EXHIBIT A

May 30, 2008

Ms. Delores Brown
Chief, Office of Environmental Compliance
Department of Water Resources
P. O. Box 942836
Sacramento, CA 94236

VIA U.S. MAIL AND EMAIL TO delores@water.ca.gov

RE: Scoping Comments on the BDCP EIS/EIR

Dear Ms. Brown:

We are writing on behalf of the Natural Resources Defense Council, Defenders of Wildlife, Environmental Defense Fund, and The Bay Institute, and our hundreds of thousands of collective members and activists in California, to submit the following comments on the scope of the Environmental Impact Statement / Environmental Impact Report ("EIS/EIR") that is being prepared for the Bay Delta Conservation Plan ("BDCP"). We expect that analysis of these issues in the environmental review process for the BDCP will help lead the State and federal agencies to sustainably manage the CVP and SWP in the Delta, consistent with the co-equal goals of ecosystem health and reliable water supplies established by the Delta Vision Blue Ribbon Task Force. These comments are supplementary to our joint comments to the National Marine Fisheries Service and U.S. Fish and Wildlife Service dated March 24, 2008, which are attached hereto as Exhibit A and incorporated by this reference.

We present the following recommendations for the environmental review process of the BDCP:

- The BDCP should utilize an ecosystem approach under the Natural Community Conservation Planning Act, Cal. Fish and Game Code §§ 2800 *et seq*. ("NCCPA");
- The BDCP should adopt measurable goals and objectives for the species (e.g., population abundance targets where possible) and habitats covered by the Plan, should include effective monitoring to determine progress towards these goals, and should adapt management of the CVP and SWP over time to meet these goals;
- The BDCP should include operational criteria to respond to a broad range of water years and other foreseeable circumstances, such as poor ocean conditions, in order to operate the CVP and SWP to meet conservation goals and ensure that the regulatory assurances provided in the Habitat Conservation Plan / Natural Community Conservation Plan ("HCP/NCCP") do not adversely affect the Delta environment;
- Consistent with the requirements of the federal Endangered Species Act, 16 U.S.C. §§ 1531 *et seq*. ("ESA"), California Endangered Species Act, Cal. Fish and Game Code §§ 2080 *et*

seq. ("CESA"), and NCCPA, the HCP/NCCP must minimize the take of covered species, must provide guaranteed funding for implementation over the life of the permits, must not jeopardize either the survival or recovery of listed species, and must be consistent with existing legal requirements applicable to the CVP and SWP;

- The EIS/EIR should analyze alternatives that would increase outflow and reduce exports as compared to current conditions, and analyze water conservation, efficiency, and additional demand reduction measures, as well as water recycling, groundwater and conjunctive use programs, urban stormwater capture and other tools to achieve the BDCP's water supply reliability goal;
- The baseline for analysis in the EIS/EIR must be based on the existing operational and legal constraints for the CVP and SWP;
- The EIS/EIR must analyze the BDCP's impacts, with particular focus on: (1) global climate change; (2) water quality, including salinity, toxic hot spots, pesticides, mercury, and other pollutants; (3) biological resources, including all species that may be impacted by the CVP and SWP, as well as upland habitats that may be affected; and (4) cumulative impacts; and the approved HCP/NCCP must minimize the Projects' environmental impacts to a less than significant level if feasible mitigation measures exist;
- The EIS/EIR must adequately analyze the effectiveness of proposed mitigation and conservation measures over the term of the BDCP;
- The EIS/EIR must analyze consistency with and potential impacts on the Delta Vision "vision" document and strategic plan;
- The EIS/EIR should consider broadening the Project Area and scope to include all parts of the CVP and SWP, including reservoirs upstream of the Delta, as well as other activities that impact covered species;
- The EIS/EIR should analyze the economic costs and benefits of water conservation and efficiency improvements to meet water supply needs, as well as identifying reasonable sources of funding to implement the BDCP; and
- The scoping and comment period for the EIS/EIR should be reopened upon completion of the BDCP conservation strategy and adoption of the Delta Vision Strategic Plan.

On the pages that follow, we address these issues in greater depth.

I. The BDCP Must Utilize the NCCPA, Rather Than an Incidental Take Permit under CESA, to Ensure Long-Term Conservation.

The BDCP must utilize the ecosystem approach of the NCCPA, rather than relying on an incidental take permit under CESA, to ensure that the plan will provide long-term conservation in the Delta. The March 17, 2008 Notice of Preparation for the BDCP EIS/EIR ("NOP") reflects uncertainty as to whether a Natural Community Conservation Plan under the NCCPA, or an incidental take permit under CESA, will be utilized to comply with State law requirements. The NCCPA was designed for multi-species conservation planning, with an emphasis on habitat protection and restoration, as well as adaptive management, to meet the Act's goals. As discussed further below in part IV(C) of this letter, restoration of species and habitats is a key goal of the NCCPA, Fish & Game Code § 2801(i), and the Act requires that implementation of the approved plan will help bring about the recovery of listed species and prevent additional

listings. *See* Cal. Fish & Game Code § 2805 (definition of "conserve"). Therefore, we strongly urge that the BDCP utilize the NCCPA because it will provide a more holistic and ecosystem-based approach to conserving and managing the Delta than a species-centric approach under CESA.

II. The BDCP Must Include Clear, Measureable Conservation Goals and Objectives, Monitor Progress towards those Goals, and Adapt Management to Meet these Goals.

The BDCP Points of Agreement and the NOP both emphasize the use of adaptive management to meet the BDCP's goals. We support the use of adaptive management in the BDCP, and we note that both the NCCPA and ESA require the use of adaptive management in an HCP/NCCP. Cal. Fish & Game Code § 2820(a)(2), (8), (b)(5), (f)(1)(G); *see* U.S. Fish and Wildlife Service, Habitat Conservation Plan Handbook (1996 and 2000 Addendum) ("HCP Handbook") at 3-24. The BDCP should include a robust adaptive management program, as well as effective monitoring to determine whether program goals are being achieved and how to adapt management to better achieve those goals. The BDCP must include an effective monitoring program, *see* Fish and Game Code § 2820(a)(7); 50 C.F.R. § 17.22(b)(1)(iii)(B), (b)(3), and the EIS/EIR should include some analysis of monitoring programs, including the levels of anticipated take of covered species required for effective monitoring.

However, in order for adaptive management to be effective, the HCP/NCCP must have clear, measurable biological goals and objectives. The BDCP's goals must be consistent with the co-equal goals of ecosystem health and water supplies established by the Delta Vision Blue Ribbon Task Force, but they must be far more specific than the general goals established in the NOP. The BDCP Points of Agreement recognizes that biological goals and objectives for each covered species should be adopted as part of the BDCP, but those goals have not yet been developed.

The BDCP should use measureable goals and objectives with respect to species and habitats, including all species covered by the plan and numerous species and habitat types affected by the plan, to ensure that the BDCP is achieving its conservation purpose. In particular, given the Delta species and habitat information available to the agencies, we believe that many species and habitat goals can be quantified, providing the best possible method of measurability. The Bay Institute, EDF, NRDC, Defenders of Wildlife, and Sierra Club California recently submitted joint comments to the Delta Vision Blue Ribbon Task Force which include ecosystem goals and targets that should be analyzed as potential goals for the BDCP. A copy of those comments are attached as Exhibit B and incorporated by this reference. Likewise, the ecosystem goals and objectives being developed by the CalFed Ecosystem Restoration Program and the Delta Vision Ecosystem Working Group may provide useful models in this regard. Lastly, the BDCP's biological goals and objectives should be consistent with the numeric recovery plan goals for salmon, smelt and other listed species that have been or are being prepared by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service.

