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October 22, 2015

BDCP/WaterFix Comments
P.O. Box 1919
Sacramento, CA 95812
VIA ELECTRONIC MAIL: BDCPComments@icfi.com

Re: Comment Letter – Bay Delta Conservation Plan/California WaterFix Partially Recirculated Draft Environmental Impact Report/ Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS)

To Whom It May Concern:

Earth Law Center (ELC) welcomes the opportunity to provide these comments on the California WaterFix Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS)[1] and related elements of the Bay Delta Conservation Plan (BDCP) (together, "Tunnels Project"). ELC is a non-profit organization that advances legal rights for ecosystems and species to exist, thrive and evolve. ELC particularly supports the development of water rights for waterways as critical to their long-term well-being.

ELC incorporates by reference the October 5, 2015 letter from Restore the Delta and partners (including ELC) to the Secretary of the Interior *et al.* requesting that the Tunnels Project comply with the Clean Water Act (CWA).[2] ELC also incorporates by reference the attached July 28, 2014 comments submitted by ELC[3] on the Draft BDCP[4] and the BDCP Draft Environmental Impact Report/Environmental Impact Statement[5] (Draft EIR/EIS). Finally, ELC incorporates by reference the attached March 28, 2013 comments submitted by ELC to the State Water Resources Control Board (SWRCB) on the Bay-Delta Water Quality Control Plan (Bay-Delta Plan) draft Substitute Environmental Document (SED).[6]

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[1] California Department of Water Resources, Bureau of Reclamation, U.S. Fish and Wildlife Service, and Nat'l Marine Fisheries Service, Bay Delta Conservation Plan/California WaterFix Partially Recirculated Draft EIR/Supplemental Draft EIS (Aug. 2015), available at: http://baydeltaconservationplan.com/2015PublicReview/PublicReviewRDEIRSDEIS/PublicReviewRDEIRSDEIS_Links.aspx (hereinafter "RDEIR/SDEIS").

[2] Letter from Restore the Delta *et al.* to Secretary of the Interior *et al.*, "RDEIR/SDEIS Comments and Request for BDCP Agencies to Comply with the Federal Clean Water Act by Protecting Designated/Beneficial Uses, Meeting and Exceeding Water Quality Criteria, and Preventing Degradation of San Francisco Bay-Delta Estuary Water Quality" (Oct. 6, 2015), available at: http://restorethedelta.org/wp-content/uploads/2015/10/20151006-Tunnels-CWA-Letter-FINAL-1.pdf.

[3] Also available at: http://bit.ly/1LPnl0j.

[4] Bureau of Reclamation, U.S. Fish and Wildlife Service, and Nat'l Marine Fisheries Service, Public Draft Bay Delta Conservation Plan (Nov. 2013).

[5] Bureau of Reclamation, U.S. Fish and Wildlife Service, and Nat'l Marine Fisheries Service, Public Review Draft Bay Delta Conservation Plan (BDCP) Environmental Impact Report/Environmental Impact Statement (Nov. 2013) (hereinafter "Public Draft EIR/EIS").

[6] Also available at: http://bit.ly/1GX9105.

SUMMARY

The Tunnels Project threatens to further diminish the health of the Delta and risks the extinction of several aquatic species, including Delta smelt and several Chinook salmon runs. As was the case in the Draft EIR/EIS, Alternative 4A – the new preferred alternative[7] – fails to address the need for increased flows in the Delta. To the contrary, Alternative 4A would reduce Delta flows under many scenarios. ELC raises two important legal issues in this regard:

- first, the Tunnels Project will violate water quality standards under the CWA, preventing necessary certification under CWA Section 401 (401 Certification); and
- second, if Alternative 4A is integrated into the Bay-Delta Plan, the resultant flows will fail to protect the most sensitive beneficial uses, as required by the CWA.

At minimum, the Tunnels Project should be recirculated for public review after being revised to meet CWA requirements. Finally, ELC also asks that Lead Agencies examine establishment of a statewide system of instream water rights to protect the needs of both humans and Delta species.

(1) Implementation of the Tunnels Project will violate water quality standards under the CWA, preventing necessary 401 Certification.

In order to proceed, the Tunnels Project must receive both a CWA Section 404 permit and 401 Certification of that permit's compliance with the CWA. First, the Tunnels Project requires a CWA Section 404 permit since it will result the discharge of dredged or fill materials into waters of the United States.[8] The California Department of Water Resources (DWR) filed an application for a CWA Section 404 permit with the U.S. Army Corps of Engineers (Corps) on August 24, 2015.[9] In turn, CWA Section 401 requires the SWRCB to certify that the Corps' Section 404 permit meets CWA requirements before the permit may be legally issued.[10] The DWR filed for 401 Certification from the SWRCB on September 23, 2015.[11]

One requirement for Section 401 Certification is for the proposed project to meet water quality standards under CWA Section 303.[12] As implementing U.S. EPA regulations assert,[13]

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[7] *See* RDEIR/SDEIS Executive Summary, p. ES-3, available at: http://baydeltaconservationplan.com/RDEIRS/0_ExecSumm.pdf.

[8] *See* California Department of Water Resources, Clean Water Act Section 404 Application (submitted to U.S. Army Corps of Engineers) (Aug. 24, 2015), at: www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/docs/ca_waterfix/cawaterfix404permit_app.pdf.

[9] *Id.*

[10] CWA § 401 certification is necessary for any "[f]ederal license or permit to conduct any activity … [that] may result in any discharge into navigable waters." 33 U.S.C. § 1341(a)(1).

[11] California Department of Water Resources, Clean Water Act § 401 Water Quality Certification Application Form (submitted to State Water Resources Control Board) (Sept. 23, 2015), at: www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/docs/ca_waterfix/cawaterfix401cert_app.pdf.

[12] 33 U.S.C. § 1341(d). According to § 401(d), certification "*shall* set forth any effluent limitations and other limitations … necessary to assure that any applicant" complies with certain provisions of the CWA. The Supreme Court in *PUD No. 1 of Jefferson County v. Washington Department of Ecology* held that this includes CWA § 303, since § 301 incorporates it by reference. *PUD No. 1 of Jefferson County v. Washington Department of Ecology*, 511

401 Certification "shall" include a statement providing a "reasonable assurance that the activity will be conducted in a manner which will not violate applicable water quality standards."[14] Such water quality standards encompass both the designated uses of a water body and the water quality criteria established to protect those uses, as well as antidegradation requirements.[15] In other words, "a project that does not comply with a designated [*i.e.*, beneficial] use of the water does not comply with the applicable water quality standards."[16] Further, 401 Certification considers the impact of an entire project – not just the impacts of the discharge that triggers CWA Section 401.[17]

The obligation to meet water quality standards for 401 Certification applies in regard to both water "quality" and "quantity." As to the latter, where a project alters flows such that one or more beneficial use(s) are no longer supported, then water quality standards have been violated. The U.S. Supreme Court itself recognized in *PUD No.1 v. Washington Department of Ecology* that "…a sufficient lowering of the water quantity in a body of water could destroy all of its designated uses, be it for drinking water, recreation, navigation, or . . . a fishery."[18] Additionally, the CWA requires criteria based on science that protect the *most sensitive* beneficial use (*i.e.*, they cannot "balance" away uses),[19] *including* within the context of flows. Thus flow regimes that "reasonably protect" rather than "protect" a beneficial use are insufficient under the federal CWA. As the state Supreme Court found,[20] state law "cannot authorize what federal law forbids."

Numerous beneficial uses in the Delta imply a certain amount of flow to support that use. In its August 2010 flow criteria report, the SWRCB identified the *minimum* amount of unimpaired flow that would protect Delta fish species and habitats, also recognizing that "[r]ecent Delta flows are insufficient to support native Delta fishes for today's habitats."[21]

U.S. 700, at 713-715 (1994) (PUD No. 1). A state agency may also condition, deny or waive certification under certain circumstances. 33 U.S.C. § 1341(a)(1)-(2).

[13] The Supreme Court held that the EPA's interpretation is consistent with the CWA in *PUD No. 1*.

[14] 40 CFR § 121.2(a)(3); *PUD No. 1* at 712.

[15] 33 U.S.C. 1313(c)(2)(A) (emphasis added); *PUD No. 1* at 704. In addition to the uses to be protected and the criteria to protect those uses, water quality standards include an antidegradation policy to ensure that the standards are "sufficient to maintain existing beneficial uses of navigable waters, preventing their further degradation." *PUD No. 1* at 705; 33 U.S.C. 1313(d)(4)(B); 40 CFR § 131.6. EPA regulations add that "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." 40 CFR § 131.12.

[16] *PUD No. 1,* 511 U.S. at 715. *See also* 40 CFR § 131.3(b) (U.S. EPA stating that "[w]hen criteria are met, water quality will *generally* protect the designated use," (emphasis added) indicating that numerical criteria do not always by themselves protect a designated use).

[17] *PUD No. 1*, 511 U.S. 700 (1994). *PUD No. 1* established that so long as there is a discharge, the state can regulate an activity as a whole under § 401. *PUD No. 1* at 711-712.

[18] *Id.* at 719 (May 31, 1994).

[19] EPA regulations state that "criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. For waters with multiple use designations, the criteria shall support the most sensitive use." *See* 40 CFR §131.11; *see also* 40 CFR § 131.6.

[20] Calif. Water Code § 13000.

[21] *See* SWRCB, "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem" (Aug. 3, 2010), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf [hereinafter "2010 Flow Report"].

