28-4 you to reassess the ocean disposal alternative and, on that basis, reject this alternative.

Classification	ENV-6.00-
Project	SLP
Control No.	50/4012
Folder I.D.	2863

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1101 Second Street
Santa Monica, CA 90401

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Appendix P6

Private Organizations and Businesses Comments and Responses

Ms. Claire Jacquemin
September 1, 2005
Page 2

General Comments

1. The DEIS Should Evaluate Additional In-Valley Alternatives.

O-28-5

In February 2000, the 9th Circuit Court of Appeals ruled that the DOI had no obligation to build an interceptor drain, and could provide "drainage services" to the area using alternative means. Accordingly, the DEIS evaluates a number of alternative means of providing drainage service: drainwater reuse, treatment and storage, and land retirement. A great deal of research supports the feasibility and desirability of employing a combination of these alternative means of providing drainage services for this project. In 1990, the state-federal Rainbow Report projected that existing, environmentally-benign, in-valley tools – like improved irrigation efficiency, drainage reuse, and land retirement – are adequate to address more than 90% of the drainage problem waters in the Westlands area. In January 2003, a coalition of environmental groups and local agencies downstream of the San Joaquin Valley developed a proposal for "Drainage Without a Drain," which concluded that the drainage problem can be solved effectively and affordably without building environmentally damaging disposal facilities.

O-28-6

O-28-7

Reclamation should reexamine these two reports. The alternatives currently identified do not make use of the full range of recommended measures for mitigating environmental harm. For example, the Drainage Without a Drain recommends more rapid implementation of drainage reduction and reuse tools, and immediate research and development of technology and markets for reclaimed salt products.

2. The DEIS Must Identify Agency-Preferred and Environmentally-Preferred Alternatives.

O-28-8

As discussed in NRDC's comment letter submitted in conjunction with the Bay Institute and Environmental Defense, the DEIS does not identify an agency-preferred alternative. The CEQ regulations provide that an EIS "shall identify the agency's preferred alternative or alternatives, if one or more exists . . ."¹ The rationale for this requirement is that it permits the reviewing public to focus analysis and comments on the preferred alternative. Accordingly, the Bureau should have identified the agency-preferred alternative in this DEIS. The DEIS strongly suggests that one of the In-Valley alternatives will most likely become the agency-preferred alternative.² It states: "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." We agree that this is the most desirable alternative of those considered and that Reclamation should have evaluated it as the agency-preferred alternative rather than deferring this decision.

¹ 40 C.F.R. § 1502.14(e)

² United States Department of Interior, Bureau of Reclamation, *San Luis Drainage Feature Reevaluation Draft Environmental Impact Statement* (May 2005) (DEIS) at 2-34

Ms. Claire Jacquemin
September 1, 2005
Page 3

O-28-8
cont.

Similarly, the DEIS does not commit to an environmentally-preferred alternative, and states that all of the alternatives have environmental problems.³ As discussed in detail below, the DEIS entirely underestimates and misrepresents the environmental costs of moving drainwater 211 miles to the coast, and discharging it into the ocean. If these costs were adequately represented, the choice of an environmentally-preferred alternative would be clearer: it could not possibly be the ocean disposal alternative.

3. *The DEIS Is Inconsistent with Requirement for New Sources and Compliance with Water Quality Standards under the Clean Water Act*

Given that the ocean disposal alternative proposes to build a pipeline to discharge into the Estero Bay, the project would constitute a "new source" under the Clean Water Act.⁴ New pollution sources must meet a separate set of standards called "new source performance standards".⁵ These standards limit the discharge of pollutants by new sources based on the "best available demonstrated control technology" (BDT).⁶ In other words, these standards "reflect the greatest degree of effluent reduction . . . achievable through the application of best available demonstrated control technology, processes, operating methods, or other alternatives, including where practicable, a standard permitting no discharge of pollutants."⁷

O-28-9

As discussed in more detail below, the DEIS explicitly declines to include drainwater treatment and land retirement as components of the ocean disposal alternative. On its face, therefore, the DEIS fails to account for or meet the BDT standard that applies; indeed, the DEIS does not include reverse osmosis and selenium biotreatment as components, as well as land retirement, even though these and other approaches are demonstrated as ways of addressing the issue. The DEIS should be revised to include these components as well as fully discuss the new source performance standards.

Separately from its technological requirements for new sources, the Clean Water Act requires that any permitted discharges comply with state and federal water quality standards.⁸ Even though the DEIS does not adequately discuss the contents of the discharge resulting from the proposed project, the discharge must meet all water quality standards for the surrounding receiving waters. Accordingly, the DEIS must fully discuss these standards and whether the discharge will meet them.

³ DEIS at 2-95.

⁴ See 33 U.S.C. § 1316(a).

⁵ *Id.*

⁶ The Clean Water Act authorizes EPA to establish effluent limitations and standards on an industry specific basis. See 40 C.F.R. § 401.10 et seq.

⁷ 33 U.S.C. § 1316a(c)(1).

⁸ 40 C.F.R. § 122.4(d).

Ms. Claire Jacquemin
September 1, 2005
Page 4

4. *The DEIS Must Be Revised Consistent with Antidegradation Analysis.*

Federal regulations require states to develop a state antidegradation policy⁹ to "maintain existing Beneficial Uses of navigable waters, preventing their further degradation." *PUD No. 1 of Jefferson County v. Washington Dept. of Ecology*, 511 U.S. 700, 705 (1994); see also SWRCB Resolution No. 68-16; 40 C.F.R. § 131.12. For "high quality waters" the federal regulations explicitly specify:

Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.¹⁰

O-28-10

Thus, because the ocean discharge would be in and nearby such designated high quality waters, including a bay that is part of the National Estuary Program, the antidegradation policy requires an analysis focused on the maintenance and protection of water quality in the receiving waters, and that any approved project not degrade water quality at all. Moreover, an antidegradation analysis must be conducted and antidegradation effects must be considered whenever there is the potential for an increase in the emissions of a pollutant, "even if there is no other indication that the receiving waters are polluted."¹¹

Given that the DEIS allows discharge containing selenium and other pollutants into "high quality waters," the proposed project would not maintain and protect existing uses and water quality necessary for those uses nor would it justify a lower water quality.¹² The DEIS must address the federal and state antidegradation policies, including an antidegradation analysis for the ocean- and delta-disposal alternatives. Moreover, there is no way that these alternatives could satisfy these requirements and, therefore, this alone serves as a basis on which they must be rejected.

⁹ The State Water Resources Control Board has construed California's antidegradation policy, which is embodied in SWRCB Resolution 68-16, to incorporate the federal antidegradation policy embodied in 40 C.F.R. § 131.12 wherever that policy applies (i.e. to waters of the United States). See *in re Rimmon C. Fay*, SWRCB WQO 86-17 at 17-18 (Nov. 20, 1986); see also Memorandum from William Attwater, SWRCB Chief Counsel, to Regional Board Executive Officers 2 (Oct. 7, 1987).

¹⁰ 40 C.F.R. § 131.12(a)(2).

¹¹ See Memorandum from William Attwater, SWRCB Chief Counsel, to Regional Board Executive Officers 2 (Oct. 7, 1987) ("antidegradation policy is triggered by a lowering of surface water quality") ("Attwater Memo"); Memorandum from James W. Baerge, Executive Director, SWRCB, *Antidegradation Administrative Procedure Update*, at 4 (July 2, 1990); see also *in re Rimmon C. Fay*, SWRCB WQO 86-17 at 21 (Nov. 20, 1986).

¹² Even if the receiving waters were determined to not be "high quality waters" for the purposes of an antidegradation analysis, the discharger must still prove that (1) No significant degradation of water quality will occur; and (2) Beneficial uses of the waters will remain fully protected, despite limited water quality degradation, and that lower water quality provides maximum benefit to the people of the State of California. See State Water Resources Control Board, Resolution No. 68-16 (October 28, 1968).