III. The BDCP Should Include Operational Criteria and Other Adaptive Management Measures to Respond to a Broad Range of Foreseeable Circumstances.

As noted above, we are encouraged that the BDCP will include adaptive management as part of the actions covered under the HCP. NOP at 5-6. As both the ESA and NCCPA recognize, adaptive management is a necessary element of an ecologically sustainable HCP/NCCP. Fish & Game Code § 2820(a)(2), (8), (b)(5), (f)(1)(G); HCP Handbook at 3-24; *see* 50 C.F.R. § 17.22(b)(2)(C), (b)(5). This is particularly true in the Delta, where water supplies and river flows vary on daily, seasonal, annual, and decadal timelines, where global climate change will change the Delta over time, and where ocean conditions and other causes outside the control of the BDCP can significantly affect covered species. As the CALFED science program has found, because of the inherent variability in the Delta ecosystem, "any management plan for the Delta must retain or restore flexibility and variability if key species, processes, and services are to be maintained." CALFED Science Program, *The State of Bay-Delta Science 2008, Summary for Policymakers and the Public* (2008) at 8. For instance, with respect to salmon, when ocean conditions are unfavorable, it is even more critical that we conserve the existing population by managing the CVP and SWP to maximize protection of salmon.

The NCCPA requires that the level of assurances provided by a NCCP be "commensurate with long-term conservation assurances and associated implementation measures pursuant to the approved plan." Fish & Game Code § 2820(f). A critical component in determining the level of assurances is "[t]he degree to which a thorough range of foreseeable circumstances are considered and provided for under the adaptive management program." *Id.* § 2820(f)(1)(8); *see also* 50 C.F.R. §§ 17.22(b)(5), 222.307(g) (regulatory assurances with respect to changed and unforeseen circumstances under the ESA). In addition, we note that California law requires suspension or revocation of the NCCP if take of the species under the plan will jeopardize the continued existence of the species. *See* Fish & Game Code § 2823. Thus all parties have an incentive in ensuring that the HCP/NCCP achieves its goals and avoids jeopardy to any listed species.

Therefore, we recommend that the EIS/EIR analyze operational criteria to respond to a range of water years and other foreseeable circumstances that will affect covered species, including: (1) poor ocean conditions that affect ocean-going covered species including salmon; (2) continuing toxic pollutants in the Delta, which affect numerous covered species; (3) increased levels of take from non-covered activities; (4) failure of one or more levees in the Delta; (5) changes to hatchery policies;(6) increased upstream diversions (7) further declines in the populations of listed species, (8) impacts from ongoing development in the Delta, and (9) the arrival or spread of invasive species. The operational criteria must alter the timing and/or amount of water exports through the CVP and SWP as necessary to protect covered species and the Delta ecosystem due to such foreseeable circumstances.

Defining operational criteria to respond to different water years and other foreseeable circumstances may be among the most important and difficult parts of the BDCP process. The criteria must be flexible enough to respond to such changed conditions, but also provide sufficient assurances that they will be implemented in a way that protects the Delta ecosystem. And there must be clear criteria for triggering and guiding the adaptive operating criteria.

As such, the flexibility required for the BDCP to succeed precludes any inflexible guarantees or complete regulatory assurances regarding water supplies and exports. As a matter of policy, California should not provide regulatory assurances for reliable water supplies that fail to contribute to the recovery of these species and of the entire ecosystem. Instead, the BDCP must retain sufficient flexibility to respond to changed conditions and continue to conserve and restore listed species and the health of the Delta ecosystem.

IV. Compliance with the Legal Requirements for an HCP/NCCP under the ESA, CESA, and NCCPA

The ESA, CESA, and NCCPA impose several legal requirements for the adoption of an HCP/NCCP. Four of these requirements are of particular importance here.

A. The HCP/NCCP Must Minimize and Fully Mitigate Take of Covered Species

First, under the ESA the HCP must minimize the take of covered species to the "maximum extent practicable." 16 U.S.C. § 1539(a)(2)(B)(ii). However, State law provides more protection to species listed under CESA. Under CESA, the take must be "minimized and fully mitigated," and under both CESA and the NCCPA, the measures required to minimize take must be roughly proportional to the amount of take. Fish & Game Code §§ 2081(b)(2), 2820(b)(3)(b), (b)(9). There is no question that the CVP and SWP are significant sources of mortality for most of the fish species proposed to be covered by the BDCP HCP/NCCP. *See, e.g.*, *NRDC v. Kempthorne*, 506 F.Supp.2d 322 (E.D. Cal., 2007). Significantly reducing the Projects' take of these species below existing levels is critical to the survival and recovery of these species. Changes to the operations of the water projects that significantly reduce take of these species over the term of the permit must be implemented as part of the final approved HCP/NCCP.

B. The HCP/NCCP Must Provide Guaranteed Funding for Implementation Over the Life of the Permit.

Second, the HCP/NCCP must provide guaranteed funding for its implementation over the life of the permits. 16 U.S.C. § 1539(a)(2)(B)(iii); *National Wildlife Federation v. Babbitt*, 128 F.Supp.2d 1274 (E.D. Cal. 2000); Fish & Game Code § 2820(a)(10), (b)(3)(A), (b)(8); *id.* § 2081(b)(4). Reliance on general governmental revenues is not adequate, nor is it consistent with the "beneficiary pays" principle of the CALFED Record of Decision. Rather, in exchange for the regulatory assurances that the HCP/NCCP provides, the beneficiaries of the permit should fund the majority of the implementation of the plan. Elements of the program, such as conveyance facility, which are designed solely to provide water supply benefits and mitigation for water project operations, should be paid for entirely by water users. To the extent that market mechanisms similar to the Environmental Water Account are relied on as conservation measures in the BDCP, the plan must likewise identify and ensure adequate funding to implement such market mechanisms. The NCCP/HCP must identify the user fees or other funding mechanisms that will provide the funding required over the life of the permit.

C. The HCP/NCCP Must Ensure that the Projects do not Jeopardize the Existence or the Recovery of the Covered Species.

Third, the HCP/NCCP must not jeopardize either the survival or recovery of listed species. *See* 16 U.S.C. § 1539(a)(2)(B)(iv); Fish and Game Code §§ 2081(c), 2801(i), 2805, 2823; *NWF v. NMFS*, 481 F.3d 1224, 1235-36 (9th Cir. 2005), as modified, -- F.3d. --, 2008 WL 1821470 (April 24, 2008) (jeopardy analysis must consider the effects of the proposed action "within the context of other human activities that impact the listed species," and "where existing conditions already jeopardize a species, an agency may not take action that deepens the jeopardy by causing additional harm."). Therefore, to be consistent with the ESA and CESA, the activities authorized under the HCP/NCCP cannot jeopardize the recovery of any listed species, and they should be consistent with the recovery plans for listed species, including the recovery plan for Chinook salmon that is currently being developed.[1] *See NWF v. NMFS*, 481 F.3d at 1236-38, as modified, -- F.3d. --, 2008 WL 1821470 (April 24, 2008) (requiring determination that the project will not jeopardize recovery of the species in the section 7 consultation process).

Furthermore, in order to comply with the NCCPA, the approved plan must not only avoid jeopardy to the survival of the species, *see* Fish and Game Code § 2823, but it must also promote the recovery of covered species, and prevent the listing of other species. *Id.* §§ 2801(i), 2805 (definition of "conserve"). Therefore, in order to comply with both the ESA and the NCCPA, the approved HCP/NCCP must promote the recovery of these covered species.

Merely sustaining the existence of these species is insufficient as a matter of law under the ESA and the NCCPA, and it is fundamentally wrong from a public policy perspective. California must require the CVP and SWP to do their part to recover salmon, Delta smelt, and the other species that have been adversely affected by the State and federal water projects for so many years.