However, the flow regimes incorporated by the Tunnels Project fall well short of the specific minimum flows specifically identified in the August 2010 flow criteria report as protecting Delta fish species.[22] Instead, the proposed flow regimes – including for Alternative 4A – are largely equivalent to those that have been failing to protect Delta ecosystems and species for years, and would actually result in *reduced* flows under many scenarios. For example, Alternative 4A would result in a decrease in annual Delta outflow compared to the No Action Alternative, both when averaging all water year types *and* for critical water years only (under both Scenario H3 and H4).[23] Similarly, for the period of January through June (the time period during which the August 2010 flow criteria report called for an increase of outflow to 75 percent of unimpaired Delta outflow), Alternative 4A would result in a decrease in Delta outflow compared to the No Action Alternative, again when averaging all water year types *and* for critical water years only (under both Scenario H3 and H4). Compared to Existing Conditions for January through June, in both averaged and critical water years types, Alternative 4A would result in a decrease in Delta outflow under Scenario H3 and a less than 1 percent increase in outflow under Scenario H4.[24]

Additionally, due to the planned North Delta Diversions, the RDEIR/SDEIS projects monthly lower Sacramento River flows to decrease between 20 and 24 percent.[25] Thus federally protected salmonids migrating down the Sacramento River will generally experience lower migration flows compared to existing conditions. As a result of reduced flows and other impacts to the Delta, through-Delta survival rates of the juvenile and smolt life stages of winter-run, spring-run, fall-run and late-fall-run Chinook salmon are all expected to decrease relative to both Existing Conditions and the No Action Alternative. The RDEIR/SDEIS itself recognizes that "[u]nder Alternative 4A (including climate change effects), there are flow and storage reductions, as well as temperature increases in the Sacramento River that would lead to biologically meaningful increases in egg mortality rates and overall reduced habitat conditions for spawning spring-run and egg incubation."[26]

Considering this background, the Tunnels Project will fail to protect multiple beneficial uses of affected waterways and will violate water quality standards. These beneficial uses include "rare, threatened or endangered species habitat," "estuarine habitat," "spawning, reproduction, and/or early development," and other sensitive beneficial uses that will be impacted further by the project.[27] Because it cannot meet water quality standards, the Tunnels

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[22] Specifically, SWRCB's August 2010 flow criteria report used science to identify the minimum amount of unimpaired flow that would protect Delta fish species and habitats, namely 75% unimpaired Delta outflow from January through June, 75% unimpaired Sacramento River inflow from November through June, and 60% unimpaired San Joaquin River inflow from February through June. SWRCB, 2010 Flow Report at 2, 54.
[23] RDEIR/SDEIS, Appendix B ("Supplemental Modeling Results for New Alternatives"), p. B-40, at: http://baydeltaconservationplan.com/RDEIRS/Ap_B_Supp%20Alt.pdf.
[24] *Id.* at Table B.7-31 ("Mean Monthly Flows (cfs) for Model Scenarios at the Delta Outflow, Year-Round").
[25] Estimates derived by Restore the Delta from graphical analysis interpolating data in Figures 4.3.2-7 and 4.3.2-8 from the Recirculated Draft EIR/EIS, Section 4.3. *See also* Appendix B, Tables B.7-28 (downstream of north Delta intakes), B.7-30 (Sacramento River at Rio Vista), B.7-32 (Delta outflow), and B.7-34 (San Joaquin River at Vernalis), pp. B-357 to B-370. These tables show that most changes are *decreases* in flow of 5 percent or more compared with both Existing Conditions and the No Action Alternative. Only slight improvements occur in just a handful of months and water year types.
[26] RDEIR/SDEIS, Section 4.3, p. 4.3.7-98.
[27] SWRCB, "Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary," p. 9 (Dec. 13, 2006), available at:

Project cannot obtain the required 401 Certification it needs for a CWA Section 404 permit to advance the project. In order to receive the CWA Section 404 permit, Lead Agencies must revise and recirculate the Tunnels Project with a new reasonable alternative that sufficiently increases flows to ensure the full protection of all beneficial uses.

(2) The new flow criteria in the Tunnels Project plan cannot be integrated into the Bay-Delta Plan in a manner consistent with the CWA.

The SWRCB is currently in the process of updating the Bay-Delta Plan, last updated nine years ago. Implementation of the Tunnels Project would require wholesale revisions to the Bay-Delta Plan in order to move forward, including with regard to implementation of "proposed new flow criteria" for north and south Delta SWP and CVP export facilities described in the RDEIR/SDEIS.[28]

If the flow regime in the proposed Tunnels Project (particularly for the new Preferred Alternative, Alternative 4A) is integrated into the state's upcoming revisions to its Bay-Delta Plan, the resultant flow objective(s) will fail to protect the most sensitive beneficial uses, as required by the CWA. Under the CWA, the state must adopt science-based flow criteria that protect (not "reasonably" protect) the most sensitive beneficial use. However, as described above, the Tunnels Project alternatives (including those described in the RDEIR/SDEIS) are based on levels of instream flow that are widely considered to be inadequate to protect Delta fish and habitats. For example, looking at monthly averages of the flow differences between Alternative 4A, existing conditions, and the No Action Alternative for different water type years in the Sacramento River below the North Delta diversion facilities, most months in *all* water scenarios show a decrease in flows of greater than five percent, with only a few months showing an increase in flows. Additional efforts to ostensibly enhance flow (*e.g*. north Delta diversion bypass flow) still fall significantly short of what is needed to prevent violations of beneficial uses necessary to protect Delta systems and species.

Further, ELC is concerned that the Tunnels Project is attempting to circumvent the ongoing public process to update the Bay-Delta Plan. Such changes to Delta flows and hydrodynamics must be evaluated through public review before the SWRCB, the only state body authorized to change water quality standards. Tunnels Project proponents should not attempt to circumvent the process by making Tunnels operational criteria seem inevitable and necessary; they are neither. Instead, potentially necessary flow criteria must be the subject of careful and critical review in the SWRCB's Bay-Delta Plan update process, including review for consistency with the CWA, before the Tunnels Project project may move forward.

(3) Lead Agencies should examine the establishment of an instream water rights program.

An additional important, yet unexamined, path forward lies in creation of a comprehensive, instream water rights program that protects ecosystems and species. If water rights are to be the legal system by which water is allocated, then the law must reflect the science

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http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/wq_control_plans/2006wqcp/docs/2006_plan_final.pdf.

[28] RDEIR/SDEIS, Section 4.1, pp. 4.1-11 through 4.1-13.

and ethics of our integration with our environment: legal water rights for waterways must be developed, allocated, and enforced to support water needs for healthy aquatic ecosystems and a healthy California. The alternatives analysis of the Draft EIR/EIS and the new RDEIR/SDEIS must include consideration of this important legal and policy avenue. Alternatives describing "all appropriate methods of accomplishing the aim of the action"[29] – which includes restoration of Delta habitats and species and a reliable water supply for California – must be considered, "including those without the area of the agency's expertise and regulatory control as well as those within it."[30]

Formalizing and effectuating water rights for ecosystems will ensure that waterway and fish needs are considered up front, that planning is effective, and that implementation and enforcement are clear. California is undertaking various processes now that could set state water policy for decades. These must include consideration of water rights for waterways, to ensure the mutual well-being of the state's people and environment.

One example of advancement of waterway rights in law is found in Oregon's Instream Water Rights Act (IWRA). The IWRA recognized a broad array of instream uses as beneficial uses,[31] converted minimum flow requirements to instream rights,[32] and established a streamlined system to convert water rights to instream uses.[33] Not only did the IWRA create instream water rights for waterways throughout Oregon, but it also began to create a "'culture' of flow restoration"[34] in which conservation groups, regional land trusts, state agencies and others became partners for waterway health. While there are limitations in Oregon's program – such as the fact that newly established instream water rights in Oregon are often junior to most off-stream (human) water rights – California could address these through careful crafting of its own initiative.

One element of such an initiative would be the acquisition of instream flows where waterways are already fully appropriated or over-allocated. An initial step toward implementation of this element could be a requirement, similar to Oregon's Allocation of Conserved Water Program, to set aside for instream uses a percentage of water conserved with public funds. Other strategies for "finding" water for waterways include: (1) appropriately

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[29] *Environmental Defense Fund v. Corps of Engineers of United States Army*, 492 F.2d 1123, 1135 (5th Cir. 1974); 40 C.F.R. § 1502.14(c).

[30] *Id.*; 40 C.F.R. § 1502.14(c). Again, "legislative action" (such as that which may be needed to establish a program of instream water rights) "does not automatically justify excluding [the alternative] from an EIS." *City of Sausalito v. O'Neill*, 386 F.3d 1186, 1208 (9th Cir. 2004) (citing *Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810, 815 (9th Cir. 1987), *overruled* on other grounds by *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989) (quoting *City of Angoon,* 803 F.2d at 1021); *see also Kilroy v. Ruckelshaus,* 738 F.2d 1448, 1454 (9th Cir.1984) ("In some cases an alternative may be reasonable, and therefore required by NEPA to be discussed in the EIS, even though it requires legislative action to put it into effect").

[31] O.R.S. §§ 537.332 - 537.334 (recognizing that public uses that are valid instream uses include "conservation, maintenance and enhancement of aquatic and fish life, wildlife, fish and wildlife habitat and any other ecological values").

[32] IRWA converted all minimum streamflows established under the 1955 Minimum Perennial Streamflow Act to instream water rights. O.R.S. § 537.346.

[33] O.R.S. § 537.348.

[34] Janet Neuman *et al*., *Sometimes a Great Notion: Oregon's Instream Flow Experiments*, 36 ENVTL. LAW 1125 (2006).

applying the waste and unreasonable use provisions of the state Constitution and California Water Code;[35] (2) increasing fees on diversions to encourage voluntary release of unneeded rights; (3) determining and acting on public trust violations; (4) conducting initiatives to convince existing water rights holders to give up their water rights voluntarily; and (5) adjudicating water rights. All of these are within agencies' purview now. If applied toward the development of an instream water rights program in California, such combined strategies would better ensure that we meet the water needs of both humans and the environment, both now and in the long term.

* * *

Thank you for your attention to these comments. We look forward to working with you to set in place water policies and strategies that will protect the health of Delta habitats and species for many generations to come.