Ms. Claire Jacquemin
September 1, 2005
Page 5

5. *The Ocean Disposal Alternative is Inconsistent with Regulations for Enclosed Bays and Estuaries, including the Morro Bay National Estuary Program.*

O-28-11

The DEIS does not discuss proximity of ocean discharge to Morro Bay National Estuary (designated under Clean Water Act section 320), nor does it fully evaluate the risk to the resident communities of this nationally-recognized estuary. The Morro Bay Estuary supports one of the most important wetland systems on California's coast. Rich in natural diversity, Morro Bay sustains a wide variety of habitats as well as numerous sensitive and endangered species of plants and animals.¹³ The estuary supports the most important wetland system in California's Central Coast region.¹⁴ The estuary is a 2,300 acre semi-enclosed body of water where fresh water flowing from the land mixes with salt water from Estero Bay.¹⁵ "The mixing supports a unique ecosystem containing numerous plants and animals that are not found in either totally freshwater systems or the ocean."¹⁶ As a result of the mixing, the estuary is vital to a rich diversity of migratory birds as well as home to a variety of species of plants and animals, including many that are rare and endangered, such as the California sea otter (as discussed further below).¹⁷

Two of the objectives of the Morro Bay National Estuary Program (NEP) are: "[e]nsure that Bay water remains of sufficient quality to support a viable commercial shellfish and mariculture industry, safe recreational uses, healthy eelgrass beds, and thriving fish and shellfish communities" and "[e]nsure the integrity of the broad diversity of natural habitats and associated native wildlife species in the bay and watershed."¹⁸ The DEIS is silent on the special status of this extraordinary estuary, and fails to evaluate whether the ocean disposal alternative is consistent with the goals of the NEP. The final EIS should fully evaluate this.

O-28-12

Equally important, the DEIS fails to reconcile the project's impacts with regulations under the State's *Water Quality Control Policy for the Enclosed Bays and Estuaries of California* SWRCB Resolution 95-84 (Nov. 16, 1995.). This policy contains an explicit "discharge prohibition" for "new discharges" from agricultural sources "which unreasonably affect or threaten to affect beneficial uses."¹⁹ Considering the possible toxic nature of ocean

¹³ Executive Summary of the Morro Bay National Estuary Program's Comprehensive Conservation and Management Plan (July 2000) at 1.

¹⁴ *Morro Bay National Estuary Program's Comprehensive Conservation & Management Plan*, 2.1 (2000), available at <http://www.mrpnep.org/plan.htm> [hereinafter *Morro Bay*].

¹⁵ *Morro Bay* at 2.1.2.

¹⁶ *Morro Bay* at 2.1.2.

¹⁷ *Morro Bay* at 2.

¹⁸ *Id.* at 5.

¹⁹ *Water Quality Control Policy for the Enclosed Bays and Estuaries of California* SWRCB Resolution 95-84 (Nov. 16, 1995.) at 6.

Ms. Claire Jacquemin
September 1, 2005
Page 6

O-28-12
cont.

discharge and the sensitive ecosystem of the receiving waters, it is highly likely that the discharge would have an "unreasonable affect or [would] threaten to affect beneficial uses." (*Id.*) As such, it is likely that the ocean disposal alternative is inconsistent with the law. In addition, the State's *Water Quality Control Plan for the Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* contains additional limitations for new sources of discharge with respect to temperature. However, the DEIS does not discuss this policy. The final EIS must fully evaluate the environmental impacts of the project in light of all state policies for enclosed bays and estuaries as well as the Morro Bay National Estuary Program.

Alternatives Analysis

O-28-13

1. *The DEIS Masks the True Costs of the Ocean Disposal Alternative.*

The ocean disposal alternative involves 211 miles of buried pipeline, 23 pumping plants and sumps. This conveyance and discharge system is the only cost – specific to the ocean disposal alternative – that the DEIS acknowledges. The document ignores, and in some cases baldly misrepresents, costs that would be required as part of any legal implementation of this alternative. For example:

O-28-14

- The DEIS states "To the extent possible, existing right-of-ways and conveyance facilities would be used."²⁰ The document does not specify whether any such rights-of-way exist; the costs of acquiring them would be quite high, and should be included as a cost of this alternative.

O-28-15

- The ocean disposal alternative contemplates no selenium biotreatment or reverse osmosis treatment prior to disposal to the sea. As noted above, this treatment would be required under California's antidegradation policy. If the cost of these treatments is included, the present value cost estimate of the ocean disposal alternative becomes nearly \$708 million – more than the In-Valley/Groundwater quality disposal alternative, and nearly as much as the In-Valley/Water needs disposal alternative.

O-28-16

- A land retirement component is not included with the Ocean Disposal alternative. The DEIR explicitly acknowledges that this omission is designed to minimize the cost of this alternative:

Preliminary analyses of various land retirement scenarios were conducted during the plan formulation process to compare the costs of retiring varying amounts of drainage-impaired lands versus the cost of providing drainage service to those same lands. The analyses were based on comparing the In-Valley Disposal Alternative with land retirement to the least expensive Out-of-Valley Disposal

²⁰ DEIS at 2-54.

Ms. Claire Jacquemin
September 1, 2005
Page 7

O-28-16
cont.

Alternative (Chippis Island) with the same level of land retirement. That analysis indicated that the In-Valley Land Retirement Alternative was consistently less expensive than the least expensive Out-of-Valley Land Retirement Alternative, regardless of the amount of land retirement.²¹

Inexplicably, the total amount of land retired under the ocean disposal alternative is less than the land retirement under the No Action alternative.²² As with the pre-disposal treatments discussed above, all feasible land retirement measures are required under the State's antidegradation policy. Accordingly, the ocean disposal alternative should include a land retirement component that is equivalent to those evaluated for the In-Valley alternative.

O-28-17

2. *The DEIS Fails to Disclose the Constituents of the Drainwater Discharge to the Ocean.*

The DEIS's discussion of the ocean disposal alternative fails to disclose the expected concentrations and mass of pesticide and fertilizer residue – as well as a variety of other constituents – in the effluent. The DEIS must include an expected range of concentrations and mass of **all** pollutants with reasonable potential to be present in the discharge.²³ The failure of the DEIS to disclose these values makes it impossible for the public and decisionmakers to evaluate whether the discharge would be capable of complying with the water quality standards of the Ocean Plan and Water Quality Control Plan for the Central Coast Region.

Environmental Impacts

O-28-18

1. *The DEIS Fails to Fully Evaluate Water Quality Impacts of Effluent Discharge to the Ocean.*

As noted above, the ocean disposal alternative would discharge roughly 70,000 acre/feet per year of contaminated drainwater with an average selenium concentration of 220 µg/l into the ocean near Estero Point. In light of the overwhelming evidence of severe biological impacts from selenium contamination at significantly lower concentrations²⁴, the discharge of extreme concentrations of selenium should be taken seriously as a water quality impact.²⁵ Instead, the

²¹ DEIS at 2-78.

²² DEIS at 7-44.

²³ Notably, the concentration and mass of pollutants is required to determine the impairment of water bodies pursuant to the Clean Water Act, 40 C.F.R. § 130.7. Any impaired water body would require the development and implementation of a total maximum daily load, which would also require information about pollutant concentration and mass, 40 C.F.R. § 130.7.

²⁴ See, e.g., Steven J. Hamilton, *Review of Selenium Toxicity in the Aquatic Food Chain*, Science of the Total Environment 326:1-31 (2004).

²⁵ Notably, the State's *Water Quality Control Policy for the Enclosed Bays and Estuaries of California* also requires that "diffuser systems be designed to achieve the most rapid initial dilution practicable to minimize concentrations

Ms. Claire Jacquemin
September 1, 2005
Page 8

O-28-18
cont.