D. The Operations Authorized in the HCP/NCCP Must Comply with Other Legal Requirements Applicable to the SWP/CVP.

Finally, the actions authorized under the HCP/NCCP must be incidental to "the carrying out of an otherwise lawful activity." 16 U.S.C. § 1539(a)(1)(B); Fish and Game Code § 2081(b)(1); Cal. Code Regs., tit. 14, § 783.4(a)(1). Although this statutory language does not require the federal government to ensure that the Projects comply with existing law under the ESA, *Center for Biological Diversity v. U.S. Fish & Wildlife Service*, 450 F.3d 930, 941-943 (9th Cir. 2006), compliance with the incidental take statement "does not immunize its holder for violations of any other law, be it state or federal," *id.* at 942.[2] If the activities authorized by the HCP/NCCP are inconsistent with the existing statutory framework applicable to the CVP and SWP, the

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[1] *See also* 40 C.F.R. § 1502.16(c); CEQA Guidelines § 15125(d),(e) (requiring analysis of whether the project complies with existing plans).

[2] In addition, the Ninth Circuit's analysis suggests that under CESA, the State must determine that the operations of the CVP and SWP are consistent with existing law. *Id.* at 941-43; *compare* Cal. Code Regs., tit. 14, § 783.4(a)(1) (requiring the DFG Director to determine that the taking is "incidental to an otherwise lawful activity") *with* 16 U.S.C. § 1539(a)(2)(B)(1) (requiring the Secretary to determine that "the taking will be incidental").

regulatory benefits of the BDCP will be illusive because the Projects' operations will violate existing law.

Operation of the CVP and SWP must be consistent with numerous environmental laws, including, but not limited to: the Central Valley Project Improvement Act (106 Stat. 4600 §§ 3401-3412 ("CVPIA")); Fish and Game Code sections 5901, 5930-31, 5937, and 6901-3; the Clean Water Act, 33 U.S.C. §§ 1251 *et seq*., Porter-Cologne Water Quality Control Act, Cal. Water Code §§ 13000 *et seq*., Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (2006), and Decision 1641; the public trust doctrine; and article 10, section 2 of the California Constitution (the reasonable use doctrine). In particular, State and federal law require the CVP and SWP to be managed to comply with the goal of doubling natural salmon populations. CVPIA § 3406(b)(1); Cal. Fish and Game Code § 6902. Recent language from DWR suggests that the BDCP process may seek to revise some existing legal requirements, particularly with respect to water quality.[3] We strongly recommend that the EIS/EIR specifically analyze whether and to what extent the alternatives analyzed in the environmental review are consistent with these existing requirements, in particular the statutory policy of doubling anadromous fish populations under the CVPIA and State law, and that the final BDCP include tools and flexibility to be consistent with all of these existing legal requirements, including the goal of doubling anadromous fish populations.

V. The EIS/EIR Must Analyze Increased Outflow / Reduced Export Alternatives Among the Reasonable Range of Alternatives, and Analyze Water Conservation, Efficiency, and Demand Reduction Measures, as well as Water Recycling and Conjunctive Use Programs, as Alternatives to Achieve (in part) the BDCP's Water Supply Reliability Goal.

CEQA and NEPA both require that a reasonable range of alternatives to the proposed project be considered in the environmental review process, including a no project alternative. Cal. Pub. Res. Code §§ 21002, 21061, 21100; tit. 14, Cal. Code Regs. ("CEQA Guidelines") § 15126.6; 42 U.S.C. § 4332; 40 C.F.R. §§ 1502.14, 1508.25(b). The EIS/EIR should analyze the conveyance alternatives identified in the Notice of Preparation ("NOP"), however, alternative export regimes must also be analyzed.

In particular, the NOP identifies four alternative Delta conveyance strategies to be considered in the environmental review process, per the Governor's direction. *See* NOP at 3. However, in order to meet CEQA's requirements and to adequately inform decision-making, in addition to these alternative conveyance systems, the EIS/EIR must consider a reasonable range of outflow and export levels from the Delta, including several alternatives that increase the level of freshwater outflow and reduce the amount of water diverted and exported from the Delta, as compared with current conditions. *See Citizens of Goleta Valley v. Board of Supervisors,* 52 Cal.3d 553, 566 (1990) (EIR must consider a reasonable range of alternatives that offer substantial environmental benefits and may feasibly be accomplished).[4]

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[3] *See* note 2, *supra*, at 22, 34.

[4] The Supreme Court's pending decision on review of the case of *In Re Bay Delta Programmatic EIR*, 133 Cal.App.4th 154 (2005), will provide additional guidance on this question. However, even assuming, *arguendo*, that

Increasing outflow and reducing exports from the Delta is likely to have significant environmental benefits, as increased exports over the past several years have coincided with significant declines in many fish species in the Delta, including Delta smelt, Sacramento Splittail, fall run Chinook salmon, and the Pelagic Organism Decline ("POD"). Court-ordered reductions in exports to protect Delta smelt, as well as scientific evidence relating to POD, demonstrate that increased outflow and reduced diversions likely are necessary to protect the Delta ecosystem and covered species.

Increased outflow and reduced exports likely are necessary to meet the ESA/CESA requirements of reducing take to the maximum extent practicable, as demonstrated by Judge Wanger's order to protect Delta smelt from jeopardy in *NRDC v. Kempthorne*, 506 F.Supp.2d 322 (E.D. Cal., 2007). Increasing freshwater outflow by reducing water diversions is also likely to be required to recover longfin smelt, which is a candidate for listing under State and federal law. In addition, to the extent that the Project causes potentially significant environmental impacts, including impacts on unlisted species or water quality impacts, increased outflow may be necessary to minimize and mitigate those impacts to a less than significant level, as required by CEQA. Finally, increased outflow resulting from reduced diversions and exports may also be necessary to comply with other legal requirements applicable to the operation of the CVP and SWP, including the Central Valley Project Improvement Act and section 6902 of the Fish and Game Code.

Moreover, increased outflow alternatives not only are consistent with the goals of the program as stated in the NOP, but they may be necessary to achieve these goals. The NOP establishes several goals of the program, including: the conservation and management of covered species; preserving, restoring, and enhancing natural habitats and ecosystems that support covered species; and restoring and protecting water supply, water quality, and ecosystem health. *See* NOP at 7. The Delta Vision Blue Ribbon Task Force's document, "Our Vision for the California Delta" released in December, 2007 also found that reduced diversions may be necessary to achieve the co-equal goals of ecosystem health and water supply.

With respect to increased outflow / reduced export alternatives analyzed in the EIS/EIR, demand reduction, water conservation, and water efficiency measures can be used to meet the water supply reliability goal of the BDCP. Likewise, water recycling, conjunctive use, urban stormwater capture, improved groundwater management, desalination, water transfers and similar programs can also provide additional water supply reliability. In addition, the BDCP should analyze land retirement, including land retirement on the west side of the San Joaquin Valley, as one measure to help achieve increased freshwater outflow and reduced exports/diversions. While land retirement must be carefully designed to avoid impacts to third parties, in the past Westlands Water District has advocated a land retirement program of up to 200,000 acres. Properly designed, land retirement can yield significant conservation benefits by making more water available for fish and wildlife. As more fully discussed in our March 24,

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such a range of alternatives is not required as a matter of law by CEQA, such a range of alternatives is critical from a public policy perspective, and as noted above, may be necessary to meet other legal requirements applicable to the CVP and SWP.

2008 letter, the EIS/EIR should include an analysis of such measures to achieve the BDCP goal of water supply reliability. Delta diversions and exports should not be the only method of achieving water supply reliability analyzed in the BDCP.