Best regards,

Linda Sheehan
Executive Director
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cc: Tim Vendlinksi, U.S. EPA Region 9
Felicia Marcus, SWRCB
Tom Howard, SWRCB

Attachment 1: Comment Letter from ELC to the NMFS, "Bay Draft Bay Delta Conservation Plan and Draft Bay Delta Conservation Plan EIR/EIS" (July 28, 2014)

Attachment 2: Comment Letter from ELC to the SWRCB, "Bay-Delta Water Quality Control Plan Draft SED" (March 28, 2013)

[35] *See* CA Water Code Water Code § 100; *see also* Article X, Section 2 of the California Constitution.

Attachment 1

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July 28, 2014

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VIA ELECTRONIC MAIL c/o Mr. Ryan Wulff at BDCP.Comments@noaa.gov

Re: Comment Letter – Draft Bay Delta Conservation Plan and Draft Bay Delta Conservation Plan EIR/EIS

Dear Mr. Wulff:

Earth Law Center (ELC) welcomes the opportunity to provide these comments on the Draft Bay Delta Conservation Plan[1] and the BDCP Draft Environmental Impact Report/Environmental Impact Statement[2] (collectively, "BDCP"). ELC is a non-profit organization that advances legal rights for ecosystems and species to exist, thrive and evolve, and particularly supports the development of water rights for waterways as critical to their long-term health and well-being.

ELC incorporates by reference the June 2014 comment letter and July 2014 supplemental comment letter submitted on the BDCP by the Environmental Water Caucus (EWC), as well as the July 2014 BDCP comments of CWIN/CSPA/AquAlliance. ELC also incorporates by reference the attached March 28, 2013 comments by ELC to the State Water Resources Control Board (SWRCB) on the Bay-Delta Water Quality Control Plan Draft SED (Bay-Delta Plan). ELC attaches these latter comments to address flow issues raised in this letter in additional depth.

EXECUTIVE SUMMARY

ELC believes that the BDCP must be revised and recirculated for public review for the reasons described below, among others (such as those articulated in the comment letters incorporated above by reference). It should be noted, however, that on an overarching basis, ELC continues to have serious concerns as to whether even significant

[1] Bureau of Reclamation, U.S. Fish and Wildlife Service, and Nat'l Marine Fisheries Service, Public Draft Bay Delta Conservation Plan, (Nov. 2013), available at: http://baydeltaconservationplan.com/PublicReview/PublicReviewDraftBDCP.aspx (hereinafter "Public Draft Plan").

[2] Bureau of Reclamation, U.S. Fish and Wildlife Service, and Nat'l Marine Fisheries Service, Public Review Draft Bay Delta Conservation Plan (BDCP) Environmental Impact Report/Environmental Impact Statement, (Nov. 2013), available at: http://baydeltaconservationplan.com/PublicReview/PublicReviewDraftEIR-EIS.aspx (hereinafter "Public Draft EIR/EIS").

reworkings of the currently flawed BDCP Project could ensure the well-being of the Delta. In particular:

- The BDCP preferred alternative creates a flow regime that fails to meet the BDCP's own mission and purpose of restoring the Delta ecosystem. Rather than increasing already-inadequate Delta flow, which scientists consider the biggest stressor on the Delta (along with diminished habitat), the BCDP chooses to prioritize exports, thus failing to take the steps necessary to recover Delta species and ecosystems.

- The BDCP fails to meet fundamental Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) mandates to protect Delta fish and habitats by declining to establish meaningful increases in Delta flow. Current Delta flow is inadequate to support fish and fish habitat, as recognized by the SWRCB and other government actors as well as the scientific community. Yet, the BDCP proposes to increase exports and decrease outflow under many scenarios. The BDCP in fact would result in survival rate *reductions* in several listed fish species, including winter-run and spring-run Chinook. The BDCP also fails to meet the requirement for an NCCP to ensure adequate funding to carry out identified conservation actions.

- The BDCP fails to meet California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) requirements, particularly with respect to its evaluation of flow alternatives. The BDCP EIR/EIS violates CEQA by failing to consider a reasonable range of alternatives, including most notably alternatives that demonstrably increase flows sufficient to ensure Delta well-being. Instead, every alternative falls short of the flows identified in, for example, the August 2010 flow criteria report from the SWRCB, which uses science to identify the flows fish need to survive.[3] Similarly, the BDCP EIR/EIS falls short of NEPA by failing to identify reasonable alternatives that would minimize adverse impacts of the BDCP. At minimum, the BDCP must analyze alternatives that will achieve the science-based flows described in the SWRCB's August 2010 flow criteria report.

- The BDCP will not meet the requirements of the Delta Reform Act, as it fails to identify the amount of flow necessary to recover the Delta ecosystem and restore fish populations and *only then* identify the remaining amount of water for export and other beneficial uses. The BDCP must be revised to include alternatives that identify such flows (*e.g.*, such as the minimum flows identified in the August 2010 flow criteria report) and *only then* determine the remaining amount for export and other beneficial uses.

- The BDCP will result in actions that will violate the Clean Water Act (CWA). In particular, implementation of the BDCP will require a CWA Section 401 certification

[3] SWRCB, "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem," pp. 2, 5 (Aug. 3, 2010), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf.

for the expected CWA Section 404 permit(s). This certification in turn can be granted only for projects that comply with water quality standards, which the BDCP will not do as proposed, given its notably inadequate flow (and other) protections.

- More generally, if the flow regime in the proposed BDCP is integrated into the state's upcoming revisions to its Bay-Delta Plan, the resultant flow objective(s) will fail to protect the most sensitive beneficial uses, as required by the CWA. Under the CWA, the state must adopt science-based flow criteria that protect (not "reasonably" protect) the most sensitive beneficial use. However, the BDCP is based on levels of instream flow that are widely considered to be inadequate to protect Delta fish and habitats. Additional efforts to ostensibly enhance flow (*e.g*. the BDCP's north Delta diversion bypass flow) fall significantly short of what is needed to prevent violations of beneficial uses necessary to protect Delta systems and species.

- Finally, the state should include in this process the development of an instream water rights program that recognizes in law the inherent rights of waterways to the flows they need to survive and flourish. Instream water rights systems of other states, such as Oregon, can provide guidance in this effort. A state legal system that guides water management practices pursuant to an overarching acceptance of "water rights for waterways" is key to ensuring the Delta's long-term health.

- In sum, the BDCP Lead Agencies should abandon the preferred alternative and work with stakeholders to apply science and law to the development of flow regimes that adequately protect the most sensitive beneficial uses of affected water systems.

Restoring the quality of the Sacramento-San Joaquin Delta ("Delta") is a critical task. The Delta – once home to ecosystems such as rich, biodiverse tidal marshes and a vibrant estuary – has seen the majority of its natural wonder decline due to years of misguided water and species use and management. Iconic Delta species have dwindled in population. Local communities, tribes and fishermen, who rely on a healthy Delta ecosystem for clean water, food and their way of life, are also suffering.

Unfortunately, the BDCP fundamentally fails to achieve its core purpose of restoring the Delta system. Instead, it chooses to prioritize water exports – largely responsible for much of the Delta's poor health in the first place – over critically needed conservation gains. Thus, the BDCP fails to achieve its own goal of being a "comprehensive conservation strategy" for the Delta.[4] Rather than continuing the same brand of 20th century water projects that failed us to begin with, we must act quickly and boldly with 21st century strategies to protect and restore the Delta to health.

ELC is also concerned that the BDCP establishes flow regimes that, if implemented, will contravene the CWA. The CWA seeks to restore and maintain the chemical, physical,

[4] Public Draft Plan Executive Summary, p. 1, available at: baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Executive_Summary.sflb.ashx.

and biological integrity of the Nation's waters.[5] As described below, implementation of necessary BDCP activities will require CWA Section 401 certification, which calls on the state to certify that the proposal will meet certain CWA mandates. One such mandate is meeting water quality standards under CWA Section 303, which the BDCP will fail to do, in light of its continued negative impacts on beneficial uses due to inadequate flow proposals.

A better approach is for the state to establish science-based flow criteria that will expeditiously restore the Delta ecosystem to health, implemented through instream water rights that provide legal protection for waterways' and species' flow needs. This would ensure that long-term Delta health is protected from competing short-term interests. Other Western states, such as Oregon, have seen positive results after implementing instream flow programs, and California's waterways would likewise benefit.

To create a conservation plan that restores the Delta ecosystem and protects the health of aquatic species, ELC urges the state to revise and recirculate the BDCP based on these and other comments described below, and in the comments incorporated herein by reference.

THE BDCP'S PREFERRED ALTERNATIVE CREATES A FLOW REGIME THAT FAILS TO MEET THE BDCP'S OWN MISSION AND PURPOSE

The Delta, once a thriving ecosystem, has been critically altered from its natural state.

Reviewing the history of the Delta provides context to help understand the fundamental inability of the proposed BDCP alternatives to achieve the original BDCP purpose of conserving the Delta ecosystem and restoring Delta species. The Delta was once the West Coast's largest wetland system,[6] with over 500,000 acres of perennial wetlands (including 365,000 acres of tidal wetlands and 145,000 of non-tidal wetlands) in the Delta's core, as well as seasonal wetlands, riparian forests, rising sand mounts, willow thickets, grasslands, ponds and lakes, oak woodlands, savannas and other diverse ecosystem features.[7] Landscapes throughout the Delta varied – from the maze of channels in the central Delta's tidal freshwater wetland, to the expansive flood basin in the north Delta, complete with tule marsh, lakes, riparian forests and other features.[8] The rich Delta ecosystem supported flourishing terrestrial and aquatic life, particularly the iconic salmon. Wrote Edwin Bryant about his journey to the Delta in the 1846-1847: "It abounds in fish, the most valuable of which is the salmon. These salmon are the largest and fattest I have ever seen."[9]

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[5] 33 U.S.C. § 1251(a).
[6] San Francisco Estuary Institute, "Sacramento-San Joaquin Delta Historical Ecology Investigation: Exploring Pattern and Process," p. xxi (August 2012), available at: www.sfei.org/sites/default/files/Delta_HistoricalEcologyStudy_SFEI_ASC_2012_medres.pdf.
[7] *Id.,* pp. 81-82.
[8] *Id.*, p. xxiv.
[9] QUEST Science, "California's Deadlocked Delta: Interactive Map," Slide 21, available at: science.kqed.org/quest/delta-map.