DEIS acknowledges that water quality will be degraded in the vicinity of the diffuser, but claims that no significant effects will occur because WQOs will be met outside of mixing zone.²⁶ Even if the selenium discharge dispersed at the proposed rate and did not accumulate, the exposure of marine organisms to a concentrated plume of selenium in the vicinity of the diffuser is a serious risk, and accordingly the degradation of water quality in that area should be labeled a significant impact.

Further, the water quality monitoring effort suggests that the concentration of selenium beyond "a reasonable Zone of Initial Dilution" will not exceed Ocean Plan Table B selenium Water Quality Objectives. The DEIS also does not discuss how the modeling led to this conclusion and does not disclose what constitutes a "reasonable Zone of Initial Dilution (ZID)." In addition, the analysis is based on two alternative diffuser designs, the differential costs and impacts of which have not yet been fully evaluated.²⁷ The DEIS is incomplete without this information.

2. *The DEIS Fails to Fully Evaluate the Impacts of Construction of the Ocean Disposal Alternative on Surface Water Quality.*

O-28-19

As noted above, the ocean disposal alternative proposes an astonishing amount of construction: 211 miles of buried pipeline, some marine construction, and several associated pumping stations. Nevertheless, the DEIS states that construction impacts on surface water quality would not be significant:

Compliance with the Construction General Permit 99-08-DWQ and Section 404 permitting requirements will require development and implementation of BMPs to minimize erosion and sediment transport to waters of the State. As a result of this required permitting, results from construction on surface water resources are not significant.²⁸

O-28-20

As a preliminary matter, the use of BMPs suggests the existence of potentially significant adverse impacts to be mitigated by BMP implementation. The DEIS should make this clear.

O-28-21

Furthermore, the permitting processes referenced in the DEIS cannot serve as a substitute for environmental review. The DEIS must disclose all potentially significant environmental impacts and describe how, if at all, they will be eliminated or mitigated. If the permitting processes referenced will serve to mitigate an impact, they may be used for this purpose. However, their mere existence is not an acceptable justification for a finding of no significance.

of substances not removed by source control or treatment." (Policy at 2.) The final EIS must discuss and meet this requirement.

²⁶ DEIS at D-85.

²⁷ DEIS at D-5.

²⁸ DEIS at E-65.

Ms. Claire Jacquemont
September 1, 2005
Page 9

The DEIS identifies the following construction-related impacts to Aquatic and Wetland resources:

- Adverse effects to aquatic or wetland-dependent species, including “[d]isturbance or permanent loss of habitat along aquaduct and outfall.” The DEIS finds that this is a significant adverse effect that can be mitigated to a less-than-significant level.²⁹
- Adverse effects relating to filling, draining, or net loss of existing wetlands. The DEIS finds that this is a significant adverse effect that can be mitigated to a less-than-significant level.
- Adverse effects relating to alteration of historic stream channel characteristics. The DEIS finds that this is a significant adverse effect that can be mitigated to a less-than-significant level.

O-28-22 With respect to the mitigation measures that will purportedly reduce these impacts to a less-than-significant level, the DEIS states that:

Construction activities taking place in delineated wetland areas and/or stream channel crossings would follow site-specific and general BMPs. If, because of individual site conditions, it is determined that a net loss of wetland habitat values cannot be avoided, replacement habitat would be developed at ratios specified in the permit.³⁰

Unspecified BMPs cannot constitute mitigation measures adequate to reduce a significant impact to a less-than-significant level. The DEIS must fully evaluate the site-specific impacts of construction on wetlands and streams and specify mitigation measures in a way that will permit a transparent evaluation of the mitigation by the public and decision-makers. The DEIS itself acknowledges that, for some places, BMPs will not be sufficient to prevent wetland loss and habitat value. This strongly suggests an inmitigable impact: wetland replacement is not a substitute for wetland protection.

With respect to the underwater construction component of this alternative, the DEIS states:

O-28-23 Undersea construction would result in direct effects to the benthic community, particularly in the area of the buried segment where trenching would be required. Effects would depend on the type of substrate, either soft-bottomed or rocky. Disturbed sediments from excavation of soft-bottomed substrates would spread over the area, covering benthic organisms along and downcurrent of the installation corridor. The distance the disturbed sediments would travel before settling has not been calculated. The suspended portion of the outfall would likely result in minimal bottom disturbance. Most fish species, due to their mobility, would not be significantly affected by construction or placement of the pipeline and diffuser. Marine mammals could be injured

²⁹ DEIS at 2-85.

³⁰ DEIS at 7-47.

Ms. Claire Jacquemin
September 1, 2005
Page 16

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 effects to aquatic and wetland resources are anticipated to occur as a result of construction of the outfall.³¹

O-28-23 cont. This is an astonishing conclusion that is not justified or even related to the myriad impacts to aquatic resources that are detailed in the remainder of the paragraph. The DEIS cannot eliminate the possibility of a significant effect by simply saying it isn't so. The DEIS must acknowledge that the undersea construction component of the ocean disposal alternative will cause significant adverse impacts to marine habitats, biota, and wetland values, and propose appropriate mitigation measures (if any exist).

3. *The DEIS Must Evaluate the Potential for Population-Level Effects of Selenium Bioaccumulation on Biological Resources in Morro Bay.*

The DEIS states that there will be no significant population-level effects on aquatic resources (including waterbirds) due to Se bioaccumulation in Morro Bay, but fails to provide adequate justification. Instead, the DEIS repeatedly states:

O-28-24 [N]o significant increases in Se concentrations in surface water or sediments are predicted under this alternative. Therefore, no significant increases in Se bioaccumulation would be expected, and no quantitative bioaccumulation modeling was conducted.³²

Several flawed assumptions underlie this conclusion. First, the DEIS assumes that significant population-level effects will not occur due to exposure of biological resources to the highly concentrated selenium discharge at the diffuser, and the 15 µg/l plume of selenium in its vicinity. This assumption is not supportable without the quantitative bioaccumulation modeling that the DEIS declines to conduct. We respectfully request that Reclamation perform this modeling and produce the results.

Second, it defies logic to suggest that the rapid flow of highly concentrated selenium from the diffuser will not result in accumulation of selenium in nearby sediments. The potential for Se accumulation in sediments, and subsequent bioaccumulation in invertebrates, near the ocean outfall is high. Further bioaccumulation, as invertebrates are consumed by predators, can reasonably be expected. The DEIS must evaluate and model this.

³¹ DEIS at 7-47.

³² See, e.g., DEIS at 8-27.

Ms. Claire Jacquemin
September 1, 2005
Page 11

- O-28-25 4. *The DEIS Must Conduct a Cumulative Impacts Analysis for Selenium Impacts to Ocean Resources.*
- The DEIS declines to discuss cumulative effects related to the water quality impacts of the ocean disposal alternative, stating:
- Cumulative effects could be present if the mixing zones for these discharges interacted and similar constituents were discharged under the ocean disposal alternative. It is not expected that the discharge mixing zones would overlap, so no specific modeling has been conducted to evaluate the potential for overlap of the mixing zones based on the locations of the outfalls. Furthermore, none of the types of discharges that are present in the area are known to have specific compliance issues with Se.³³
- The assumption underlying this statement – that cumulative effects can only be present if mixing zones overlap – is unsubstantiated and almost certainly wrong. The other assumption – that cumulative effects need only be evaluated if the other dischargers of selenium have compliance problems related to selenium – is also wrong. If the other discharges discharge selenium, their discharge, together with that from the current project, could have cumulative effects. The DEIS needs to model this explicitly and report the results in a more complete cumulative impacts analysis.
- O-28-26 5. *The DEIS Must Expand its Analysis of Potential Impacts to Threatened and Endangered Marine Species.*
- The DEIS does not include the California sea otter – which is federally listed as a threatened marine mammal species whose population is in decline³⁴ – among its list of special status species potentially impacted by the construction and operation of the ocean disposal alternative.
- This is a worrisome oversight, as these animals are found in abundance in the area of the outfall. The California sea otter's range is limited to approximately 300 miles of the California coast, ranging from Half Moon Bay in the north to Point Conception and San Nicolas Island. In fact, the Central Coast is home to a well-documented subpopulation of sea otters, most of whom stay within the Morro Bay area year-round.³⁵ The California sea otter, also known as the southern sea otter, plays an important role in maintaining a healthy marine ecosystem, particularly kelp beds, by controlling the populations of herbivores, such as sea urchins, which graze on these plant communities.³⁶ Healthy kelp forests, in turn, play a crucial role in near-
- ³³ DEIS at 5-131.
- ³⁴ U.S. Fish and Wildlife Service, Final Revised Recovery Plan for the Southern Sea Otter (*Enhydra lutris nereis*), viii (2003) [hereinafter "Revised Recovery Plan"].
- ³⁵ The Sea Otter (*Enhydra lutris*), Behavior, Ecology, and Natural History, Biological Report 90(14) (1990) at 54-56, 77-83 [hereinafter "The Sea Otter"].
- ³⁶ The Sea Otter, at 28-29.

