Deltakeeper

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Mr. Paul Marshall
California Department of Water Resources
Bay-Delta Office
1416 Ninth Street, P.O. Box 942836
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Mr. Dan Meier,
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2800 Cottage Way, MP-700
Sacramento, CA 95825

VIA FAX: Hardcopy to Follow

Re: Comments on Scope of South Delta EIS/EIR

Dear Messrs. Marshall and Meier:

DeltaKeeper, WaterKeepers Northern California and the California Sportfishing Protection Alliance (hereinafter, DeltaKeeper) appreciate the opportunity to provide the following scoping comments regarding the EIR/EIS for the South Delta Improvements Program (SDIP).

The history of structural manipulation of waterways in the Sacramento-San Joaquin Delta (Delta) has been a series of unmitigated disasters, despite promises of benign or beneficial effects in the accompanying environmental reviews. We simply do not know enough to anticipate the complex suite of interacting ecosystem responses (i.e., interactive effects on bathymetry, flow patterns, water quality, ecosystem process, habitat values, etc.) when we attempt to engineer structural solutions to specific problems. Unfortunately, existing baseline data is clearly inadequate and necessary studies identified through the public comment period cannot be completed before the SDIP FEIR/EIS is scheduled to be circulated. The sum of scientific uncertainty and pressure to increase Delta exports is a recipe for continued or increased degradation. As the EIR/EIS must exhaustively evaluate the SDIP's potential adverse impacts to the Delta ecosystem, revision of project timelines should be considered.

Our comments are grouped under the following headings: Conformance with the Record of Decision (ROD), Project Alternatives, Modeling, Water Quality, Fisheries, Redirected Impacts and Cumulative Effects.

The SDIP Must Be Consistent With The ROD.

The EIR/EIS must provide a discussion of the project's consistency with management measures and facility improvements contained in the ROD. These include: 1) full implementation of the CVPIA 3406(b)(2) provision for 800,000 AF of flow, 2) the Environmental Water Account (including funding for water purchases), 3) the instream flows necessary to achieve the Ecosystem Restoration Program's river and estuarian objectives, and 4) the "no jeopardy" ESA decisions by the Services that were predicated upon satisfactory progress toward completion of new fish screens.

The SDIP is only one component in a balanced CalFed program encompassing water supply, conveyance, water quality, ecosystem restoration, etc. All of these components are interrelated and interdependent. DeltaKeeper is concerned that the project represents a decision to expedite one element (i.e., subsidized water supply for Southern California) at the expense of other elements (i.e., ecosystem water quality). The Delta is impaired by a broad range of pollutants. Ecosystem water quality has often been regarded as a stepchild in the CalFed program. The SDIP's water quality goals are limited to salinity reductions for South Delta irrigated agriculture. The EIR/EIS should discuss how the project integrates and buttresses CalFed's commitment to address the complete spectrum of Delta water quality impairment.

The EIR/EIS Must Consider A Reasonable Range Of Alternatives

The EIR/EIS must consider feasible alternatives that would obviate the necessity for increased export capacity. These include: 1) evaluation of the cost effective retirement of marginal farmland (including, but not limited to the selenium-laced soils of Westlands), 2) comprehensive agricultural and urban water conservation (including recycling, reclamation and the capture and treatment of surface/stormwater runoff), and 3) implementation of an aggressive desalination program in Southern California. It is likely that these alternatives would be environmentally superior and considerably more cost effective than the billions of dollars required for the SDIP. The cost of desalination is approaching the $750 to $1,000 range. Point and non-point control programs, like TMDLs, are problematic and prohibitively expensive. Conservation is clearly more cost effective than heavily subsidized export water. The EIS/EIR should also examine alternatives that would reduce or eliminate the need for dredging (i.e., setback levees). Should the aforementioned alternatives be rejected, the EIR/EIS must contain a discussion of why they were considered infeasible.

Modeling

Given the paucity of available empirical water quality data, evaluation of project impacts on water quality and flow will substantially depend upon flow and water quality modeling efforts. Hydrodynamic modeling by any known technique is not an exact science. Models are easily manipulated and should not be employed as substitute for hard data or common sense. Subtle changes in coefficients or assumptions can dramatically alter output. Input variables are critical. Proper calibration and verification is crucial. Even then, models are only an idealization of actual field conditions and must

be used with caution to ensure that underlying assumptions hold for the site-specific situation being modeled. The use of average values in modeling ensures results that are generally unprotective of specific water quality criteria. Virtually all models, even those subject to peer-review, have significant rates-of-error, often greater than plus or minus 50%. For example, examination of DSM2 verification for electrical conductivity in Old River reveals significant deviation from actual field conditions.

The EIR/EIS must identify and discuss:

1. model input variables; i.e., channel geometry, surface and bottom temperature and density, constituent concentration, velocity, friction factors, stratification, etc.
2. calibration and verification of models; i.e., adequacy of baseline data for various constituents and how closely output conforms to actual field measurement.
3. assumptions used in modeling flow and water quality. For example, CALSIM studies for the SDIP have assumed that Stanislaus River operations are in accordance with the USBR's New Melones Interim Operation Plan. However, since the Operation Plan cannot be met during drought cycles, how does the model accommodate the lack of New Melones storage and reduced instream flow during consecutive drought years?
4. Foreseeable future changes: i.e., loss of storage capacity due to sedimentation and the continuing 80 year decline in snowmelt as a percentage of yearly runoff.