The Delta's former natural splendor, however, has been fundamentally transformed. The San Francisco Estuary Institute described the Delta's transformation from wild ecosystem to factory for human use as follows: "Rivers were leveed, wetlands drained, tidal sloughs dammed, riparian forests cut, and flows altered," creating a landscape that is "broadly recognized" to be "failing as an ecosystem."[10] What is left of the Delta is "highly disturbed, fragmented, or disconnected from other habitat types."[11] Local wetlands have "virtually disappeared," with only about three percent of historic freshwater emergent wetlands remaining.[12] The Delta has been degraded from all sides: from above, by altering or destroying most of the surface habitat; from the periphery, by exporting vast quantities of water out of the Delta, which dries up waterways that fish species and estuarine systems rely on to survive; and from below, with the drainage of the Delta causing peat soil to decompose more quickly under aerobic conditions – resulting in land subsidence that could trigger the catastrophic failure of Delta levees.[13]

Salmonid populations have been especially hard-hit, with Central Valley salmon and steelhead runs having decreased by at least 90 percent since State Water Project operations began.[14] Flow alterations have also harmed a long list of additional Delta species: Delta smelt, longfin smelt, Sacramento hitch, white sturgeon, Sacramento splittail and others.[15] Poor flow and habitat quality have caused the Sacramento River winter-run and Central Valley spring-run Chinook salmon to be listed as endangered on the State and Federal Endangered Species Acts, the Central Valley Steelhead and Southern Distinct Population Segments of North American Green Sturgeon to be listed as threatened on both lists, and the Delta smelt to be listed as state-endangered and federally threatened.[16] Further, flow alteration supports the expansion of invasive species in the Delta, such as red ear sunfish, largemouth bass, golden shiner and bluegill, to the detriment of native species.[17] Fundamental change, especially restoring Delta flow, is necessary to overcome these escalating challenges.

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[10] San Francisco Estuary Institute, "Sacramento-San Joaquin Delta Historical Ecology Investigation: Exploring Pattern and Process," p. 1 (August 2012), available at: www.sfei.org/sites/default/files/Delta_HistoricalEcologyStudy_SFEI_ASC_2012_medres.pdf.
[11] *Id.*, p. 92.
[12] *Id.*, p. 96.
[13] U.S. Geological Survey, "Delta Subsidence in California: The Sinking Heart of the State," (Apr. 2000), www.science.calwater.ca.gov/pdf/fs00500.pdf.
[14] CA Advisory Committee on Salmon and Steelhead, "Subject: Recommendation to Deny Incidental Take Permit and Natural Communities Conservation Plan for Bay Delta Conservation Plan" (Feb. 26, 2014), available at: http://mavensnotebook.com/wp-content/uploads/2014/02/CACSST-to-Bonham-CDFW-on-BDCP-NCCP_022614.pdf.
[15] PPIC, "Aquatic Ecosystem Stressors in the Sacramento–San Joaquin Delta," p. 13 (2013), available at: http://www.ppic.org/content/pubs/report/R_612JMR.pdf.
[16] *Id*.
[17] *Id*.

The BDCP fails to meet fundamental Habitat Conservation Plan and Natural Community Conservation Plan mandates to protect Delta fish and habitats by failing to establish meaningful increases in Delta flow.

Despite its mandate, the BDCP unfortunately fails to take the necessary steps to ensure needed fundamental change occurs to protect and restore Delta species and their habitat to health. The BDCP serves as both a HCP and a NCCP. An HCP is a required element of an incidental take permit application under the Endangered Species Act (ESA).[18] HCPs "provide for partnerships with non-Federal parties to conserve the ecosystems upon which listed species depend, ultimately contributing to their recovery."[19] HCPs support the stated purpose of the ESA to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved,"[20] where the term "conserved" refers to "all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary."[21] In issuing incidental take permits, Congress directed the Secretary of the Interior to specifically consider "the extent to which the conservation plan is likely to enhance the habitat of the listed species or increase the long-term survivability of the species or its ecosystem."[22] An incidental take permit cannot be issued if the permit "threatens the continued existence of a wildlife or plant population."[23]

The BDCP describes an NCCP as a "comprehensive, broad-scale conservation [plan] that [focuses] on the needs of natural communities and the range of species that inhabit them."[24] The Natural Community Conservation Planning Act (NCCPA) states that the purpose of an NCCP is to "sustain *and restore* those species and their habitat identified by the department that are necessary to maintain the continued viability of those biological communities impacted by human changes to the landscape."[25] More broadly, the NCCPA finds it to be the policy of the state to "conserve, protect, restore, and enhance natural communities."[26]

As described by the California Department of Fish and Game, joint HCP/NCCPs are to "provide protection and long-term conservation and management for common as well as threatened, endangered, and at-risk species in terrestrial, aquatic, and marine habitats; for fine-scale and rare habitat features, as well as broader-scale natural communities; and for

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[18] 16 U.S.C. § 1539(a).
[19] U.S. Fish & Wildlife Service, "Habitat Conservation Plans: Overview," available at: https://www.fws.gov/endangered/what-we-do/hcp-overview.html.
[20] 16 U.S.C. § 1531(b).
[21] I*d*., § 1532(2).
[22] U.S. Fish & Wildlife Service, "Issuance Criteria for Incidental Take Permits," p. 7-4 (Nov. 1996), available at: www.fws.gov/endangered/esa-library/pdf/hcpbk7.pdf, *citing* H.R. Report 97-835, 97th Congress, Second Session.
[23] *Id.* at p. 7-1.
[24] CA Fish and Game Code §§ 2800 *et seq.*
[25] CA Fish and Game Code §2801(i) (emphasis added).
[26] *Id.,* § 2802.

ecological processes that sustain the function of ecosystems."[27] The BDCP's joint HCP/NCCP should "conserve ecosystems in a sustainable manner and contribute to the recovery of threatened and endangered species."[28]

With fish species and the Delta ecosystem in decline, the BDCP must fulfill the purposes of the NCCPA and ESA by describing and creating a clear path toward species recovery and Delta ecosystem health. As discussed below, this requires substantial increases in Delta flow to waterways. Along with diminished habitat, scientists consider inadequate flow in rivers and other waterways to be the biggest stressor on the Delta ecosystem.[29] Very simply, fish need water to survive. Inadequate flow also affects fish habitat by altering "turbidity, temperature, dissolved oxygen, [and] nutrient loading" and can exacerbate the effects of pollutants, such by affecting their concentration, duration of exposure, contaminant chemistry and biological availability.[30]

The BDCP fails to adequately protect and enhance Delta flow.

Current flows in the Delta are vastly inadequate to support fish and fish habitat, as found by a wide variety of government agencies, scientists and stakeholders. For example, according to the SWRCB, "[t]he best available science suggests that current flows are insufficient to protect public trust resources," and "[r]ecent Delta flows are insufficient to support native Delta fishes for today's habitats."[31] The U.S. Bureau of Reclamation (Reclamation) and U.S. Fish and Wildlife Service (USFWS) wrote that "San Joaquin Basin salmonid populations continue to decline and [the Interior] believes that flow increases are needed to improve salmonid survival and habitat."[32] The California Department of Fish and Wildlife (DFW) similarly concluded that "[f]ish population declines coupled with these

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[27] CA Dep't of Fish and Game, "Regional Conservation Plans Protect Species and Ecosystems in California" (June 2010), available at: deltacouncil.ca.gov/sites/default/files/documents/files/Item_9_Attach_1_DFG_Summary_Paper.pdf.

[28] Public Draft Plan Executive Summary, p. 1, available at: baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Executive_Summary.

[29] PPIC, "Scientist and Stakeholder Views on the Delta Ecosystem," p. 2 (2013), available at: http://www.ppic.org/content/pubs/report/R_413EHR.pdf.

[30] U.S. EPA, "Water Quality Challenges in the San Francisco Bay/ Sacramento-San Joaquin Delta Estuary: EPA's Action Plan," p. 7 (August 2012), available at: www2.epa.gov/sites/production/files/documents/actionplan.pdf.

[31] SWRCB, "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem," pp. 2, 5 (Aug. 3, 2010), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf. *See also* U.S. EPA, "EPA's comments on the Bay-Delta Water Quality Control Plan; Phase 1; SED (March 28, 2013), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/baydelta_pdsed/docs/comments032913/tim_vendlinski.pdf.

[32] U.S. Dep't of Interior, Comments on the Revised Notice of Preparation and Notice of Additional Scoping Meeting for the State Water Resources Control Board Review of the Southern Delta Salinity and San Joaquin River Flow Objectives in the 2006 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (May 13, 2011), p. 1, available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cmmnts052311/amy_aufdemberge.pdf.

hydrologic and physical changes suggest that current Delta water flows for environmental resources are not adequate to maintain, recover, or restore the functions and processes that support native Delta fish."[33] The message from these and other experts is clear: the Delta ecosystem will continue to fail unless we provide more flow.

However, even though agency consensus is that flow is crucial to recovering fish species in the Delta, the BDCP preferred alternative is primarily concerned with securing and, in many cases, increasing Delta exports, to the detriment of ecosystems and species. Although the BDCP does call for measures to restore habitat, these efforts will be insufficient to protect Delta fish species without corresponding increases in flow. It is particularly telling that the BDCP's "Conservation Measure 1" consists of three, 3,000 cfs intakes plus associated pipeline and tunnel systems, which not only fail to protect flow, but also will actually *increase* exports under many scenarios, to the further detriment of the Delta ecosystem.