Ms. Claire Jacquemin
September 1, 2005
Page 12

O-28-26
cont.

shore marine ecosystems, providing important juvenile habitat for fish species and altering water flow.³⁷

Recently, however, the sea otter has suffered a steady and gravely worrisome decline. Between 1995 and 1999, the California sea otter's population declined at a rate of approximately 5% per year. The current estimate of 2,500 otters statewide reflects a population that has not grown significantly since 1994. Instead, mortality has increased, culminating in a record high mortality of 262 otters, or 10% of the population, in 2003. According to the U.S. Fish & Wildlife Service, "[t]he depressed population growth rate for the southern sea otter population is largely due to elevated mortality, as opposed to reproductive depression or emigration."³⁸ Direct causes of mortality, and any causes that contribute to mortality, pose a serious threat to the recovery of the sea otter.³⁹ One central cause of mortality is likely being furthered by the land-based sources of pollution.⁴⁰ As such, the final EIS must discuss the impact of the project on the California sea otter.

In this connection, Congress enacted the Endangered Species Act (ESA) with the express purpose of "provid[ing] a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] ... provid[ing] a program for the conservation of such endangered species and threatened species."⁴¹ As the Supreme Court has noted, the passage of ESA announced Congress' determination that saving the nation's fish and wildlife would become the federal government's "first priority."⁴² In order to accomplish this goal, the ESA sets up two key prohibitions.

First, section 7 of ESA requires each federal agency, "in consultation with" the U.S. Fish and Wildlife Service ("FWS") and the National Marine Fisheries Service ("NMFS"), to "insure that any action authorized, funded, or carried out by [a federal] agency ... is not likely to jeopardize the continued existence of any endangered species."⁴³ ESA's implementing regulations further provide that federal agencies "shall review [their] actions at the earliest possible time to determine whether any action may affect listed species or critical habitat. If such a determination is made, formal consultation is required."⁴⁴

³⁷ The Sea Otter, at 30.

³⁸ Revised Recovery Plan at viii.

³⁹ See James A. Estes, et al., "Causes of Mortality in California Sea Otters During Periods of Population Growth and Decline" 19 Marine Mammal Science 198, 215 (January 2003) (noting that "[l]ong-term declines in pup-to-adult and adult mass-to-length ratios indicate that conditions for sea otters in California are deteriorating.")

⁴⁰ *Id.*

⁴¹ 16 U.S.C. § 1531(b).

⁴² *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 85 (1978).

⁴³ 16 U.S.C. § 1536(a)(2).

⁴⁴ 50 C.F.R. § 402.14(a). The ESA's implementing regulations refer to the consultations mandated by section 7 as "formal" consultations. 50 C.F.R. § 402.14. Agencies may also engage in "informal" consultations with NMFS to

Ms. Claire Jacquemin
September 1, 2005
Page 13

**O-28-26
cont.**

The formal consultation process culminates with the issuance of a "biological opinion," which must determine whether the proposed agency action may "jeopardize the continued existence" of any listed species. This process may only be abandoned if the consulting agency determines that its activity "is not likely to adversely affect" listed species, and if NMFS concurs with this assessment in writing.⁴⁵ The requirement that agencies initiate formal consultations before taking action is a strict one.⁴⁶

Second, ESA and its implementing regulations prohibit any person from "taking" species listed as either endangered or threatened.⁴⁷ "Take" is defined by ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."⁴⁸ However, both the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) may issue permits that allow the "incidental" take of species protected by ESA. Under Section 10 of ESA, applicants may be granted an "Incidental Take Permit" if, after public notice and comment, it is determined that: (1) the taking is incidental (as opposed to intentional); (2) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; (3) adequate funding for the plan will be provided; and (4) the taking will not appreciably reduce the likelihood of the survival or recovery of the species.⁴⁹

Equally important, the Marine Mammal Protection Act (MMPA) is one of the nation's primary defenses against threats to marine mammals such as the California sea otter. The MMPA was adopted thirty-two years ago to prevent the extinction or depletion of marine mammal stocks as a result of human activities.⁵⁰ Its goal is to protect and promote the growth of marine mammal populations "to the greatest extent feasible commensurate with sound policies of resource management" and to "maintain the health and stability of the marine ecosystem."⁵¹

assess whether or not formal consultations are necessary. 50 C.F.R. § 402.13. "If during informal consultation it is determined by the Federal agency, with the written concurrence of [NMFS and/or FWS], that the action is not likely to adversely affect listed species or critical habitat, the consultation process is terminated and no further action is necessary." *Id.* § 402.13. With limited exceptions, if it is determined that an action "may affect listed species or critical habitat, formal consultation is required." *Id.* § 402.14

⁴⁵ 50 C.F.R. §§ 402.14(b), 402.14(1)(3).

⁴⁶ *Pacific Rivers Council v. Thomas*, 39 F.3d 1050, 1056 (9th Cir. 1994) ("§ 7(d) does not serve as a basis for any governmental action unless and until consultation has been initiated.") (emphasis in original).

⁴⁷ See 16 U.S.C. §§ 1533, 1538(a)(1)(A)-(B), (G).

⁴⁸ 16 U.S.C. § 1532(19).

⁴⁹ 16 U.S.C. § 1539(c)(B).

⁵⁰ 16 U.S.C. § 1531(c); *Natural Resources Defense Council v. Evans*, 279 F.Supp.2d 1129, 1141 (N.D. Cal. 2003) ("Evans").

⁵¹ 16 U.S.C. § 1561(6).

Ms. Claire Jacquemin
September 1, 2005
Page 14

O-28-26
cont.

The central provision of the MMPA is a moratorium on the "take" of any marine mammal by any person, including any private entity or any department, instrumentality or political subdivision of the State or Federal government.⁵² The term "take" is broadly defined as "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal."⁵³ The moratorium specifically prohibits activities that have "the potential to injure a marine mammal," as well as activities that have "the potential to disturb a marine mammal . . . by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering."⁵⁴

Exceptions to this general prohibition are available only under limited circumstances. To take a marine mammal under the MMPA, one must first apply to one of two federal wildlife agencies for a permit, which may be granted only if, *inter alia*, the agency finds that the take will have "a negligible impact" on the species or stock at issue.⁵⁵ Thus, the DEIS must discuss the environmental impacts of the project on the California sea otter in the context of ESA and the MMPA.

6. *The DEIS Must Include Impacts Associated with Treatment Facilities and Land Retirement In Conjunction with the Ocean Disposal Alternative.*

O-28-27

As noted above, Reclamation must employ best available demonstrated control technology to ensure that the discharge is consistent with the highest water quality possible in the existing high quality waters of Morro Bay. Accordingly, treatment – including selenium biotreatment and reverse osmosis – and land retirement must be included as components in the ocean disposal alternative to reduce the concentrations of selenium and other constituents in the drain water as much as possible. Any other formulation of this alternative is inconsistent with California's antidegradation policy.