Water Quality

The SDIP must be consistent with and comply with requirements of the federal Water Pollution Control Act and California's Porter-Cologne Water Quality Control Act. Delta water quality must not be sacrificed at the altar of increase exports.

The historical export of South Delta water has fundamentally altered the movement of pollutants throughout the Delta. Rapid population growth in the South Delta is increasing the mass loading of numerous pollutants (i.e., wastewater, stormwater, illegal dumping). Implementation of the SDIP will further alter the distribution and concentration of these constituents. The majority of water quality monitoring has primarily focused on salinity, with little emphasis on other water quality parameters. Sufficient baseline field data does not yet exist to adequately calibrate/verify models and evaluate project effects on the rainbow of water quality constituents (i.e., virtually the entire suite of organic and inorganic pollutants) that will likely be affected by the project. A rigorous water quality monitoring program should precede project evaluation and implementation.

The Delta is identified on the 1988 California Clean Water Act 303(d) List as impaired because of diazinon, chlorpyrifos, DDT, Group A Pesticides, electrical conductivity, mercury, organic enrichment/low dissolved oxygen and unknown toxicity.

Old and Middle Rivers are proposed to be listed on the 2002 303(d) update as impaired because of low dissolved oxygen. The EIR/EIS must evaluate the project's effects on the full suite of pollutants presently identified as impairing Delta waters.

Toxicity to lower tropic populations in Paradise Cut, attributable to organophosphorus insecticides, extends for weeks at a time. Delta waters frequently contain a cocktail of as many as 15 pesticides. Many of these interact additively or synergistically and/or bind to sediment. The tissue of fish collected from the South Delta contains high concentrations of bioaccumulative toxins (i.e., legacy pesticides, mercury and PCBs). The EIR/EIS must contain an assessment of the sources, mass loading and the fate and transport of all pollutants likely to be present and an evaluation of water quality impacts from the project and alternatives.

There are indications that selenium loads in the San Joaquin River have historically been diverted down Old River. Benthic organisms bioaccumulate selenium. The EIR/EIS should evaluate the effects of redirected selenium loads into the eutrophic areas of the Central Delta.

Dioxin concentrations significantly above levels protective of public health have been documented throughout San Francisco Bay and the Stockton Deep-Water Channel. Discussion with staff from the California Department of Public Health and the Central Valley Regional Water Quality Control Board, as well as private consultants, lead DeltaKeeper to believe that elevated concentrations of dioxins are likely present in the South Delta. The SDIP should evaluate the project's effects on likely dioxin concentrations in the South Delta.

Elevated levels of pathogens have been identified in the South Delta. Changes in flow will likely have an effect on concentration and spatial distribution of bacteria, viruses and parasites. Consequently, the EIR/EIS must identify and evaluate the project's effects on pathogens.

The SDIP and inevitable changes in flow and export rates will likely have a significant effect on existing efforts to achieve water quality standards. The EIR/EIS must discuss the project's compatibility with TMDLs, Toxic Hot Spot cleanup plans and Basin Water Quality Control Plans and how altered flow and increased exports will effect implementation of control measures.

Increased exports will likely alter streamflow regimes on major tributaries to the Delta (including the Trinity and Klamath Rivers). The EIR/EIS must evaluate and discuss the project's effects on the physical and chemical parameters necessary to support renewable fisheries within upstream tributaries and reservoirs.

Increased exports during certain periods of the year will likely lead to reductions in streamflow during other times of the year (as the VAMP did on the San Joaquin River). This will almost certainly lead to reduced assimilative capacity (i.e., reduction in available dilution) on a number of waterbodies during certain time-periods. Reduction in

streamflow and the resulting loss of assimilative capacity will necessitate more stringent NPDES permit limits. More restrictive permit limits will require dischargers to expend enormous sums of money to comply with new limits. The EIR/EIS must evaluate the impacts to dischargers who will face more stringent permit limits caused by reductions in available dilution.

A significant SDIP component involves increased dredging of South Delta channels. Recently, the Central Valley Regional Water Quality Control Board strengthened requirements for dredging and dredge spoil placement. A comprehensive assessment of contaminate remobilization from dredging activities and and potential effects of land disposal on terrestrial organisms is required. The discussion must include an evaluation of the adequacy of available sediment analyses (i.e., number of core samples, locations, constituents analyzed, concentrations, detection limits, etc.) and identify and evaluate disposal sites.