More broadly, during wet and above normal years, the BDCP preferred alternative would result in an annual increase in average exports.[34] For example, average export projections under the BDCP for April and May in wet and above normal years show that the State Water Project and the Central Valley Project could export between 300,000 and 350,000 acre-feet more water compared to the status quo (depending on the scenario),[35] with approximately 75 to 80 percent of the increased exports resulting from the use of the North Delta intakes. Based on average export levels during wet and above normal years, the BDCP could seemingly result in record-setting export amounts.[36] In drier years, average exports under the BDCP appear to decrease in some individual months and increase in others,[37] though overall they would fail to achieve the overall increases in flows necessary to ensure the well-being of the Delta and its native species. Moreover, without significant changes in California's water management trends, proposed reductions in exports during drought years may not have even the desired effect since, as the EWC points out in their June 2014 comment letter, the SWRCB often grants requested petitions to have Delta water quality objectives waived during such times.[38]

While the BDCP also incorporates "bypass flows" that ostensibly establish the minimum amount of water that must flow downstream of the planned north Delta intakes, the north Delta diversion bypass flows fall well short of what would be necessary to protect

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[33] DFW (formerly the CA Dep't of Fish and Game), "Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta," (Nov. 03, 2010), available at: http://deltacouncil.ca.gov/docs/2010-11-23/final-quantifiable-biological-objectives-and-flow-criteria-aquatic-and-terrestrial-s.

[34] *See* Public Draft Plan, Figure 5.B.4-4, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_5B_-_Entrainment.sflb.ashx.

[35] *See id.* at Figure 5.B.4-1.

[36] Figure 5.B.4-4 shows an average wet year export level of about 6.8 million acre-feet, whereas the current record for the CVP and SWP is a combined 6.67 million acre-feet in 2011, a wet year. *See id.* at Figure 5.B.4-4.

[37] *Id.* at Figure 5.B.4-1.

[38] *See e.g.* Environmental Water Caucus, "Comment Letter: Bay Delta Conservation Plan and EIR/EIS," p. 45 (June 11, 2014).

aquatic habitat and other sensitive beneficial uses. The BDCP's analysis of flow below the north Delta intakes in 2060 shows that the BDCP will reduce flow in every month of the year compared to existing biological conditions (EBC2) – on the low end, a reduction of 1,242 cfs in October, and on the high end, a reduction of 6,359 cfs in March (when comparing the average of different water-year types with the BDCP to the EBC2 scenario).[39] The average reduction in flow is about 4,000 cfs, compared to existing biological conditions (when comparing the average of different water-year types to the EBC2 scenario).[40] Chinook salmon, Central Valley steelhead, sturgeon and lamprey all migrate and spawn in this area, with Delta smelt and longfin smelt likely spawning in the lower Sacramento River, as well.[41] The north Delta intakes will significantly disrupt the lower Sacramento River's flow regime, such as through flow network changes to Elk, Steamboat, Sutter and Georgiana sloughs and the Delta Cross Channel[42] – crucial areas for Salmonid smolt and juvenile survival.

Furthermore, the SWRCB's August 2010 flow criteria report found that from November to June, adequate flows (13,000 to 17,000 cfs at Freeport) are needed to increase juvenile salmon survival by preventing bidirectional flow in the mainstem Sacramento River near Georgiana Slough.[43] Yet north Delta diversion bypass flows (measured below Freeport but above Georgiana Slough) are only 7,000 cfs in November, while significant diversions are still allowed under many scenarios in December through June ("constant low level pumping" is allowed if flow is over 5,000 cfs, and significantly more exports are allowed when there are certain amounts of additional flow), indicating that north Delta diversion bypass flows fall short of what is necessary to protect salmon.[44]

While the BDCP alleges that north Delta intakes will be operated so as not to increase reverse flows at Georgiana Slough, the U.S. National Marine Fisheries Service wrote that the claim of reducing flows below the north Delta intakes without increasing the magnitude or duration of reverse flows at the Georgiana Slough junction is "counter-intuitive" and recommended independent peer review.[45]

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[39] Public Draft Plan, Table 5.5.3-9, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Chapter_5_-_Effects_Analysis.sflb.ashx.

[40] *Id.*

[41] *Id.* at § 3.4.1.3.5, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Chapter_3_-_Part_2_-_Conservation_Strategy.sflb.ashx.

[42] *Id.* at Table 5.3.1-5.3.1.13.

[43] SWRCB, "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem," at 2, 54 (Aug. 3, 2010), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf.

[44] *See* Public Draft Plan, Table 3.4.1.2 (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Chapter_3_-_Part_2_-_Conservation_Strategy.sflb.ashx.

[45] U.S. National Marine Fisheries Service, NMFS Progress Assessment and Remaining Issues Regarding the Administrative Draft BDCP Document, p. 4 (Apr. 4, 2013), available at: http://nodeltagates.files.wordpress.com/2013/04/nmfs_progress_assessment_regarding_the_bdcp_administrative_draft_4-11-13-sflb.pdf.

The BDCP preferred alternative also results in an overall decrease in average Delta outflow.[46] A comparison of the BDCP in the year 2060 (under the ESO_LLT scenario) to projected future conditions without the BDCP (based on the BiOps and predicted climate change impacts, also in 2060) shows that, on average, the BDCP results in an average reduction in outflow (15,767 cfs monthly outflow under the BDCP compared to 16,282 cfs without it).[47] In individual months, the BDCP, on average, would reduce outflow in November-May and July-August, and increase outflow in October, June, and September.[48] Comparing the same scenarios in the year 2025 (when the intake facility is complete but restoration activities are not), the BDCP once again would reduce outflow on average (15,590 cfs monthly outflow under the BDCP versus 16,157 cfs without it), with monthly outflow reductions again occurring in November-May and July-August.[49] Even when the BDCP's decision tree adaptive management process results in "increased" outflow through its high-outflow operations (HOS), average annual outflow will still be less than under existing, inadequate biological conditions (*i.e.*, without the BDCP) in both 2025 and 2060, respectively.[50]

The BDCP will negatively impact Delta fish species, including threatened and endangered species.

This ironic ending to what was supposed to be a HCP/NCCP narrative brings the BDCP's characterization as a "conservation" plan into serious doubt. Indeed, the opposite effect is being proposed; for example, the BDCP is projected to result in average survival rate reductions in 2060 (compared to a no-BDCP alternative) of 2.9 percent for winter-run Chinook salmon smolt, four percent for spring-run Chinook salmon smolt, 2.2 percent for San Joaquin River fall-run Chinook salmon smolt, and 1.2 percent for Sacramento River fall-run Chinook salmon smolt.[51] The potential increases of late fall-run Chinook of .4 percent and Mokelumne River fall-run Chinook of 2.5 percent[52] do not justify the *overall* reduction in salmon smolt survival rates. The BDCP's decrease in salmon smolt survival rates will compound the ongoing long-term decline of winter-run and spring-run Chinook salmon populations in the Sacramento River Basin: adult winter-run Chinook production decreased from an average of 54,439 over the period of 1967-1991 to 6,320 over the period of 1992-2011, and adult spring-run Chinook production decreased from an average of 34,374 over the period of 1967-1991 to 13,654 over the period of 1992-2011.[53]

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[46] *See* Public Draft Plan, App. 5C, Attachment 5.C.A, Table C.A-41 (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_5C_-_Part_5_-_Flow_Passage_Salinity_and_Turbidity.sflb.ashx.

[47] *Id.*

[48] *Id.*

[49] *Id.*

[50] *Id.* at Table C.A- 43.

[51] *Id.* at §§ 5.5.3-5.5.6, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Chapter_5_-_Effects_Analysis.sflb.ashx.

[52] *Id.*

[53] U.S. Fish and Wildlife Service, "Doubling Goal Graphs," available at: http://www.fws.gov/stockton/afrp/Documents/Doubling_goal_graphs_020113.pdf.

The BDCP's negative impact on winter-run and spring-run Chinook alone demonstrates that the BDCP cannot meet the ESA, which requires ecological assurances that the HCP will "enhance the habitat of the listed species or increase the long-term survivability of the species or its ecosystem," and which conversely forbids the issuance of an incidental take permit if the permit "threatens the continued existence of a wildlife or plant population." Similarly, the Department of Fish and Wildlife cannot find that the BDCP will lead to the recovery of winter-run and spring-run Chinook, since the BDCP in fact jeopardizes their existence, as described above.[54] In concurring with this conclusion in their February 2014 BDCP comment letter, the California Advisory Committee on Salmon and Steelhead Trout highlighted the BDCP's decrease of already inadequate outflow and failure to otherwise ensure adequate flow as "[contributing] to the decreases to salmon smolt survival rates modeled by the BDCP."[55] The Committee further critiqued the BDCP as "[promoting] the unproven scientific hypothesis that habitat restoration can substitute for flow."[56]

The BDCP does not adequately ensure funding sources as required by the NCCPA.

While the BDCP does propose some potentially useful conservation and restoration measures, the state has yet to identify specific sources of adequate funding to actually implement such measures. Roughly 68 percent of overall BDCP funding is projected to come from state and federal water contractors – with almost 95 percent of that amount (over $16B) supporting the conveyance facilities – and about 31 percent projected to come from state and federal sources (one percent is expected to come from interest earnings).[57] Conservation and restoration funding is expected to come from a mix of state (over $4 billion) and federal (over $3.5 billion) sources, with small amounts also coming from water contractors (under $1 billion) and interest income (about $165 million).[58] Almost all of the federal funding, which is planned to support ecosystem restoration and not the conveyance facilities, would purportedly come from yet-to-be-approved Congressional appropriations.[59] The state funding for ecosystem restoration is proposed to come primarily from two future, yet-to-be-drafted state bond measures – with the significant caveat that "it is unclear if and when voters will approve them."[60] Disturbingly, the water conveyance facilities could in fact proceed before full funding for conservation is

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[54] California Advisory Committee on Salmon and Steelhead Trout, "Subject: Recommendation to Deny Incidental Take Permit and Natural Communities Conservation Plan for Bay Delta Conservation Plan," p. 2 (Feb. 26, 2014), available at: http://restorethedelta.org/wp-content/uploads/2014/05/CACSST-to-Bonham-CDFW-on-BDCP-NCCP_022614.pdf.

[55] *Id.*

[56] *Id.*

[57] Nat'l Marine Fisheries Services, Dep't of Water Resources, "Public Meeting on BDCP Examines Project's Cost, Funding and Impact on Species" (July 17, 2013), available at: http://www.acwa.com/news/delta/public-meeting-bdcp-examines-project%E2%80%99s-cost-funding-and-impact-species.