The document should also analyze the water supply reliability benefits of reduced diversions. Such reductions could reduce ongoing conflicts, unexpected pumping curtailments and judicial involvement. Reduced pumping alternatives with a "buffer" to protect the ecosystem could prevent additional listings and recover listed species more rapidly. All of these factors suggest that a lower level of average diversions could be more reliable than a higher level. In fact, experience in the past several years demonstrates this. Unsustainably high levels of diversions led a federal judge to order significant pumping reductions. In short, recent record levels of pumping have proven to be unreliable. The document must clearly distinguish between increased average diversions and increased reliability. The two terms are not identical.

Therefore, we strongly encourage the EIS/EIR to analyze a range of alternative outflow and export levels, which includes several alternatives that increase outflow and reduce exports compared to existing levels, and analyze alternative measures to achieve water supply reliability. In addition, as stated in the NOP, the environmental document should analyze a range of operational alternatives to meet the Projects' goals. NOP at 2 ("The EIR/EIS will also analyze the impacts of alternative water operations and management actions to achieve conservation and water supply reliability goals.").

VI. <u>The Proper Environmental Baseline Is Existing Operations, Not the Maximum Exports that the System is Operationally Capable of or Permitted For.</u>

Both NEPA and CEQA require that the Project be analyzed against the existing environmental conditions (the "environmental baseline"), so that the Project's impacts can be meaningfully analyzed. 40 C.F.R. § 1502.15; CEQA Guidelines § 15125(a); *see County of Amador v. El Dorado County Water Agency*, 76 Cal.App.4th 931, 952 (1999). In order to meet CEQA and NEPA's informational goals, the environmental baseline must be based on actual conditions on the ground, rather than the maximum exports that the CVP and SWP are operationally capable of or the full extent of the Projects' paper water rights. Likewise, the ESA requires that the baseline for the section 7 jeopardy analysis include the effects of existing human activities, even if those activities are outside of the scope of the federal action currently contemplated. *NWF v. NMFS*, 481 F.3d at 1236-38, as modified, -- F.3d. --, 2008 WL 1821470 (April 24, 2008) (rejecting use of hypothetical reference case that ignored impacts from related, nondiscretionary activities).

The requirement of using a realistic baseline takes on additional significance because of our concern that DWR's recent analysis of the potential benefits of a dual conveyance model rely on an inflated, hypothetical "reference case," rather than actual export levels.[5] Using an unrealistic baseline significantly skews the environmental analysis, and it likely will understate the actual environmental impacts of the Project and overstate its benefits.

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[5] DWR, "An Initial Assessment of Dual Delta Water Conveyance," April 2008, available online at http://deltavision.ca.gov/BlueRibbonTaskForce/April2008/Handouts/Item_5d_Report.pdf.

Therefore, the environmental baseline analyzed in the EIS/EIR must be based on current levels of exports and withdrawals, including the restrictions to protect Delta smelt pursuant to the court's order in *NRDC v. Kempthorne*, 506 F.Supp.2d 322 (E.D. Cal., 2007), limitations to comply with D-1641, and other current legal and operational constraints on the system. The impacts of the Project must be measured against this baseline, and those impacts must be minimized to a less than significant level if feasible mitigation measures exist.

VII. Potentially Significant Impacts to be Analyzed in the EIS/EIR

The NOP identifies a list of potential issues to be analyzed in the EIS/EIR. NOP at 9. We offer the following recommendations for the analysis.

A. The EIR/EIS Must Analyze the Effects of Global Climate Change on the CVP/SWP, Minimize the Projects' Environmental Impacts in Light of Global Climate Change, and Minimize the Projects' Contributions to Global Climate Change

As the NOP recognizes (NOP at 9), and as DWR and other stakeholders are aware, global climate change is likely to substantially affect the operation of the State and federal water projects. In terms of water supply, global climate change is likely to significantly alter the timing, amount, and form of precipitation. It is anticipated that due to global climate change, significantly less snowfall will occur, particularly in the Sierra Nevada range, and that precipitation will come in the form of more frequent, more intense storms. In addition, it is likely that earlier snowmelt and increased spring runoff will occur; indeed, the date when 50% of annual runoff has occurred is one to four weeks earlier than it was 50 years ago. The percentage of total flows on the Sacramento River that occur between April to July flows declined by nearly ten percent over the last century, and it is likely that global climate change will continue this trend, resulting in substantially reduced summer runoff and flows in the Delta.

At the same time, global climate change will continue the existing trend of sea levels rise, which threatens to inundate many low lying lands in the Delta, and it likely will increase risks of flooding in the Delta. These effects have significant implications for operation of the CVP and SWP, which rely on melting snowpack for a substantial amount of the water supply that the Projects export.

In addition to effects on water supply and flood control, global climate change will affect Delta ecosystems. Changes to the timing, magnitude and form of precipitation will affect ecosystems directly, as well as likely resulting in increased water temperatures, adversely affecting cold water species like salmon. Temperature control devices, like those installed at Shasta, may be needed in other dams to protect covered species and minimize the Projects' take of these species. Increased carry-over storage to provide larger cold water pools may also be required to provide adequate protection for salmonids.

DWR's analysis of climate change indicates that climate change is likely to increase water evaporation and could reduce total stream flows, and may make it difficult for the CVP and SWP to meet existing demands for water. *See* DWR, *Progress on Incorporating Climate Change into*

Management of California's Water Resources (July 2006) at 2-6, 2-56, 4-14 to 4-17. Given the 50 year permit term under consideration in the BDCP, the EIS/EIR must anticipate reductions in the amount of stream flow available for export and delivery.

The operation of the State and federal water projects must adapt to the changes that global climate change will bring. In order to ensure that the Projects' impacts are minimized and mitigated, and that take of covered species is minimized and fully mitigated, the EIS/EIR must analyze how the Projects will adapt to climate change and minimize the Projects' impacts on the environment in light of these expected changes.

At the same time, CEQA requires that the Projects minimize their greenhouse gas emissions and contributions to global climate change. The water projects require significant amounts of energy to export water to destinations outside of the Delta; on average, pumping one acre-foot of SWP water to Southern California requires 3,000 kWh, and the SWP as a whole consumes an average of approximately 5 billion kWh/yr, accounting for 2 to 3 percent of all electricity used in California. Reducing exports from the Delta may significantly reduce the amount of energy used by the CVP and SWP, and thereby reduce the Projects' greenhouse gas emissions. The BDCP should analyze other actions that can be included in the BDCP to reduce greenhouse gas emissions and/or sequester carbon, such as the planting of tules and wetlands restoration.

B. The EIS/EIR Must Analyze and Minimize the Full Range of Water Quality Impacts

The analysis of the Projects' water quality impacts in the EIS/EIR must consider the full range of pollutants in the Delta, including pesticide pollution, toxic hot spots, salinity, mercury, and algal blooms. Any reduction in fresh water inflow to the Delta and/or outflow from the Delta may exacerbate existing water quality problems, resulting in a significant impact to the environment under CEQA/NEPA. In particular, salinity may not be used as a surrogate for an analysis of all water quality impacts. For example, changes in inflow patterns could change Delta residence time, lead to dissolved oxygen problems, and change the ratio of Sacramento River inflow to San Joaquin River inflow. These water quality impacts are unlikely to be adequately analyzed by a narrow focus on salinity. While many pollution problems are not caused by the Projects, the operation of the Projects undoubtedly plays a role in the magnitude, duration, and location of these water quality impacts. In addition, these water quality impacts may have cascading effects; for instance, it has been hypothesized that altered salinity levels resulting from Delta exports has increased the habitat suitability for invasive species, such as the Asian clam, that harm covered species like Delta smelt. The EIS/EIR must analyze the Projects' effects on water quality, including indirect effects to covered species and other wildlife, and those effects must be mitigated to a less than significant level.