Fisheries

The scoping document and Federal Register notice state that the SDIP would construct a permanent operable fish control structure at the head of Old River to reduce fish losses at the CVP and SWP export facilities. However the latest fish telemetry data undermines the concept of the fish barrier at Old River (i.e., salmonid outmigrants will swim to the sea instead of being drawn down Old River to the export facilities). When the barrier is installed, juvenile salmon continue down the San Joaquin River until they reach Turner and Columbia Cuts where they are drawn to the pumps. The data also demonstrates that Sacramento River juvenile salmon are drawn to the pumps when the Delta Cross Channel gates are open. The EIS/EIR must contain a comprehensive discussion of increased entrainment due to increased exports, as well as a discussion on the effectiveness of any permanent Old River fish barrier.

Delta waterways are habitat and migration corridors for a number species protected under federal and state endangered species acts. Species include: Central Valley spring-run chinook salmon (*Oncorhynchus tshawytscha* - federal and state listed as threatened); Central Valley steelhead (*Oncorhynchus mykiss* -federal listed as threatened); Delta smelt (*Hypomesus transpacificus* - federal and state listed as threatened); Sacramento splittail (*Pogonichthys macrolepidotus* - federal listed as threatened, California species of concern). Depending upon water-year type and operation of the export pumps, other listed species can be drawn into these waterways including winter-run chinook salmon (*Oncorhynchus tshawytscha* - federal and state listed as endangered). Additionally, fall/late-fall-run chinook salmon have been proposed to be listed as threatened and are a California species of concern. Green sturgeon (*Acipenser medirostris*) is being evaluated for listing and is a California species of concern. The longfin smelt (*Spirinchus thaleichths*), hardhead (*Mylopharodon conocephalus*) and Sacramento perch (*Archoplites interruptus)* are identified as California species of concern. The EIR/EIS must evaluate project impacts on identified species, as well as non-special status species (i.e., striped bass, largemouth bass, smallmouth bass, catfish, panfish, etc.).

Funding for the research module of the new state-of-the-art fish screens has been reduce by two-thirds. The State Water Project Contractors and the MWD have launched a coordinated effort to eliminate the entire six-module screening project and replace it with an inexpensive alternative relying upon existing louvers. The EIR/EIS must discuss the consequences resulting from a delay or failure to install new fish screens.

Increased export rates will lower the water level in Old River (north of the barrier), Middle River-Victoria Canal, Trapper Slough, etc. This lowering of the water level will require agricultural diverters to extend diversion pipes into the center of the waterway and/or replace siphon pumps with rotary turbine pumps. Additionally, there are proposals to establish "temporary" or "emergency" pumps in the vicinity of Victoria Canal-Union Point. There is no requirement that new or modified diversions have fish screens. The EIR/EIS must discuss the impacts of increased entrainment at new or modified diversions.

Phytoplankton production has decreased about one order of magnitude (Alpine and Cloern, 1992, Tropic interactions and direct physical effects control phytoplankton biomass and production in an estuary, Limnology and Oceanography 37:946-955)) while zooplankton production is down one to two orders of magnitude (Obrebski et al, 1992, Long term trends in zooplankton distribution and abundance in the Sacramento-San Joaquin estuary, Technical Report 32, Interagency Ecological Studies Program) in the San Joaquin River-Delta system. The EIR/EIS must evaluate project impacts on lower tropic populations.

Redirected Impacts

The scoping document for the SDIP identifies the primary issues as: 1) current and proposed diversion rates impede the ability to divert irrigation water, 2) salinity standards, and 3) decline in Delta smelt and San Joaquin River salmon populations. The project's elements are defined as: 1) increased maximum export capacity at Clifton Court Forebay, 2) dredging in Old River to facilitate increased exports, 3) improved agricultural water delivery by construction of permanent operable barriers and local channel dredging, and 4) construction of a fish control structure at the head of Old River to reduce salmon losses at CVP and SWP export facilities. However, increased export rates, the potential for increases in total export quantity and the inevitable altered hydrographs on numerous tributaries are likely to affect the entire Central Valley circulatory system.

Many of the Delta's present problems derive from a failure to consider the redirected or system-wide impacts caused by previous projects. The EIR/EIS must evaluate the project's potential present and future adverse impacts on: 1) the suite of water quality problems and pollutants in the Delta, downstream waters (Suisun and San Francisco Bays) and upstream tributaries (including the Trinity-Klamath system), 2) aquatic life populations in those waterbodies and 3) existing programs to meet water quality standards (i.e., TMDLs, Toxic Hot Spot cleanup programs, NPDES permits, etc.).

Presumably, increased export rates could lead to draw-downs of upstream reservoirs. Should the SDIP lead to reductions in upstream reservoir storage and water elevation, the EIS/EIR must analyze the effects on fisheries and recreation in the affected impoundments. It should also discuss potential effects to non-state water project facilities (i.e., those having to meet shortfalls induced by the SDIP).

Cumulative Impacts

The EIR/EIS must evaluate the growth inducing impacts from any increase in exports (or water supply reliability). It must also evaluate the project in context of the numerous other project presently contemplated to be developed during the thirty-year CalFed program.

Thank you for considering these comments. If you have any questions or require clarification, please contact me at (209)464-5090 or deltakeep@aol.com. Thank You.

Bill Jennings, DeltaKeeper
Chairman, California Sportfishing Protection Alliance