[58] Legislative Analyst's Office, "Financing the Bay Delta Conservation Plan" (Feb. 12, 2014), available at: www.lao.ca.gov/handouts/resources/2014/Financing-the-BDCP-02-12-14.pdf.

[59] *Id.*

[60] *Id.*

obtained.[61] Although conservation is supposed to stay in "rough proportionality" to the BDCP's impacts,[62] the lack of even reasonably guaranteed conservation funding raises serious questions about the ability of the state to achieve the necessary conservation goals. The funding scheme for environmental conservation and restoration thus does not appear meet the requirements of the NCCPA, which states that "[t]he department shall approve [an NCCP] for implementation" only if the plan includes "provisions that *ensure* adequate funding to carry out the conservation actions identified in the plan."[63] Ensuring funding for all needed BDCP conservation measures should be the first step in considering its approval as an NCCP, rather than an afterthought.

COMPLIANCE WITH NEPA, CEQA AND THE DELTA REFORM ACT IS ALSO CALLED INTO QUESTION UNDER THE CURRENT DRAFT BDCP

The BDCP EIR/EIS must meet the requirements of CEQA, State CEQA Guidelines, NEPA, and NEPA-implementing regulations.[64] Broadly, CEQA and NEPA require the BDCP EIR/EIS to identify potentially significant adverse impacts and evaluate a reasonable range of alternatives and mitigation measures. Meanwhile, BDCP EIR/EIS also serves to meet certain Delta Reform Act requirements.[65] This section addresses compliance with these state and federal mandates and finds that that the BDCP EIR/EIS fails to meet these mandates.

The BDCP EIR/EIS fails to meet CEQA requirements.

Under CEQA, an EIR must consider a reasonable range of alternatives, including those that "would avoid or substantially lessen any significant effects of the project."[66] Such alternatives must be considered "even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly"[67] (for example, notable reductions in Delta exports and negative economic impacts are not necessarily justifiable reasons for excluding otherwise valid alternatives). Where feasible alternatives or mitigation measures that substantially lessen environmental effects exist, CEQA expresses its intent that "public agencies should not approve projects as proposed."[68] While not every

[61] Bay Delta Conservation Plan Homepage, "What Happens If Voters Do Not Approve Bond Measures? Could Conveyance Construction Begin Before Restoration Funding is Secured?," available at: http://baydeltaconservationplan.com/AboutBDCP/YourQuestionsAnswered.aspx (last visited July 28, 2014).
[62] *Id.*
[63] CA Fish and Game Code § 2820(a)(10) (emphasis added).
[64] Public Draft EIR-EIS Executive Summary, p. ES-1 (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Executive_Summary.sflb.ashx. Regulations implementing NEPA come from the President's Council on Environmental Quality (CEQ), Department of Interior (43 CFR Part 46), and the NMFS (NOAA Administrative Order 216-6).
[65] *See* Public Draft EIR-EIS, App. 3I (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Appendix_3I_-_BDCP_Compliance_with_the_2009_Delta_Reform_Act.sflb.ashx.
[66] Cal. Pub. Res. Code § 21002; 14 C.C.R. §§ 15002(a)(3), 15021(a)(2), 15126(d).
[67] 14 C.C.R. § 15126.6(b).
[68] Cal. Pub. Res. Code § 21002.

possible alternative need be considered, an EIR must "consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation."[69]

The BDCP asserts that it achieves this mandate, at least in part, by evaluating fifteen alternatives in the BDCP EIR/EIS, and addressing impacts to covered species, natural communities and water supplies in these alternatives analyses.[70] The alternatives include, among others, a No Action alternative, one- and two-tunnel alternatives, and a "through-Delta" alternative that would modify Delta channels and intake locations.[71] The BDCP EIR/EIS analyzes flow under each of the listed alternatives.

However, the BDCP EIR/EIS fails to identify a reasonable range of alternatives that avoid or substantially lessen significant effects, as required by CEQA. Almost all of the alternatives, on average, actually *increase* exports, at the expense of adequate instream flow. At best, only one alternative (Alternative 8) would achieve some potential improvements. But even the flow levels in Alternative 8 (the dual conveyance design with Scenario F operational modeling criteria, including a monthly Delta outflow/unimpaired flow percentage of 55% from January through June[72]) fall well short of the flows identified in the August 2010 SWRCB science-based flow criteria report, which recommends the following to protect Delta fish: 75% unimpaired Delta outflow from January through June, 75% unimpaired Sacramento River inflow from November through June, and 60% unimpaired San Joaquin River inflow from February through June.[73] Furthermore, Alternative 8 still involves construction of a north Delta intake and tunnel system, which itself negatively impacts fish species.

To meet the burden of CEQA, the BDCP EIR/EIS must evaluate alternatives that notably reduce exports and increase in-Delta flows to clearly enhance protection and conservation of habitat and species, including alternatives without North Delta intake facilities and tunnels. These should include alternatives that reduce exports to meet and exceed in-waterway minimum flow needs, such as the enhancements identified in the SWRCB's August 2010 flow criteria report.

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[69] 14 C.C.R. § 15126.6(a).
[70] Public Draft Plan, § 3I.3 (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Appendix_3I_-_BDCP_Compliance_with_the_2009_Delta_Reform_Act.sflb.ashx.
[71] *Id.* at Table 9-3, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/BDCP_Chapter_9_-_Alternatives_to_Take_5-29-13.sflb.ashx.
[72] Public Draft EIR/EIS, § 3I.4, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Appendix_3I_-_BDCP_Compliance_with_the_2009_Delta_Reform_Act.sflb.ashx.
[73] SWRCB, "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem," at 2, 5 (Aug. 3, 2010), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf.

Such additional alternatives could also incorporate methods to decrease reliance on Delta exports, which have been offered in detail by stakeholders, such as in EWC's May 2013 "Responsible Exports Plan."[74] EWC and partner organizations also transmitted an earlier version of the Responsible Exports Plan (the "Reduced Exports Plan"[75]) to the California Resources Agency Deputy Secretary in December 2012. The Responsible Exports Plan contains constructive actions to achieve water supply reliability and Delta ecosystem restoration, including significantly reduced exports, adherence to the SWRCB's August 2010 flow criteria report, water conservation methods to ensure that exports are adequate to meet demand, enhancements to existing levees, installation of improved fish screens at existing Delta pumps, and other improvements to California's water management system.[76]

The BDCP EIR/EIS fails to meet NEPA requirements.

An EIS under NEPA is required for "major Federal actions significantly affecting the quality of the human environment."[77] Similar to CEQA, an EIS under NEPA must "inform decisionmakers and the public of reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment."[78] The requirement to list alternatives to the proposed actions is "the heart of the environmental impact statement."[79] Specifically, agencies have a duty under NEPA to "rigorously explore and objectively evaluate all reasonable alternatives."[80]

The BDCP EIR/EIS falls short of NEPA by failing to identify reasonable alternatives that would minimize adverse impacts of the BDCP. Similar to CEQA, in order to meet this requirement, the BDCP EIR/EIS must include alternatives that reduce exports and increase in-Delta flows, including alternatives without North Delta intake facilities and tunnels. As noted above, at least one suitable alternative should reflect instream flow levels such as those in the SWRCB's August 2010 flow criteria report; however, the Lead Agencies eliminated consideration of an alternative based on these criteria. In explaining the failure of the BDCP EIR/EIS to include this type of alternative, agencies raised issues such as the alternative's impacts on pre-1914 water rights holders in the Sacramento River basin, which would raise

> the potential to require changes in the legal Sacramento River water rights or water entitlements of third parties other than BDCP permit applicants that are beyond the scope of the regulatory authority of the agencies charged with considering approval

[74] Environmental Water Caucus, "Responsible Exports Plan" (May 2013), available at: http://www.aqualliance.net/wp-content/uploads/2013/08/RESPONSIBLE-EXPORTS-PLAN-MAY-2013-update.pdf.
[75] Environmental Water Caucus, "Reduced Exports Plan," (May 2012), available at: http://www.ewccalifornia.org/reports/REDUCEDEXPORTSPLAN.pdf.
[76] Environmental Water Caucus, "Responsible Exports Plan" (May 2013), available at: http://www.aqualliance.net/wp-content/uploads/2013/08/RESPONSIBLE-EXPORTS-PLAN-MAY-2013-update.pdf.
[77] 42 U.S.C. § 4332(2)(C).
[78] 40 C.F.R. § 1502.1.
[79] *Id.* at § 1502.14.
[80] *Id.* at § 1502.14(a).

of the proposed BDCP (including CDFW, which approves the NCCP, and USFWS and NMFS, which approve the HCP).[81]

However, these concerns do not raise a bar to consideration of this type of alternative. Despite the agency assertions raised in the BDCP, alternatives must be examined that include "all appropriate methods of accomplishing the aim of the action, *including those without the area of the agency's expertise and regulatory control* as well as those within it."[82] Even where an alternative requires "legislative action" to be feasible, this "does not automatically justify excluding it from an EIS."[83] Therefore, the Lead Agencies were unwarranted in eliminating an alternative that potentially included sufficient flows to allow the BDCP to meet the letter and intent of its mandate to protect habitats and species, including recovery of threatened and endangered species.

Moreover, all water rights holders, including pre-1914 water right holders, are subject to the public trust doctrine, waste and unreasonable use doctrine, and other legal mandates that must be observed to prevent the type of damage being inflicted on Delta ecosystems and species by ongoing water use practices.[84] The EIR/EIS accordingly should not tie its own hands by failing to develop alternatives that could meet HCP/NCCP and other mandates and restore the health of the Delta. In order to meet NEPA requirements, the Lead Agencies should revise the BDCP to include a range of alternatives that significantly reduce Delta exports and increase outflow and then recirculate the BDCP EIR/EIS for public review.[85]

The failure of alternatives under the BDCP to adequately protect flow results in a failure to meet the requirements of the Delta Reform Act.