C. The EIS/EIR Must Analyze and Minimize Impacts to Biological Resources and Habitats, Including Upland Habitats

CEQA and NEPA require that the EIS/EIR's analysis of the impacts to biological resources include the full range of plant and animal species and habitats that depend on the Delta ecosystem and may be affected by the covered activities in the BDCP. Impacts to these

biological resources must be minimized and mitigated to a less than significant level. Under CEQA, a project results in a mandatory finding of a significant impact if it would "substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species." CEQA Guidelines § 15065. Such impacts must be minimized to a less than significant level if feasible mitigation measures can be implemented. Pub. Res. Code §§ 21002, 21002.1(b), 21081; CEQA Guidelines §§ 15021, 15091-93.

The EIS/EIR therefore must analyze the impacts of the Project on listed and covered species, as well as the full range of plants, birds, fish, and wildlife that live in the Delta and are affected by the CVP and SWP. This includes upland habitats and species, including grasslands and wetlands in the South Delta, Suisun Bay, and state and federal protected areas, including wildlife refuges such as the San Luis National Wildlife Refuge. The EIS/EIR should also analyze the BDCP's consistency with existing HCPs in the Delta, as well as HCPs that are in development now.

We also note that the inclusion of fall-run Chinook salmon on the list of covered species (NOP at 6) raises significant concerns. Although not currently listed under either the ESA or CESA, the fall run's population has declined precipitously in recent years, in part due to the operation of the SWP and CVP. For the first time in the State's history, the commercial and recreational fisheries for salmon were closed this year, and current data suggests that this closure may be extended to at least 2009. Inclusion of this species provides an unwelcome suggestion that DWR and the Bureau of Reclamation will manage the water projects in a manner that fails to prevent the listing of the species during the life of the permits. The analysis in the EIR/EIS must focus particular attention on this issue, and the HCP/NCCP must be designed so as to avoid the need for listing fall-run Chinook under CESA or the ESA. Fish and Game Code § 2805 (definition of "conserve"); *see* CEQA Guidelines § 15065(a)(1). But that is far from sufficient; a goal of the BDCP must be to maintain healthy sport and commercial fisheries, and the BDCP must include conservation measures to conserve, restore and sustain the fall-run Chinook population.

In particular, the analysis of potential impacts to salmonids and natural resources upstream of the Delta should include, but not be limited to, the following potential impacts: entrainment in any new conveyance facility; entrainment or interrupted downstream migration as a result of continued Delta pumping; increased predation; degraded water quality; reduced carry-over storage (particularly in light of the potential for deeper and longer droughts as a result of climate change); reduced cold-water pools, increased in-stream temperatures; and changes in river flows upstream of the Delta.

Finally, the EIS/EIR must analyze impacts to the entire Bay-Delta ecosystem as a whole. For example, a species-by-species approach is likely to fail to address fundamental issues related to ecosystem function.

D. The EIS/EIR Must Analyze and Minimize Cumulative Impacts

Finally, the EIS/EIR must analyze and minimize the cumulative impacts of the covered activities in conjunction with other reasonably foreseeable projects and activities, including urban and

agricultural runoff, in-Delta diversions, upstream diversions, continued and reasonably foreseeable increases in these diversions, and implementation of the San Joaquin River settlement. Even if the BDCP is limited to the covered activities specified in the NOP, and other impacts to the Delta ecosystem are not included, CEQA and NEPA require that the cumulative impacts of these other stressors be analyzed in conjunction with the impacts of the SWP/CVP. It is critical – and CEQA requires – that the cumulative impacts of the BDCP and other foreseeable projects on fish, wildlife and habitats be minimized to a less than significant level.

VIII. Effectiveness of the BDCP's Conservation and Mitigation Measures

Given the proposed fifty year term of the BDCP, ensuring that the conservation strategies and mitigation measures are likely to be effective is critical to the success or failure of the BDCP. As discussed above, the EIS/EIR must include a detailed analysis of impacts to all fish, wildlife, and habitats that could be affected by the BDCP. In order to do so, the EIS/EIR must analyze the effectiveness of the proposed conservation and mitigation measures in the BDCP.

In particular, to the extent that flexible operations and/or market mechanisms are relied upon in the plan, the document must include a thorough analysis of the performance of the Environmental Water Account ("EWA"). The EWA failed due to a wide range of problems, including: weakening of the regulatory baseline; the failure of operational flexibility to provide anticipated supplies; inadequate funding; the failure to trigger Tier 3 resources when needed; increases in the price of water on the market; a failure to fully implement the recommendations of the scientific community and regulatory agencies; the failure to analyze emerging problems and "adaptively manage" the EWA, and more. *See* Environmental Defense Fund, "Finding the Water," (2005), available online at http://www.edf.org/documents/4898_FindingWater.pdf; Letter from K. Poole and B. Nelson to S. Cervantes dated December 10, 2007, attached hereto as Exhibit C and incorporated by this reference. To the extent that the BDCP relies on similar conservation measures, the EIS/EIR must analyze the EWA and the likelihood that the BDCP could suffer from similar problems.

IX. Consistency with the Delta Vision "Vision" and Strategic Plan

The EIR/EIR should analyze consistency with and potential impacts on the Delta Vision "vision" and strategic plan. The Delta Vision process is addressing some of the same issues as the BDCP. However, the Delta Vision process is broader in scope. It is not yet clear to what extent the BDCP and Delta Vision will have identical or complementary ecosystem restoration goals and strategies. Given the scope of the BDCP and the 50 year proposed term of permits, the BDCP could have a significant impact on the ability of the state of California to implement the Delta Vision strategic plan. The BDCP and Delta Vision may or may not reach the same conclusion regarding conveyance. The BDCP's proposals could have indirect effects on Delta resources within the scope of the Delta Vision process. We will mention here only two possible impacts. First, if the Delta Vision Strategic Plan recommends reductions in water diversions, the achievement of that goal could be affected if the BDCP provides assurances regarding an operational scenario for the water projects at a higher rate of diversion. In addition, Delta Vision recommends governance reform to allow more balanced operation of the projects, the assurances in the BDCP could interfere with the implementation of this recommendation.

X. Scope of the BDCP

A. Scope of the BDCP and Project Area

We strongly encourage the BDCP to consider expanding the geographic scope of the BDCP. The NOP identifies the Project Area as limited to the statutory Delta, NOP at 7, even though the NOP notes that other conservation actions required by the BDCP may take place outside of the Project Area, *id.*, and the BDCP includes the operation of the SWP and CVP within the covered activities, NOP at 5. In order to manage the CVP and SWP facilities in the Delta, however, changes to upstream CVP and SWP facilities may be required; for instance, maintaining water and/or salinity levels in the Delta is dependent upon releases from CVP and SWP dams and reservoirs, which are currently not included in the Project Area. The BDCP therefore should include these reservoirs within the scope of the BDCP and include an evaluation of upstream reservoir reoperation to achieve the water quality and quantity in the Delta necessary to achieve the BDCP's goals. We also note that if these upstream reservoirs are not included in the Project Area, it would appear that they must seek separate take authorization under State and federal law. Likewise, the BDCP may want to include Suisan Bay in the Project Area, as it is a key spawning area for Delta smelt and the site of proposed restoration activities under the BDCP.

A holistic approach to managing the Delta requires that these upstream and downstream facilities and habitats be included in the BDCP. Even if such facilities and habitats are not included in the EIS/EIR, impacts outside of the Project Area must be analyzed and mitigated to a less than significant level.