Because the unavoidable adverse impacts associated with the In-Valley alternatives that relate to construction of treatment facilities and land retirement were not considered as part of the ocean disposal alternative in the DEIS, the reviewing public and decision-makers may be misled in the assessment of significant unavoidable impacts that would occur as a result of the ocean disposal alternative than the In-Valley alternatives. In a legal articulation of the ocean disposal alternative, this would not be the case. Accordingly, these unavoidable adverse impacts must be included in the evaluation of the ocean disposal alternative.

* * * * *

⁵² 16 U.S.C. §§ 1371(a), 1362(10).

⁵³ 16 U.S.C. § 1362(13).

⁵⁴ 16 U.S.C. § 1362(8)(A).

⁵⁵ 16 U.S.C. § 1371a(5). *See also Evans*, 279 F.Supp.2d at 1141-2.

Appendix P6


Private Organizations and Businesses Comments and Responses

Ms. Claire Jacquemin
September 1, 2005
Page 15

- O-28-28 [In sum, the DEIS's evaluation of the ocean disposal alternative and its environmental impacts is fatally flawed. An honest evaluation of this alternative -- and its myriad costs and significant environmental impacts -- would have resulted in a preliminary finding that it fails to meet the objectives of the project and been rejected on that basis. For many of the same reasons, the two Delta alternatives are also seriously flawed. We respectfully request that Reclamation
- O-28-29 [either delete all three alternatives from further consideration, or conduct an appropriate analysis of the ocean disposal alternative and the two Delta alternatives now.

Thank you for the opportunity to review this DEIS, and for considering these comments.

Sincerely,



David S. Beckman, Senior Attorney
Anjali I. Jaiswal, Staff Attorney

cc: Hal Candee, Western Water Project, NRDC

Appendix P6

Private Organizations and Businesses Comments and Responses



August 31, 2005

Via Federal Express

Ms. Claire Jacquemin
Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825
Facsimile: (916) 978-5094
E-mail: cjacquemin@mp.usbr.gov

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Re: NRDC Supplemental Comments on Drainage DEIS: Attached Documents

Dear Ms. Jacquemin:

On behalf of the Natural Resources Defense Council (NRDC) and our more than 550,000 members, we submit the following supplemental comments on the San Luis Drain Reevaluation Draft Environmental Impact Statement (DEIS). NRDC has also submitted comments on this DEIS under separate cover in conjunction with the Bay Institute and Environmental Defense, and tomorrow we will be submitting separate comments from our Santa Monica office focusing specifically on the Ocean Discharge Alternative. Finally, we also provided comments at the Bureau's workshop in Concord earlier this summer.

- O-28-30 The Bureau has improperly segmented its evaluation of these drainage alternatives, some of which include significant land retirement, from its NEPA evaluation of the proposed renewal of long term water supply contracts for the San Luis Unit and the Delta-Mendota Canal (DMC) Unit. The fate of the drainage problem and the Bureau's selection of long term drainage solutions is inextricably linked to these proposed contract renewals, including the level of reasonable and beneficial use in those two units, the environmental impacts of renewing contracts for those two units, the level of demand and appropriate level of water supply in those two units, and the implementation of various reclamation law provisions within those two units, such as incentive pricing to encourage land conservation and drainage reduction.
- O-28-31 The Bureau should redo all three NEPA processes in a programmatic manner that analyzes the cumulative effect of these interconnected actions. In addition, the Bureau should include in its Administrative Record on this DEIS all materials submitted and/or considered in connection with the renewal of DMC contracts, the renewal of San Luis Unit contracts, and any associated NEPA, CEQA and ESA reviews related to those contracts.
- O-28-32

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TEL 415 875-6100 FAX 415 875-6160

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Project	SLD
Control No.	05-000000038
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**O-28-32
cont.**

Similarly, we attach for your review and consideration as part of this DEIS review process numerous letters and materials that were in fact submitted on the subject of DMC and/or San Luis Unit contract renewals, and incorporate each of them herein by this reference. We also include and incorporate by reference other materials concerning other CVP contract renewals that relate to this DEIS, including our letter on the Sacramento Valley renewal contracts that includes a detailed discussion of the Bureau's obligations under applicable reasonable use laws, as well as the protest of CDWA on the Bureau's non-compliance with water quality standards that also includes applicable discussion of the Bureau's obligations under reasonable use laws.

O-28-33

The Bureau has also insufficiently analyzed the harmful environmental impacts of the selenium-laden drainage that is the subject of this DEIS. Accordingly, we attach for your review and consideration numerous articles and materials relating to the environmental effects of selenium and/or agricultural drainage, their impacts or potential impacts on endangered species, as well as materials from the Bureau's own drainage-related litigation, including summaries of the Bureau's legal positions in the pending Firebaugh case and NRDC's objections to earlier drainage settlements in the Peck litigation.

O-28-34

We request that each and every attached document be considered and included as part of the record on this Draft EIS. Thank you for considering our comments.

Sincerely,



Hamilton Candee
Senior Attorney

THE BAY INSTITUTE
ENVIRONMENTAL DEFENSE
NATURAL RESOURCES DEFENSE COUNCIL

August 31, 2005

Gerald Robbins, Project Manager
U.S. Bureau of Reclamation
(Attn: Clare Jacquemin)
2800 Cottage Way, MP-700
Sacramento, CA 95825

RE: DRAFT SAN LUIS DRAINAGE EIS

Dear Mr. Robbins,

This letter is submitted as the comments of the Bay Institute (TBI), Environmental Defense (ED), and the Natural Resources Defense Council (NRDC) regarding the U.S. Bureau of Reclamation's (USBR) May 2005 San Luis Drainage Feature Re-evaluation Draft Environmental Impact Statement (DEIS). NRDC will also be filing additional comments and related materials under separate cover.

Summary

Based on our review of the document, we make the following recommendations:

- The DEIS should be revised to include an environmentally preferred alternative that further reduces or eliminates total subsurface agricultural drainage volume by maximizing source control and land retirement.
- The assumptions in the DEIS regarding the use of saved water under the In-Valley Alternatives should be re-evaluated to include meeting other USBR obligations and modifying Central Valley Project contract commitments.
- The analysis of the four In-Valley Alternatives should be revised to more accurately represent the significant potential adverse impacts of constructing new evaporation basins.
- Additional information regarding operation of treatment and re-use facilities in the In-Valley Alternatives is needed.
- The analysis of the Delta Disposal Alternatives should be revised to more accurately represent the significant potential adverse impacts to biological resources and other beneficial uses.

Mr. Gerald Robbins
TBI/ED/NRDC comments on San Luis Drainage DEIS
August 31, 2005
Page 2

Discussion

The DEIS should be revised to include an environmentally preferred alternative that further reduces or eliminates total subsurface agricultural drainage volume by maximizing source control and land retirement.

Although the DEIS does not identify a preferred alternative, the In-Valley Drainage Impaired Area Land Retirement Alternative comes the closest among the alternatives described to meeting our criteria for the environmentally preferred alternative, by avoiding the greatest number of and most serious environmental impacts and significantly reducing the need for mitigation. USBR's own draft National Economic Development analysis shows that this Alternative is the least costly to the nation and the region. The fundamental reason for this is that the Drainage-Impaired Area Alternative generates the least volume of drainage discharge to be disposed. (If the true impacts of Delta discharge or evaporation pond operation were fully disclosed, as discussed below, the comparative benefits of this alternative would be even higher).

O-28-35

Even the Drainage-Impaired Area Alternative, however, would still generate sufficient drainage volumes to cause significant adverse environmental impacts from discharge to evaporation basins (see below). Additional measures are necessary to further reduce or eliminate drainage volume and preclude the use of evaporation basins. These measures include:

- Retirement of additional lands (up to the total of 379,000 acres of drainage impaired lands).¹
- Drainage discharge limits for irrigators in the drainage service area (based on the amount of irrigation water needed to maintain soil salt balance, minus losses).
- Tiered water pricing, discharge credit trading, and other incentive programs.
- Marketing waste salts created at the end of the treatment and reuse phases.