The Delta Reform Act of 2009 created the Delta Stewardship Council (Council), required the Council to create a Delta Plan to cover actions in the Delta (which became effective on September 1, 2013), and established certain requirements for how the Council and the California Department of Fish and Wildlife would consider the BDCP for inclusion in the Delta Plan, among other provisions.[86] According to the Delta Reform Act, the BDCP cannot be integrated into the Delta Plan and become eligible for state funding unless it satisfies the NCCPA and CEQA, including specifically a comprehensive review of:

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[81] Public Draft EIR/EIS § 3I.4 (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Appendix_3I_-_BDCP_Compliance_with_the_2009_Delta_Reform_Act.sflb.ashx.

[82] *Environmental Defense Fund v. Corps of Engineers of United States Army*, 492 F.2d 1123, 1135 (5th Cir. 1974) (emphasis added); 40 C.F.R. § 1502.14(c).

[83] *See City of Sausalito v. O'Neill*, 386 F.3d 1186, 1208 (9th Cir. 2004) (citing *Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810, 815 (9th Cir. 1987); overruled on other grounds by *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989)).

[84] *See e.g. Light v. State Water Resources Control Board*, Cal. App. 1st, Case A138440 (June 6, 2014).

[85] NEPA requires that where "a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft" that contains the information necessary for adequate public debate. 40 C.F.R. § 1502.9(a).

[86] Calif. Water Code § 85200 *et seq*.

> [a] reasonable range of flow criteria, rates of diversion, and other operational criteria required [for an NCCP], and other operational requirements and flows necessary for recovering the Delta ecosystem and restoring fisheries under a reasonable range of hydrologic conditions, which will identify the remaining water available for export and other beneficial uses.[87]

The BDCP fails to meet this requirement of the Delta Reform Act. Specifically, the BDCP fails to identify the amount of flow necessary for recovering the Delta ecosystem and restoring fish populations, and *only then* identify the *remaining* amount of water for export and other beneficial uses. For example, if the amount of flow required to recover the Delta ecosystem and restore fisheries corresponds to at least the amount identified in the SWRCB's August 2010 flow criteria report, along with corresponding levels for other areas of the system, then the EIR/EIS must include an alternative that reserves such flows for instream purposes and *then* identifies remaining water for exports and other beneficial uses. (Of course, the EIR/EIS also could itself analyze the amount of flow that would recover the Delta and restore fish populations through new alternatives that provide additional in-Delta flows over and above what the SWRCB recommended.)

Only one alternative, Alternative 8, comes close to meeting this requirement by establishing that about 3.1 million acre-feet of water would be available for "export of other beneficial uses" after setting aside the amount of flow that would recover the Delta ecosystem and restore fisheries.[88] However, Alternative 8 does not quantitatively or qualitatively analyze whether this amount of flow will actually recover the Delta ecosystem and restore fisheries. Furthermore, this amount of flow falls short of the August 2010 flow criteria report and thus is inadequate, and Alternative 8 still includes construction of the twin tunnels, which itself impedes the goal of recovering the Delta ecosystem and restoring fisheries. Accordingly, the BDCP, if adopted as proposed, will fail to meet the requirements of the Delta Reform Act.

THE BDCP WILL RESULT IN ACTIONS THAT WILL VIOLATE THE CLEAN WATER ACT

Implementation of the BDCP will require CWA Section 401 certification.

Development and implementation of the BDCP must be held accountable to the CWA. Therefore, sound planning dictates that consideration of the CWA's requirements should be made now, to prevent violations arising from the projected implementation phase of the BDCP.

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[87] Calif. Water Code § 85320(b)(2)(A).

[88] *See* Public Draft EIR/EIS, § 3I.4, available at: baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Appendix_3I_-_BDCP_Compliance_with_the_2009_Delta_Reform_Act.sflb.ashx; *see also* Public Draft EIR/EIS, Table 5.4, available at: baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Chapter_5_-_Water_Supply.sflb.ashx.

One CWA requirement that will arise during BDCP implementation is CWA Section 401 certification, which is necessary for any "[f]ederal license or permit to conduct any activity … [that] may result in any discharge into navigable waters."[89] A key federal license or permit that will trigger the 401 certification process is a CWA Section 404 permit. This will be needed from the Army Corps of Engineers because implementation of the BDCP will result in discharges of dredged or fill material into waters of the United States.[90] Section 401 requires that the SWRCB certify that the Corps' Section 404 permit meets CWA requirements before the permit may be legally issued.[91]

State and federal agencies have already recognized the importance of this requirement, meeting several times to discuss it in the context of the preparation of the BDCP EIR/EIS.[92] As reflected by U.S. EPA in its comments on these discussions:

> [a]lthough there is no statutory requirement that the NEPA document prepared for an HCP under the Endangered Species Act be used as the basis for permits and certifications required under CWA §404 to authorize and implement the project, EPA recognizes the importance of coordination in federal review. Toward this end, EPA and the Corps have met with the project proponent on numerous occasions over the past several years in the interest of using the BDCP EIS/EIR to inform the Corps' 404 regulatory decisions. Despite these efforts, significant unresolved issues remain about the scope of analysis for the proposed project, the level of detail required to trigger the consultation process and federal permitting, and the structure of a comprehensive permitting framework for the proposed project.[93]

Among other concerns that have arisen during this consultation process, ELC contends that the inadequate flow proposals contained in the BDCP EIR/EIS alternatives will ensure that implementation of the BDCP trips over mandatory compliance with the CWA. Flow regimes that fully protect Delta ecosystems and species are necessary to avoid this result.

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[89] 33 U.S.C. § 1341(a)(1).

[90] "Many of the actions that will be implemented under the BDCP will result in the discharge of dredged or fill materials into waters of the United States and will need to be authorized by USACE." Public Draft Plan § 1.3.7.1 (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Chapter_1_-_Introduction.sflb.ashx.

[91] "No license or permit shall be granted until the certification required by this section has been obtained or has been waived as provided in the preceding sentence. No license or permit shall be granted if certification has been denied by the State, interstate agency, or the Administrator, as the case may be." 33 U.S.C. § 1341(a)(1).

[92] U.S. EPA, "EPA's Comments on BDCP ADEIS," p. 6 (July 03, 2013), available at: www2.epa.gov/sites/production/files/documents/july3-2013-epa-comments-bdcp-adeis.pdf.

[93] *Id.*

CWA Section 401 certification can be granted only for projects that comply with water quality standards.

To obtain CWA Section 401 certification, the project at issue must meet several CWA requirements,[94] including the requirement to meet water quality standards under CWA Section 303.[95] If these requirements are met, then either the Regional Water Quality Control Boards (RWQCB) or the SWRCB[96] may grant Section 401 certification.

As implementing U.S. EPA regulations assert,[97] Section 401 certification "shall" include "a statement that there is a reasonable assurance that the activity will be conducted in a manner which will not violate applicable water quality standards."[98] In other words, the state *cannot* grant Section 401 certification to a project if there is no reasonable assurance that it will meet water quality standards. The examination of whether a project violates water quality standards does not include "balancing" factors such as economic considerations – a project either meets water quality standards, or it does not.[99] Furthermore, as confirmed by the U.S. Supreme Court in *PUD No. 1 of Jefferson County v. Washington Department of Ecology* (*PUD No. 1)*, CWA Section 401 certification considers the impacts of the *entire* activity – not just the impacts of the particular discharge that triggers Section 401.[100] Therefore, for the BDCP to receive Section 401 certification, the entire BDCP project must be conducted in such a way as to meet all water quality standards. This it does not do, as water quality standards cannot be met under the currently-proposed BDCP flow regimes (as well as under the BDCP discharge scenarios, as described in the comment letters incorporated by reference).

The CWA states that water quality standards "shall consist of the designated uses of the navigable waters involved *and* the water quality criteria for such waters based upon

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[94] 33 U.S.C. § 1341(a)(1), (d). A state agency may also condition, deny or waive certification under certain circumstances. 33 U.S.C. § 1341(a)(1)-(2).

[95] 33 U.S.C. § 1341(d). According to § 401(d), certification "*shall* set forth any effluent limitations and other limitations … necessary to assure that any applicant" complies with certain provisions of the CWA. The Supreme Court in *PUD No. 1 of Jefferson County v. Washington Department of Ecology* held that this includes CWA § 303, since § 301 incorporates it by reference. *PUD No. 1 of Jefferson County v. Washington Department of Ecology*, 511 U.S. 700, at 713-715 (1994) (PUD No. 1).

[96] In California, the Regional Water Quality Control Boards are responsible for granting water quality certification, unless the project occurs in two or more regions, in which case the SWRCB is responsible. *See* SWRCB, "Instructions for Completing the Clean Water Act Section 401 Water Quality Certification Application" (Jan. 2005), available at: www.swrcb.ca.gov/centralcoast/water_issues/programs/401wqcert/docs/instruct_401_wq_cert_app.pdf.

[97] The Supreme Court held that the EPA's interpretation is consistent with the CWA in *PUD No. 1*.

[98] 40 CFR § 121.2(a)(3); *PUD No. 1* at 712.

[99] 40 CFR § 131.11 ("For waters with multiple use designations, the criteria shall support the most sensitive use"); *see also* 40 CFR § 131.6. As noted by the state Supreme Court, Porter-Cologne "cannot authorize what federal law forbids"; that is, California cannot allow for the "balancing away" of the most sensitive beneficial uses in a reliance on Porter-Cologne rather than the Clean Water Act. *City of Burbank v. State Water Resources Control Bd*., 35 Cal.4th 613, 626, 108 P.3d 862 (2005).