B. Duration of BDCP Permits

The BDCP has proposed a fifty-year permit term. In light of the changing nature of the Delta and scientific uncertainty over causes of species declines, we encourage the BDCP to consider shorter permit terms, such as 5-10 years, rather than a fifty-year permit. *See also* Fish and Game Code § 2820(f)(1)(D), (H) (extent of regulatory assurances depend on the duration of the permit). The EIS/EIR should consider including alternative permit durations among the range of reasonable alternatives.

C. Other Activities to Potentially Include in the BDCP

The BDCP Points of Agreement asserts that other conservation actions outside of the habitat restoration program should be developed to address other stressors on the Delta, such as exposure to contaminants and toxics, entrainment in non-CVP/SWP intake facilities, and invasive species. BDCP Points of Agreement (Nov. 16, 2007) at 3, 7. However, the NOP does not include these activities within the scope of the BDCP. *See* NOP at 5-6. These activities cause significant impacts on the Delta ecosystem and listed species, and excluding these activities from the BDCP compromises its ability to develop a sustainable "solution" for the Delta.

Therefore, we encourage the BDCP to work with parties involved with these activities in order to consider including these activities in the framework of the BDCP. Regardless of whether they

are included in the regulatory framework, NEPA and CEQA require that their impacts be included in the current regulatory baseline, and that the cumulative impacts of the BDCP and these activities be analyzed and mitigated to a less than significant level.

D. Inclusion of Mirant Delta Power Plants in the BDCP HCP/NCCP

We have some concerns about including the operations of the Mirant Delta power plants within the scope of this HCP/NCCP. While there are significant concerns with effect of the operation of these power plants on endangered species, notably Delta smelt, *see* Mike Taugher, *Mirant plants attract attention in delta crisis*, Contra Costa Times, March 15, 2006, there are also numerous other activities that cause potentially significant harm to Delta smelt and other covered species, as discussed above.

If the Mirant Delta power plants are included in the BDCP, particular attention should be paid to the following issues related to operation of the plants and their environmental effects:

- Analysis and minimization of the impacts of the entrainment of fish, effects of thermally heated discharges, and other impacts on covered species and other fish and wildlife species, including operational and structural changes such as:
    - Requiring more effective screening of the plants' cooling water intakes;
    - Changes to existing cooling water intakes and intake flow velocities;
    - Monitoring and reporting the plants' take of covered species;
    - Temporal and/or other restrictions on water withdrawals; and
    - Elimination of the existing once-through cooling systems for the plants, and replacement with dry cooling or recirculating cooling systems;
- Operational changes or other actions to reduce greenhouse gas emissions from plant operations; and,
- Establishing strict and enforceable numeric limits on the take of covered species.

As with operation of the SWP and CVP, the operations of the Mirant Delta power plants authorized by the HCP/NCCP must minimize take of covered species, minimize all environmental impacts to a less than significant level, and comply with existing legal requirements applicable to the plants.

XI. <u>The EIS/EIR Should Analyze the Economic Costs and Benefits of Water Conservation and Other Measures to Meet Water Supply Needs, as well as Identifying Reasonable Sources of Funding to Implement the BDCP.</u>

Although not required by CEQA, *see* CEQA Guidelines § 15064(e), an EIS under NEPA often includes an analysis of the economic impacts of the Project. *See also* 40 C.F.R. § 1502.23. In addition, as noted earlier, both the ESA and NCCPA require an identification of the guaranteed funding sources for implementation of the actions contemplated in the approved HCP. 16 U.S.C. § 1539(a)(2)(B)(iii); Cal. Fish and Game Code § 2820(a)(10), (b)(6), (8), (f)(1)(E).

More broadly, informed policy-making on the question of sustainably managing the Delta requires some analysis of the economic costs and benefits of each alternative, as well as an identification of funding sources that will implement the alternative plans being considered in the BDCP. While some environmental benefits are likely to be speculative and unquantifiable, and economic considerations cannot trump environmental considerations under NEPA and CEQA, economic considerations can be useful to inform decision-making.

In particular, numerous studies have demonstrated that water conservation and investments in water efficiency are far more cost effective than developing new storage facilities or otherwise expanding water supplies, including DWR's California Water Plan Update 2005. In light of the BDCP's water supply reliability goal, to the extent that the BDCP looks at how to meet the water supply needs of exporters in light of alternatives that reduce water exports over historic levels, the EIS/EIR should compare the cost effectiveness of water conservation and efficiency, and a full range of water supply alternatives with the construction, maintenance and operation of Delta conveyance facilities and other water supply components identified in the BDCP.

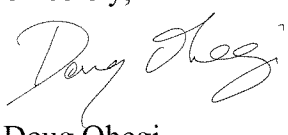
XII. The Scoping and Comment Period for the EIS/EIR Should be Reopened Upon Completion of the BDCP Conservation Strategy and Adoption of the Delta Vision Strategic Plan.

Consistent with our March 24, 2008 letter, and in order to improve informed public participation in the process, we respectfully request that the agencies re-open the scoping and comment process upon completion of the draft BDCP conservation strategy and Delta Vision Strategic Plan. Doing so will ensure that the conservation actions and alternatives that are developed through the BDCP conservation strategy are analyzed in the EIS/EIR, and it will better ensure that the BDCP is consistent with the Delta Vision Strategic Plan.

XIII. Conclusion

Thank you for consideration of our views. Please feel free to contact us at your convenience if you have any questions or concerns.

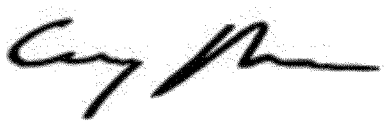
Sincerely,



Doug Obegi
Natural Resources Defense Council

Ann Hayden
Environmental Defense Fund

Kim Delfino
Defenders of Wildlife



Gary Bobker
The Bay Institute

cc: Russell Strach, National Marine Fisheries Service
Donald Koch, Department of Fish and Game
Steve Thompson, U.S. Fish and Wildlife Service
Donald Glaser, Bureau of Reclamation
Karen Schwinn, Environmental Protection Agency

Enclosures:
Exhibit A: Scoping Comments on BDCP EIS/EIR from NRDC, EDF and Defenders of Wildlife submitted to NMFS and USFWS dated March 24, 2008
Exhibit B: Key Elements of a Strategic Plan to Implement the Delta Vision (May 2008)
Exhibit C: NRDC Comments on the Draft Supplemental EIS/EIR for Extending the Environmental Water Account and OCAP Consultations (Dec. 10, 2007)

EXHIBIT B

STATE OF CALIFORNIA
resources AGENCY
ARNOLD SCHWARZENEGGER, Governor
MIKE CHRISMAN, Secretary

June 30, 2008

Honorable Arnold Schwarzenegger
Governor
State of California
State Capitol
Sacramento, CA 95814

Dear Governor Schwarzenegger:

The Delta Vision Blue Ribbon Task Force is providing this letter to fulfill its goal of commenting on a possible preferred water conveyance alternative by June 2008. We present these views against the backdrop of your February letter directing DWR to proceed with NEPA/CEQA analysis of at least four alternatives:

- ✓ The possibility of no new Delta conveyance facility;
- ✓ The possibility of a dual conveyance facility, as suggested by the Task Force;
- ✓ The possibility of an isolated facility;
- ✓ The possibility of substantial improvements and protections of the existing water export system, most often referred to as 'armoring the Delta' or a 'through-Delta' solution.