We have described the elements of such an alternative in numerous communications to the USBR during the course of the Drainage Feature Re-Evaluation (ED, 2001a,b; ED, 2003a,b; TBI et al, 2001; TBI et al, 2003). An

¹ Some groups have expressed concern regarding the effects of land retirement on local communities. In fact, the Westside of the San Joaquin Valley demonstrates some of the serious flaws in the federal Reclamation program. Despite the massive subsidies received by Westside land owners, benefits generally have not trickled down to local communities. We will not discuss here the reasons for this failure. Nevertheless, given that the Reclamation program was intended to benefit local communities, we believe that federal land retirement programs should be accompanied by assistance to local communities, including but not limited to retraining programs.

Mr. Gerald Robbins
TBI/ED/NRDC comments on San Luis Drainage DEIS
August 31, 2005
Page 3

alternative that incorporates these elements should be included in the Final EIS and selected as the preferred alternative.

The assumptions in the DEIS regarding the use of saved water under the In-Valley Alternatives should be re-evaluated to include meeting other USBR obligations and modifying Central Valley Project contract commitments

O-28-36

Water saved as a result of implementing land retirement or other measures under the In-Valley Alternatives should not be automatically assumed to remain under the control of water districts contracting with USBR for deliveries. As the actual water rights holder, USBR retains control over these supplies and has the ability, indeed the obligation, to allocate these supplies to purposes other than contractual commitments when its other, over-riding responsibilities as a water rights holder and a federal agency are not being fully discharged.² These statutory and regulatory requirements include compliance with the Central Valley Project Improvement Act (CVPIA), the Clean Water Act (CWA), and the Endangered Species Act (ESA), among others. USBR is currently not in full compliance with many of these requirements. Furthermore, in renewing Central Valley Project contracts USBR can and should modify its contractual commitments to reflect decreases in irrigated acreage, decreased need for deliveries, and reallocations of water to meet USBR's obligations under the CVPIA, CWA, ESA and other laws.³ The DEIS should be revised to include these alternative allocations of saved water and reductions in contract commitments to water districts in the drainage service area.

The analysis of the four In-Valley Alternatives should be revised to more accurately represent the significant potential adverse impacts of constructing new evaporation basins.

O-28-37

All of the In-Valley Alternatives include large-scale construction and operation of evaporation basins (1,100 – 3,290 acres). Avian mortality and severe teratogenic effects have been documented at historic and existing evaporation basins, sometimes at levels exceeding those observed at Kesterson (TBI, 1993).

The DEIS assumes that basin design (by eliminating attractive habitats such as levees and islands) will eliminate impacts to avian species. These design elements are only intended to affect use by breeding shorebirds, however.

² In fact, because of the Bureau's obligations under federal reclamation law and state water law to ensure reasonable and beneficial use of CVP water, there is a serious question as to whether the Bureau even has the legal authority to retain the full, historic contract amounts in new San Luis Unit contracts when so much land is drainage-impaired and so many acres will be going out of production.

³ Some of our groups have previously written to the Bureau about this problem in the new proposed renewal contracts. See, e.g., Comments of NRDC and TBI on the draft contracts and related draft NEPA documents for the DMC Unit and San Luis Unit of the CVP.

Mr. Gerald Robbins
TBI/ED/NRLDC comments on San Luis Drainage DEIS
August 31, 2005
Page 4

O-28-37
cont.

Wintering and resident waterbirds (e.g., diving ducks) will also be attracted to these basins, with potential impacts on adult mortality, long-term breeding success, etc, that are not well understood. Because a variety of waterbirds are certain to use these basins, USBR will need to include both alternative and compensation habitat to mitigate for the impacts of basin operation. The DEIS does not include any such alternative or compensation habitat mitigation requirements. Furthermore, existing protocols for alternative and compensation habitats are based entirely on use by breeding shorebirds. New protocols based on use by wintering and resident waterbirds also will need to be developed and included in the Final EIS. The scale of mitigation required for constructing and operating up to 3,300 acres of new evaporation basins could be prohibitive in areal extent and project cost.

According to the DEIS, treatment is intended to reduce the level of selenium in inflow to the evaporation basins. Because neither the concentration levels nor chemical form of the selenium is known, it is not possible to adequately evaluate the potential for biological uptake, and therefore the degree of mitigation necessary. More organic forms of selenium are more readily bioavailable, and even low levels of any form of selenium can trigger teratogenic effects. The DEIS also assumes that inflow to the ponds will be nutrient-limited as a result of treatment, and therefore algae and other aquatic vegetation will be absent. No data has been generated to validate this assumption.

Finally, USBR's potential liability for environmental damage resulting from evaporation basin operation is undefined, and no provisions for ensuring against such liability are included. For all these reasons, the construction and operation of evaporation basins should be rejected as a component of the In-Valley Alternatives – and the preferred alternative – in the Final EIS.

Additional information regarding operation of treatment and re-use facilities in the In-Valley Alternatives is needed.

O-28-38

Treatment and re-use are important elements of any In-Valley Alternative (and, in our view, of any preferred alternative) because they reduce the amount of drainwater, salts and toxic substances requiring disposal. However, if implemented improperly treatment and re-use can create significant adverse impacts.

Treatment systems that reduce the concentrations of selenium, boron, and salts are promising, but not proven, and results to date are from experimental projects that have not been implemented on a large scale. Furthermore, treatment systems that reduce the amount of selenium in the water but change its chemical form can actually increase the toxicity of the resultant volume rather than decrease it. (See Amweg et al., 2003 and presentations of U.S. Fish and Wildlife

Mr. Gerald Robbins
TBI/ED/NRDC comments on San Luis Drainage DEIS
August 31, 2005
Page 5

O-28-38
cont.

Service at the 2003 U.C. Salinity / drainage conference). The form of selenium in the effluent from these experimental projects has not been disclosed to the public, despite longstanding requests from the U.S. Fish and Wildlife Service, the U.S. Geological Survey, and other parties.

Re-use facilities can be operated safely so long as ponding of water is avoided. The 2003 flooding incident at the San Joaquin River Improvement Project demonstrates how quickly ponding can lead to biological uptake of selenium. Within about three days, a contaminated food chain developed. Bird eggs later collected from the area contained sufficient selenium to cause about 25 % of the embryos to be deformed, on top of another 25 – 30% of eggs that would not have been expected to hatch at all due to selenium effects – in effect, a take of black-necked stilts under the Migratory Bird Treaty Act (Harvey, 2004). As a result, these facilities should be designed so that such ponding is completely controlled, even during periods of intense rainfall. In addition, in order to create an incentive to avoid ponding and to ensure prompt clean-up and mitigation should a ponding event occur, re-use facility operators should post a performance bond or obtain commercial insurance. Either of these mechanisms would also provide an estimate of the true cost of the risk that is borne by the environment from the large-scale development of re-use systems.

These disclosure and mitigation requirements should be included as part of the In-Valley Alternatives in the Final EIS.

The analysis of the Delta Disposal Alternatives should be revised to more accurately represent the significant potential adverse impacts to biological resources and other beneficial uses.

O-28-39

The DEIS significantly understates the ecological impacts of implementing the Delta Disposal Alternatives. To begin with, current monitoring data clearly show that elevated levels of selenium are already found in organisms at all trophic levels in the San Francisco Bay-Delta estuary. According to the U.S. Geological Survey (USGS), "Selenium concentrations were less than water quality guidelines in both the Delta and the Bay in the latest surveys in 1996. Nevertheless, Se in the food web was sufficient to be a threat to some species and a concern to human health if those species were consumed" (Presser and Luoma, 2004). Discharges of selenium in effluent from oil refineries in the Bay Area have been strictly curtailed as a result of legal and regulatory actions to prevent continuing biological uptake of selenium in the Bay-Delta system (See Luoma and Presser, 2000, Table 10). In addition, extensive modeling analyses conducted by USGS indicate that Delta disposal of Westside subsurface drainage would likely result in significant, large-scale adverse biological effects, even if the selenium levels in the discharge were less than permitted concentration levels (Luoma and Presser, 2000). Finally, numerous pelagic fish and zooplankton

Appendix P6

Private Organizations and Businesses Comments and Responses

Mr. Gerald Robbins
TBI/ED/NRDC comments on San Luis Drainage DEIS
August 31, 2005
Page 6

O-28-39
cont.