Background

Executive Order S-17-06 directs the Blue Ribbon Task Force to include consideration of reliable water supply, the environment, and infrastructure in developing a vision and strategic plan. Of the 12 linked recommendations in the Vision we adopted in November 2007, Recommendation 1 states that the Delta ecosystem and a reliable water supply for California are the primary, co-equal goals for sustainable management of the Delta. Recommendation 8 states that new facilities for conveyance and storage, and better linkage between the two, are needed to better manage California's water resources to meet the dual objectives of reliable water supply and ecosystem health.

To achieve both of these linked objectives, the adopted vision made these additional recommendations: (1) Immediate improvements to the existing through-Delta export system; (2) an assessment of a dual conveyance system as the preferred direction, focused on understanding the optimal combination of through-Delta and isolated facility improvements; (3) to urgently assemble available information on design features, cost, and performance of alternative conveyance options against specified criteria to allow selection of a preferred alternative by June 2008.

In recent months, we have received a number of reports and presentations by Task Force work groups, and by CALFED, DWR, and others, described in Attachment A.

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Baldwin Hills Conservancy • California Bay-Delta Authority • California Coastal Commission • California Coastal Conservancy • California Conservation Corps • California Tahoe Conservancy
Coachella Valley Mountains Conservancy • Colorado River Board of California • Delta Protection Commission • Department of Boating & Waterways • Department of Conservation
Department of Fish & Game • Department of Forestry & Fire Protection • Department of Parks & Recreation • Department of Water Resources • Energy Resources, Conservation & Development Commission
Native American Heritage Commission • San Diego River Conservancy • San Francisco Bay Conservation & Development Commission
San Gabriel & Lower Los Angeles Rivers & Mountains Conservancy • San Joaquin River Conservancy
Santa Monica Mountains Conservancy • Sierra Nevada Conservancy • State Lands Commission • Wildlife Conservation Board

Conclusions and recommendations on a preferred water conveyance alternative.

Through review and discussion of the information presented to us, we have grown more confident that dual conveyance, including both an improved, resilient through-Delta conveyance component and an isolated component, is a strong choice, provided the chosen design fully embraces the co-equal goals of a resilient ecosystem and reliable water supply. This is not just a choice of conveyance, or even of conveyance and storage, but also a choice with large implications for the future Delta ecosystem.

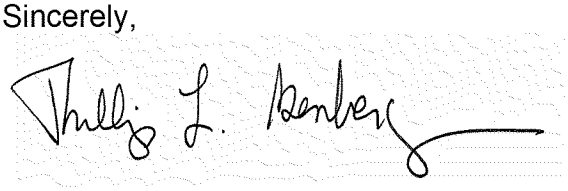
Analysis of conveyance facilities and associated storage must focus on more than the maximum amount of water that can be moved through the Delta. Beyond maximum flows, the analysis should determine the combination of facilities that can best achieve the management flexibility required to meet ecosystem needs, to provide greater reliability in water supply, to maximize the taking of water in wet periods when it is most available, and to accommodate the kinds of transfers and regional self-sufficiency needed. Management flexibility will be increasingly critical to capture water during wet periods and to cope with predicted increased volatility of weather and extreme weather events.

Much more analysis of sizing combinations, impacts, and costs of *both* an improved through-Delta component and an isolated component are needed to confirm any decision regarding dual conveyance and to finalize a design that contributes to our vision of co-equal goals for sustainable Delta management. In Attachment B, we recommend several elements for any conveyance facility investigation.

As your Delta Vision Blue Ribbon Task Force moves toward our final goal of developing a Strategic Plan to implement our Vision for the Delta and the water future of California, we again reemphasize that improvements to the existing through-Delta conveyance system must begin immediately. It is equally critical that improvements to the ecosystem must begin now to ensure progress as rapidly as possible. The recommended approach requires both analysis and action; as dual-conveyance is studied in greater detail, interim steps must be taken to improve the through-Delta conveyance system today.

Consistent with our Vision's first recommendation, our Strategic Plan will provide a framework within which a more resilient ecosystem and reliable water conveyance system can be effectively implemented and operated and may make additional recommendations regarding conveyance facilities and associated storage.

Sincerely,



Phillip L. Isenberg, Chair
Delta Vision Blue Ribbon Task Force

cc: (See attached list.)

Honorable Arnold Schwarzenegger
June 30, 2008

List of Courtesy Copies

Honorable Mike Chrisman
Secretary for Resources
Resources Agency
1416 Ninth Street, Room 1311
Sacramento, CA 95814

Mr. Lester Snow, Director
Department of Water Resources
1416 Ninth Street, 11th Floor
Sacramento, CA 95814

Attachment A: Information provided since adoption of *Our Vision for the California Delta*

- The Task Force's Water Supply and Reliability and Healthy Ecosystem Work Groups have suggested that a wet-year diversion system (a shift of export diversion timing to wetter periods, when least harmful to the ecosystem) be considered as a strategy to achieve greater water supply reliability and ecosystem health. To do so would require increased storage and conveyance capacity statewide. A dual conveyance system would increase conveyance capacity and options, and could support a wet-year diversion system if properly managed.

- CALFED submitted a "Summary Review of Prior Delta Conveyance Reports", which reviewed the findings of over 100 reports that dealt with Delta water conveyance and potential effects on water quality and ecosystem health and resilience. The report identified data gaps, especially regarding ecosystem performance, in previous studies and conveyance designs that would be critical to address when assessing an improved conveyance system.

- DWR submitted "An Initial Assessment of Dual Delta Water Conveyance", which gave a preliminary assessment of a dual conveyance strategy as part of ongoing efforts related to the Bay-Delta Conservation Plan development process, including preliminary design features, cost, and preliminary performance results of alternative conveyance options. The Task Force found that the assessment explained the merits of an isolated component, but fell short of addressing the long-term resilience and recoverability of the through-Delta component of the dual conveyance strategy.

Attachment B: Recommended elements for assessing conveyance facilities and related storage

1. **Directly address alternative choices and design configurations by how well they serve the co-equal goals of protecting the Delta ecosystem and providing water for Californians.** Include a clear description of near-term actions to improve ecosystem function and water system reliability of the existing through-Delta conveyance system.

2. **Incorporate ecosystem health and resilience.** Analyze a full range of through-Delta flows *and* isolated facility flows on in-Delta ecological processes and functions, and analyze how reduced pumping operations may reduce entrainment of certain fish species. The analyses should ensure that restoring ecological functions is a central component of the plan, and not treated merely as mitigation to offset continued water export functions – an approach which has failed to break through the political deadlock on water and the ecosystem for the past 40 years.

3. **Incorporate anticipated levels of usage of available ground and surface storage**. Include not only existing ground and surface water storage but also possible increases in ground and surface water storage. Incorporate timelines by which additional surface and ground water storage may become available for use into analyses. In addition, assess possible gains from changed operations of storage capacity (e.g., more effective flood plain protection and management allows effective increases in reservoir capacity).

4. **Face up to the question of anticipated future water diversion and exports from the Delta.** In order to make an intelligent decision on alternative water export facilities it is essential to state the expectations on water diversions and describe the decision processes and rules that would be used to determine allowable diversions under a range of hydrologic and climatic conditions. A greater emphasis on wet period diversion will require a more comprehensive set of regulatory requirements for the Delta and upstream tributaries than exists today, in order to ensure the achievement of our co-equal goals. We understand the political difficulty of this discussion. However, failure to face up to the question will once again lead to a divisive and bitter statewide battle about water and the Delta. Analyze the performance of all conveyance systems considered in terms of wet period diversion; that is, the ability to *divert, move and store* more water during wetter periods and reduce water diversions in drier periods in part to provide for Delta environmental protection and as a strategy to cope with reduced snowpack as a result of climate change. Quantify thresholds for water required in the Delta (in volume, timing, and quality at various locations) for effective functioning of the estuarine ecosystem under different conditions.