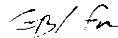
species of the Bay-Delta estuary have experienced severe population declines over the past three years, and toxic loading has been implicated as an important factor contributing to these declines. Increasing selenium loading would exacerbate an existing stressor, or create a new one, at a time when the estuarine ecosystem, including several species listed under the federal Endangered Species Act, is at its most vulnerable state in years (for instance, see the results of the 2005 summer townet survey at <http://delta.dfg.ca.gov/data/townet>). It should also be noted that drinking water quality for the Contra Costa Water District will be degraded, and systems operations and infrastructure also affected, as a result of Delta disposal. For these reasons, the Delta Disposal Alternatives should be rejected in the Final EIS. (The ocean discharge alternative has similar fatal defects and should also be rejected, as explained in separate comments being filed by NRDC.).

Thank you for considering our views on the San Luis Drainage Feature Re-Evaluation DEIS. Please contact us if you have any questions regarding these comments.

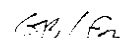
Sincerely,



Gary Bobker
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Mr. Gerald Robbins
TBI/ED/NRDC comments on San Luis Drainage DEIS
August 31, 2005
Page 7

References

California Department of Fish and Game (CDFG). 2005. 2005 summer townet survey. Available at: <http://delta.dfg.ca.gov/data/townet/>.

Environmental Defense (ED). 2001a. August 17, 2001, letter from Dr. Terry Young, et al, ED, to William H. Luce, Jr., USBR.

Environmental Defense (ED). 2001b. November 7, 2001, letter from Dr. Terry Young et al, ED, to Michael Delamore, USBR.

Environmental Defense (ED). 2003a. February 21, 2003, comments on the Bureau of reclamation's San Luis Drainage Feature Re-Evaluation and EIS.

Environmental Defense (ED). 2003b. December 5, 2003, e-mail from Dr. Terry Young to Jennifer Allen, Public Affairs Management.

Harvey, H.T., & Associates. 2004. San Joaquin River Water Quality Improvement Project, Phase I Wildlife Monitoring Report. Prepared for Panoche Drainage District.

Luoma, S.N., and T.S. Presser. 2000. Forecasting selenium discharges to the San Francisco Bay-Delta Estuary: ecological effects of a proposed San Luis Drain extension, U.S. Geological Survey Open-File Report 00-416. Available at: <http://water.usgs.gov/pubs/ofr/ofr00-416>

Presser, T.S., and S.N. Luoma. 2004. Linking selenium sources to ecosystems: San Francisco Bay-Delta Model: U.S. Geological Survey Fact Sheet 2004-3091. Available at: (<http://water.usgs.gov/pubs/fs/2004/3091/>)

The Bay Institute (TBI). 1993. *Death in the ponds*.

The Bay Institute, Contra Costa County, Contra Costa Water District, and Environmental Defense (TBI et al). 2001. October 4, 2001, letter from Gary Bobker, TBI, et al, to William H. Luce, Jr., USBR.

The Bay Institute, Contra Costa County, Contra Costa Water Agency, Contra Costa Water District, and Environmental Defense (TBI et al). 2003. *Drainage without a dam*.

Note: The remainder of this submittal contains material that does not comment on the Draft EIS and therefore requires no response from Reclamation. Because it is not comment material, it is not included in the Final EIS, but it will be included in the administrative record for this project and is available upon request.

RESPONSES TO COMMENT O-28

O-28-1a

See Master Response P&N-1.

O-28-1b

The issues cited in the comment relate to water supply issues and ESA consultation, which are not the subject of this NEPA evaluation of the Federal action to provide drainage service to the San Luis Unit. The commenter is directed to submit these comments to the NEPA review of the Long-Term Water Contracts Renewal Project. Assumptions about water supply are included in Section 2 and are based on historical CVP water deliveries at 70 percent of the contract amounts and use of pumped local groundwater supplies up to the sustainable yield amount (175,000 AF/year). Detailed analysis of issues related to additional water purchases for other water supply and long-term water contract renewals are outside of the scope of this EIS. Consultation with the Service and NOAA Fisheries has been completed for the In-Valley Alternatives to identify the types of information and actions necessary to protect special-status species while addressing project needs. Information developed during consultation has been incorporated into the Final EIS. The Biological Opinion from the Service and the consultation findings from NOAA Fisheries are included in Appendices M2 and M3, respectively.

O-28-1c

The full record of the Sumner Peck litigation will be included in the administrative record.

O-28-2

The comment is noted. See Master Response EC-3 in regard to repayment of project costs.

O-28-3

Reclamation disagrees with the comment that impacts and costs for the Ocean Disposal Alternative have not been taken into account. Appendix O of the Final EIS provides mitigation cost estimates for the Ocean Disposal Alternative as well as other action alternatives. See Master Responses SW-4, SW-5, and SW-9 through SW-15 for additional discussion of effects of the Ocean Disposal Alternative.

O-28-4

Comment noted. No response necessary.

O-28-5

All of the features listed in the comment are included in the In-Valley Alternatives.

O-28-6, 7

Reclamation has considered the "Rainbow Report" and "Drainage Without a Drain" in the development of project alternatives.

O-28-8

As stated in the comment, an agency-preferred alternative or alternatives must be identified in the Draft EIS "if one or more exists." Reclamation had not identified a preferred alternative when the Draft EIS was published. The agency-preferred alternative is identified in the Final EIS (see Section 2.15), and the environmentally preferred alternative will be identified in the ROD as required by Council on Environmental Quality regulations for NEPA implementation.

O-28-9

The comment is noted. See Master Responses GEN-1, ALT-T1, and SW-8.

O-28-10

The discharges discussed in the EIS are expected to maintain receiving water quality and associated beneficial uses of the receiving waters as described in the EIS. Discharges in accordance with limitations and specifications of subsequent NPDES permits are not expected to degrade water quality. Accordingly, these alternatives are consistent with the requirements of State Board Resolution No. 68-16 (commonly called the Anti-Degradation Policy).

O-28-11

The Final EIS has been modified to state that Morro Bay is part of the National Estuary Program, and a description of the program has been added to Appendix L, Section L3.1. See Master Response SW-12 for a discussion of impacts to special-status species. Based on the impact analysis presented in the EIS, Reclamation believes the Ocean Disposal Alternative is consistent with the goals of the National Estuary Program.

O-28-12

The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (State Board Resolution 95-84) prohibits "new discharges of municipal wastewaters and industrial process waters." The policy does not address agricultural drainwater. Further, the discharge would occur 1.4 miles offshore in the Pacific Ocean north of Morro Bay. Based on reasonable research conducted as a part of this NEPA analysis, no significant impacts to the marine environment are expected. See also Master Response SW-13.

The California Thermal Plan specifies that the temperature of new ocean discharges shall not exceed natural receiving water temperatures by more than 20°F. As detailed in Master Response SW-14, the temperature difference between discharge and ocean would be greatest in the summer. The summer temperature difference between the drainwater entering the pipeline in the valley and the ocean at the depth of the diffuser is expected to be less than 27°F (15°C; see Master Response SW-14) and may be within the 20°F temperature differential specified by the

Thermal Plan. A more formal analysis of heat loss within the conveyance system would be required to determine the maximum summer discharge temperature at the discharge location; if heat loss would not be sufficient to reduce the temperature differential, alternative temperature reduction measures could be implemented prior to discharge. In other seasons, the discharge would certainly fall within the 20°F temperature differential. In addition, the discharge is expected to comply with the additional requirements specified in the California Thermal Plan for new ocean discharges (see Thermal Plan Section 3 B(1)–(4)). In any case, the temperature of the discharge/ocean mixture would decrease rapidly within the zone of initial dilution.