5. **Analyze implications for migratory fish species and upstream rivers.** Analyze the implications of conveyance and operational options, including a full range of diversion levels, on representative migratory fish species and upstream riverine habitat.

6. **Incorporate realistic estimates of reliable water transfers as part of the evaluation.** Reliable water transfers are a valued public policy goal and specific estimates of such transfers should be included in designing and assessing alternative conveyance systems.

7. **Identify and evaluate improvements to through-Delta conveyance for resiliency and recoverability in the event of catastrophic loss and incorporate effective improvements in analyses.** Do not merely assume the status quo of existing through-Delta conveyance is acceptable; improvements to the existing through-Delta system must occur to protect California's water and the ecosystem regardless of dual conveyance design details chosen. Near-term improvements on through-Delta conveyance could contribute to the two important goals of (1) increased conveyance capacity and (2) reducing risk of catastrophic failure, including the value of repairable through-Delta conveyance capacity. This is consistent with our Vision recommendations 7, 8, and 9.

8. **Incorporate a sea level rise projection of at least 55 inches (by 2100) in facility designs.** Additionally, clearly state and assess the possible implications of other dimensions of climate change, such as increased extreme storms, on any conveyance facility.

9. **All alternative facilities should be evaluated against a common level of seismic and flood durability.** This analysis should include not only effects on the facilities themselves as structures but the risks to other human uses of the Delta and the Delta ecosystem resulting from effects of earthquakes or floods on facilities.

10. **Incorporate water quality objectives in analyses**. Clearly evaluate the implications of alternative approaches to conveyance and to the proposed conservation program on water quality objectives for the Delta, and how these objectives will be affected by the various alternatives. These analyses should incorporate a full range of water quality issues, including salinity, temperature, dissolved oxygen, pesticides and toxics and turbidity.

11. **Ensure transparency and accountability in decisions.** Specify projected schedules for construction, the cost of the activities, and their funding sources. Include sufficient details to guarantee that ecosystem restoration and conservation measures will be fully and properly implemented. Devise assurances that the actions will be implemented, including, for example, directly incorporating actions into any and all state water contracts, and as conditions for receipt of bond funds, either for facility development or for ecosystem purposes. Concurrently, ensure that a system of adaptive management is implemented so that progress is monitored and decision makers can manage adaptively.

12. **Develop a baseline that reflects current conditions.** Analyses of alternative conveyance facilities and operations should be compared against a common baseline that reflects current operations and legal requirements.

EXHIBIT C

Possible Impacts of Climate Change to California's Water Supply

Introduction

The State Water Project (SWP) and federal Central Valley Project (CVP) provide water for over 23 million people in California. Water stored in reservoirs flows through the Sacramento-San Joaquin Delta where pumps and canals transfer the water to central and southern California. A 2009 report by the California Department of Water Resources on *Using Future Climate Projections to Support Water Resources Decision Making in California* looks at how projected future climate conditions could affect the reliability of California's water supply. Following are the key findings of the report.

Future Uncertainty

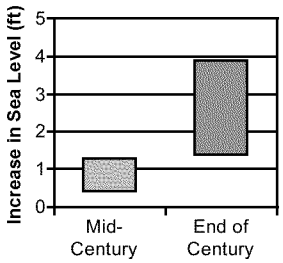
Planning for the future involves uncertainties. This study uses current projections for climate, population, and water demands to estimate California's future water supply. Uncertainties in the analyses increase the farther that we look into the future.

Sea Level Rise Projections

Section 4.1 in the report.

Warmer future air temperatures are expected to cause sea levels to rise. In fact, the sea levels near San Francisco increased by over 0.6 feet in the 20th century. Based on 12 future climate scenarios, projections for global sea level rise are 0.4 feet to 1.2 feet at mid-century and 1.4 feet to 3.9 feet by the end of the century. Rising sea levels will bring more saline ocean water into the Delta. Additional fresh water will need to be released from upstream reservoirs to maintain water quality.

Ongoing research indicates that future sea level rise may be even higher than the projections used in this report.



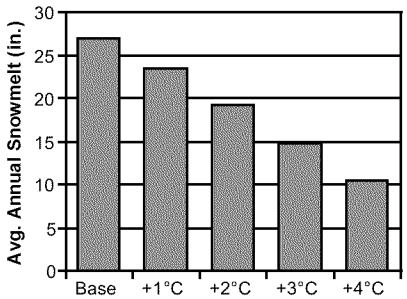
Increasing Air Temperature

Section 5.1 in the report.

Runoff from the upper Feather River basin provides water for Lake Oroville, the main water supply reservoir for the SWP. Because it is a low elevation basin, the snowpack and subsequent snowmelt runoff may be more vulnerable to increasing air temperatures than snowpack in higher elevation watersheds. Warmer air temperatures would shift some precipitation from snow to rain. Snowpack is an important natural reservoir for storing water in the winter and later augmenting the water supply through spring snowmelt.

An air temperature increase of 1°C (1.8°F) is expected to reduce the average annual snowmelt by about 15%, and a 4°C (7.2°F) increase results in about 60% less snowmelt.

Runoff would also shift earlier into the year, which is when reservoirs are operated for flood protection, not water supply. A 4°C (7.2°F) increase in air temperature shifts the mean runoff from mid-March to mid-February.



Climate Change Impacts on Water Supply

Section 5.2 in the report.

Future increases in air temperature, shifts in precipitation patterns, and sea level rise could affect California's water supply by changing how much water is available, when it is available, and how it is used. This study looks at climate change impacts to California's water supply reliability for 12 future projections from Global Climate Models (GCMs) for a higher greenhouse gas (GHG) emissions scenario and a lower emissions scenario. It assumes that current SWP and CVP infrastructure, regulations, and operating rules do not change. However, uncertainties in the results increase as the projections move further into the future.

Expected impacts to the SWP and CVP include pumping less water south of the Delta, having less surplus water in reservoirs that can be used during shortages, pumping more groundwater to augment reductions in surface water supplies, and an increased risk that insufficient water availability could interrupt SWP and CVP operations. A water shortage worse than the one during the 1977 drought could occur in 1 out of every 6 to 8 years by mid-century and 1 out of every 3 to 4 years at the end of the century. The table below shows the range of impacts to the SWP and CVP.

	Mid-Century		End of Century	
	Higher GHG Emissions (A2)	Lower GHG Emissions (B1)	Higher GHG Emissions (A2)	Lower GHG Emissions (B1)
Delta Exports	-10%	-7%	-25%	-21%
Reservoir Carryover Storage	-19%	-15%	-38%	-33%
Sacramento Valley Groundwater Pumping	+9%	+5%	+17%	+13%
SWP & CVP Power Generation	-11%	-4%	-9%	-4%
SWP & CVP Power Use	-14%	-14%	-17%	-16%
System Vulnerability to Interruption*	1 in 6 years	1 in 8 years	1 in 3 years	1 in 4 years
Additional Water Needed to Maintain Operations**	750 TAF/yr	575 TAF/yr	750 TAF/yr	850 TAF/yr

TAF=thousand acre-feet

An acre-foot is the amount of water a family of four will use in a year.

The results at the end of the century are more uncertain than the mid-century results.

* The SWP-CVP system is considered vulnerable to operational interruption during a year if the water level in one or more of the major supply reservoirs (Shasta, Oroville, Folsom, and Trinity) is too low to release water from the reservoir. Under current conditions, the system is not considered vulnerable to operational interruption.

** Additional water is only needed in years when reservoir levels fall below the reservoir outlets.

For further information, please contact
Francis Chung at chung@water.ca.gov
or Jamie Anderson at jamiea@water.ca.gov

April 2009