O-28-13

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

O-28-14

See Master Responses ALT-P1 and GEN-1 in regard to right-of-way acquisition and costs.

O-28-15

Based on Reclamation’s analysis of the Ocean Plan discharge policy, current ocean discharge permits, and environmental impacts, discharge under the Ocean Disposal Alternative would not require Se treatment. However, if this alternative were selected, an NPDES Permit Application for Waste Discharge would be submitted. If treatment were required as a condition of permitting, Reclamation’s cost analysis indicates that Se treatment would increase the project cost by approximately \$138 million.

O-28-16

Reclamation considered a full range of alternatives, including land retirement under the Ocean Disposal Alternative. Appendix K, Section K2 provides the analysis of Out-of-Valley Disposal Alternatives with land retirement. As shown in the analysis, the In-Valley Disposal Alternative was the lowest-cost alternative even when land retirement was included in the Ocean Disposal Alternative.

O-28-17

See Master Response SW-13 in regard to the expected range of concentrations and mass of pollutants with reasonable potential to be present in Ocean Disposal Alternative discharge.

O-28-18

See Master Responses SE-1, SW-8, SW-9, SW-12, and SW-13 for more detailed information on the potential biological effects of discharge under the Ocean Disposal Alternative. Determination of what is a reasonable zone of initial dilution is ultimately the responsibility of the EPA. In the EIS, the zone was deemed reasonable based on the size of previously acceptable ZIDs and professional judgment.

O-28-19

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.

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

O-28-20

Mitigation for construction impacts to water quality is included as part of the standard engineering design process in the development of specifications for construction projects that disturb 1 acre or more of land. As a result, these measures are not mitigation.

O-28-21

Reclamation agrees with the comment. Reclamation is not attempting to justify a finding of no significance.

O-28-22

See Response to Comment O-28-19 regarding BMPs included in the project description. See Section 7 regarding impacts to wetlands and mitigation. Appendix O includes mitigation cost estimates.

O-28-23

The analysis uses existing information where available. That information indicates that timing and distance to areas used by marine species as it relates to potential construction activities would affect the level of impact. Section 7.2.8.2 discloses the potential for effects on resources as required by NEPA.

O-28-24

See Master Response SE-1 regarding the potential impacts to the outfall environment from Se bioaccumulation.

O-28-25

Based on a review of NPDES permits, no other specific sources of Se discharged to the offshore environment were found. In addition, a review of State Board Mussel Watch data on Se concentrations in bivalves (see below) did not indicate that Se concentrations at locations along the shoreline and at Cayucos Pier were elevated beyond background concentrations found along the Central Coast, providing further evidence that cumulative impacts would not be significant.

Appendix P6

Private Organizations and Businesses Comments and Responses

Therefore, the statement in the EIS that no cumulative impacts would be present from other sources is supported.

Selenium Concentrations in Central Coast Bivalve Tissue

Station Name	Number of Samples	Mean	Std Error
Aptos Creek	3	0.283333	0.12114
Carmel Bay/New Control	1	0.370000	0.20983
Carmel STP/100m South	2	0.490000	0.14837
Carmel STP/300m South	2	0.530000	0.14837
Carmel STP/30m South	2	0.480000	0.14837
Carpinteria Marsh	1	0.610000	0.20983
Cayucos Pier	1	0.350000	0.20983
Cuyama River/HWY 166	1	0.460000	0.20983
Diablo Cove/South	1	0.410000	0.20983
Diablo Cove/South/Transplant	1	0.430000	0.20983
Intake Cove/Transplant	1	0.420000	0.20983
Jalama State Beach	2	0.630000	0.14837
Lake San Antonio	3	0.663333	0.12114
Montana De Oro	5	0.336000	0.09384
Montana De Oro 1	2	0.310000	0.14837
Montana De Oro 2	1	0.200000	0.20983
Morro Bay/Boat Works	1	0.490000	0.20983
Orcutt Creek/Main Street	1	0.350000	0.20983
Pacific Grove	8	0.396250	0.07419
Salinas River/Chualar Bridge	1	0.290000	0.20983
San Luis Harbor/Transplant	1	0.470000	0.20983
Sandholdt Bridge	5	0.560000	0.09384
Santa Maria River Lagoon	2	0.435000	0.14837
Santa Maria River/HWY 1	1	0.530000	0.20983
Sisquoc River/Santa Maria Rive	1	0.290000	0.20983
Tembladero Slough	1	0.610000	0.20983

Source: State Board Mussel Watch (<http://www.waterboards.ca.gov/programs/smw/>)

O-28-26

See Master Response BIO-2 in regard to the assessment of project effects on special-status species.

O-28-27

See Responses to Comments O-28-15 and O-28-16.

O-28-28

Reclamation believes the environmental analysis presented in the Final EIS is appropriate for the purpose of disclosing environmental effects of the Ocean Disposal Alternative and the other alternatives. Section 20 has been revised to include additional information on specific mitigation commitments.

O-28-29

Comment noted. No response necessary.

O-28-30

See Master Response GEN-6 in regard to the evaluation of contract renewals.

O-28-31

See Master Response GEN-6 in regard to the consideration of water contract renewals.

O-28-32

See Response to Comment O-28-30.

O-28-33

Reclamation believes the EIS evaluation of potential effects from Se is adequate to compare environmental effects of alternatives and aid in selecting a preferred alternative.

O-28-34

The documents submitted by NRDC as part of their comments on the Draft EIS will be included in the administrative record.

O-28-35

See Master Response ALT-L2 in regard to retirement of all drainage-impaired lands.

O-28-36

See Master Response GEN-2 in regard to use of saved water.

O-28-37

Section 2.4.1.3 includes design and operation measures to minimize use of evaporation basins by waterfowl, but it is recognized that these measures will not eliminate birds at the evaporation basins. Appendix G includes a detailed risk assessment of the potential effects to birds (including diving ducks) due to the evaporation basins, and these effects are summarized in Section 7 and identified as significant impacts. Also see Master Response GW-1.

Reclamation has been working with the Service, CDFG, and the Regional Board to develop mitigation plans. This planning has gone beyond the existing Service alternative and compensation habitat protocols, which are focused on breeding shorebirds. For the Final EIS, a substantial amount of detail regarding mitigation planning for the In-Valley Alternatives has been added to Appendix J, including mitigation for other types of waterfowl that may be affected by the evaporation basins, such as divers and dabblers. Also see Master Response MIT-2.

Refer to Master Response SE-2 for a discussion of Se speciation and bioavailability and a summary of recent pilot study results.

O-28-38

Results from bioaccumulation study of biotreated drainwater are presented in Appendix B, including the requested information on Se speciation. Reclamation has added an oxidation step to the biotreatment process to lessen the bioavailability of residual selenium. As with current reuse areas, the new facilities would be operated to prevent ponding of drainwater. Stormwater accumulation would be managed so that it would not persist for more than a few days.

O-28-39

The EIS recognizes that elevated Se levels occur in organisms in the Bay-Delta, and relevant information is presented in Sections 8.1.4, 8.2.2.4, 8.2.9, and 8.2.10. As discussed in these sections, available data indicate that Se tends to concentrate to a greater extent in benthic organisms, and organisms that feed on benthos, rather than pelagic, organisms. A recent synthesis of studies conducted through the CALFED Science Program and the Interagency Ecological Program to identify causes of pelagic organism decline did not identify Se concentrations as a potential cause (http://science.calwater.ca.gov/pdf/workshops/IEP_POD_2005WorkSynthesis-draft_111405.pdf). Little or no evidence exists to indicate that the Delta Disposal Alternatives would exacerbate the decline in pelagic organisms.