[100] *PUD No. 1*, 511 U.S. 700 (1994). *PUD No. 1* established that so long as there is a discharge, the state can regulate an activity as a whole under § 401. *PUD No. 1* at 711-712.

such uses."[101] In other words, "a project that does not comply with a designated [*i.e.*, beneficial] use of the water does not comply with the applicable water quality standards."[102] This fundamental CWA mandate does not change when the impact on beneficial uses arises from altered flow. The CWA was established specifically to "restore and maintain the chemical, *physical*, and biological integrity of the Nation's waters" – not solely to regulate "pollutants."[103] The U.S. Supreme Court addressed this issue directly in *PUD No. 1*, stating that:

> Petitioners also assert more generally that the Clean Water Act is only concerned with water 'quality,' and does not allow the regulation of water 'quantity.' This is an artificial distinction.[104]

In *PUD No. 1*, Supreme Court took up the question of whether Washington state had properly issued a CWA Section 401 certification imposing a minimum stream flow requirement to protect fish populations. The Supreme Court held that conditioning the certification on minimum stream flows was proper, as the condition was needed to enforce a designated use contained in a state water quality standard.[105] In reaching this decision, the court noted that the project as proposed did not comply with the designated use of "[s]almonid [and other fish] migration, rearing, spawning, and harvesting," and so did not comply with the applicable water quality standards.[106]

The U.S. Supreme Court specifically took note of CWA Sections 101(g) and 510(2), which address state authority over the allocation of water as between users. The Court found that these provisions "do not limit the scope of water pollution controls that may be imposed on users who have obtained, pursuant to state law, a water allocation."[107] This conclusion is supported by the "except as expressly provided in this Act" language of Section 510(2), which conditions state water authority; and by the legislative history of Section 101(g), which allows for impacts to individual water rights as a result of state action under the CWA when "prompted by legitimate and necessary water quality considerations."[108] Accordingly, these CWA provisions are not impediments to California's

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[101] 33 U.S.C. 1313(c)(2)(A) (emphasis added); *PUD No. 1* at 704. In addition to the uses to be protected and the criteria to protect those uses, water quality standards include an antidegradation policy to ensure that the standards are "sufficient to maintain existing beneficial uses of navigable waters, preventing their further degradation." *PUD No. 1* at 705; 33 U.S.C. 1313(d)(4)(B); 40 CFR § 131.6. EPA regulations add that "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." 40 CFR § 131.12.

[102] *PUD No. 1,* 511 U.S. at 715. *See also* 40 CFR § 131.3(b) (U.S. EPA stating that "[w]hen criteria are met, water quality will *generally* protect the designated use," (emphasis added) indicating that numerical criteria do not always by themselves protect a designated use).

[103] 33 U.S.C. § 1251(a) (emphasis added).

[104] *PUD No. 1,* 511 U.S. at 719.

[105] *Id.* at 723.

[106] *Id*. at 714.

[107] *Id*. at 720.

[108] *Id*. ("*See* 3 Legislative History of the Clean Water Act of 1977 (Committee Print compiled for the Committee on Environment and Public Works by the Library of Congress), Ser. No. 95–14, p. 532 (1978) ('The requirements [of the Act] may incidentally affect individual water rights. . . . It is not the purpose of this amendment to prohibit those incidental effects. It is the purpose of this amendment to insure that State

implementation of its CWA mandate to ensure compliance with water quality standards, *including* within the context of flows.

In summary: implementation of the BDCP will require a CWA Section 404 permit from the Army Corps of Engineers, which it cannot receive unless the state issues a CWA Section 401 certification. The certification in turn cannot be legally issued unless the BDCP project as a whole (*i.e.*, rather than the individual discharge mandating the 404 permit) meets water quality standards, which includes meeting beneficial uses designed to protect Delta species and ecosystems. The BDCP will fail this test, as described in more detail below.

The BDCP will violate water quality standards established for flow, preventing necessary CWA Section 401 certification.

To obtain the CWA Section 401 certification for the necessary Section 404 permit, implementation of the BDCP must comply with the CWA. The BDCP does not set a path for implementation consistent with the CWA, however, because (among other reasons) it will result in water quality standards violations, including those involving violation of beneficial uses. These beneficial uses include "rare, threatened or endangered species habitat," "estuarine habitat," "spawning, reproduction, and/or early development," and other sensitive beneficial uses.[109]

As noted above, in its August 2010 flow criteria report, the Water Board found that "[t]he best available science suggests that current flows are insufficient to protect public trust resources," and that "[r]ecent Delta flows are insufficient to support native Delta fishes for today's habitats."[110] However, the flow regimes incorporated by the current BDCP are largely equivalent to those that have been failing to protect Delta ecosystems and species for years. These include: Water Right Decision 1641 (D-1641);[111] the 2006 San

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allocation systems are not subverted and that effects on individual rights, if any, are prompted by legitimate and necessary water quality considerations')." *See also* Memorandum from U.S. EPA Water and Waste Management and General Counsel to U.S. EPA Regional Administrators, "State Authority to Allocate Water Quantities – Section 101(g) of the Clean Water Act" (Nov. 7, 1978), available at: http://water.epa.gov/scitech/swguidance/standards/upload/1999_11_03_standards_waterquantities.pdf.

[109] SWRCB, "Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary," p. 9 (Dec. 13, 2006), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/wq_control_plans/2006wqcp/docs/2006_plan_final.pdf.

[110] SWRCB, 2010 Flow Report, pp. 2, 5.

[111] D-1641 requires the SWP and CVP to meet flow and water quality objectives, including specific outflow requirements, an export/import ratio, spring export reductions, salinity requirements, and, in the absence of other controlling restrictions, a limit to Delta exports of 35 percent total inflow from February through June and 65 percent inflow from July through January. Public Draft EIR/EIS § 5B.1.1.2, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Appendix_5B_-_Responses_to_Reduced_South_of_Delta_Water_Supplies.sflb.ashx.

Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan; the 2009 NMFS Biological Opinion (BiOp);[112] and the 2008 USFWS BiOp.[113]

Furthermore, not only does the BDCP fail to significantly improve upon the current flow regime, but it actually *increases* average exports[114] and *reduces* Delta outflow in many months[115] (see discussion on Delta flows, above). Like ELC, the U.S. EPA expressed serious concerns about the EIR/EIS Administrative Draft's (ADEIS) proposed decrease in outflow "despite the fact that several key scientific evaluations by the federal and State agencies indicate that *more* outflow is necessary to protect aquatic resources and fish populations."[116] By failing to significantly increase flow and, in many cases, decreasing flow, the BDCP's flow regime will violate the beneficial uses of affected waterways. In order to receive the Section 404 permit, the Lead Agencies should revise the BDCP to ensure that it meets all beneficial uses.

If the BDCP is integrated into the Bay-Delta Plan, the resultant flow regime projected under the current draft will fail to protect the most sensitive beneficial uses, as required by the CWA.

The SWRCB is currently in the process of updating the Bay-Delta Plan, last updated eight years ago. While the SWRCB is not required to incorporate the BDCP into the draft or final revised Bay-Delta Plan, the BDCP and its modeling criteria likely represent the shape of the "regime change" for water quality control in the Delta if the BDCP moves forward.

As discussed above, the CWA requires the state to adopt water quality standards that "shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses."[117] In setting criteria to protect the beneficial uses, U.S. EPA regulations require states to "*protect* the designated use."[118]

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[112] Public Draft EIR/EIS, § 5.3.3.1, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Chapter_5_-_Effects_Analysis.sflb.ashx.

[113] *Id.*

[114] *See e.g.* Public Draft Plan, App. 5B, Fig. 5.B.4-4, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Appendix_5B_-_Responses_to_Reduced_South_of_Delta_Water_Supplies.sflb.ashx.

[115] For example, on average for the period of February through June, the BDCP would *decrease* the average Delta outflow by about 1,000 cubic feet per second and also *decrease* the median Delta outflow by about 2,000 cfs. Furthermore, for the period of January through June (the time period during which the August 2010 Flow Criteria from the SWRCB called for an increase of outflow to 75 percent unimpaired Delta outflow), the BDCP *decreases* outflow. *See* Public Draft Plan, App. 5C, Attachment 5.C.A, Table C.A-41, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_5C_-_Part_5_-_Flow_Passage_Salinity_and_Turbidity.sflb.ashx.

[116] U.S. EPA, "EPA Comments on Administrative Draft EIR/EIS, III Aquatic Species and Scientific Uncertainty, Federal Agency Release," p. 4 (July 18, 2013) (emphasis added), available at: http://www2.epa.gov/sites/production/files/documents/july3-2013-epa-comments-bdcp-adeis.pdf.

[117] 33 U.S.C. 1313(c)(2)(A); *PUD No. 1* at 704.

[118] 40 CFR § 131.11 (emphasis added); *see also* 40 CFR § 131.6.

Actions that "reasonably protect"[119] rather than "protect" the beneficial use are insufficient. If multiple beneficial uses are at stake, adopted flow criteria must protect the *most sensitive* beneficial use (*i.e*., they cannot "balance" away uses) and must be based on science.[120] As the state Supreme Court found, Porter-Cologne balancing provisions[121] that provide only "reasonable" protection "cannot authorize what federal law forbids."[122] The more protective CWA water quality standard requirements take precedence over weaker Porter-Cologne language; ecosystem and species needs cannot – and should not – be balanced away.

This position is also evident in the 1995 U.S. EPA approval of the then-Bay-Delta Water Quality Control Plan. Specifically, the approval letter recognizes that CWA Section 303 and implementing regulations require states to adopt water quality criteria "sufficient to protect" beneficial uses (*i.e.,* not "reasonably" protect).[123] The letter recognized (as is the case today) that "there is a difference in opinion about the scope of EPA's authority under the Clean Water Act to review… measures included in the 1995 Bay/Delta Plan," and added that EPA believes that its actions "are fully in accord with the Clean Water Act."[124] ELC agrees with U.S. EPA that federal review of the state's actions in developing new standards for consistency with the CWA is fully in accord with the CWA's requirements to protect, not "reasonably" protect, beneficial uses.

As described earlier, the BDCP alternatives are based on levels of instream flow that are widely considered to be inadequate for Delta fish and habitat. For example, the Department of Interior stated that it "remains concerned that the San Joaquin Basin salmonid populations continue to decline and believes that flow increases are needed to improve salmonid survival and habitat."[125] A comparison of flow regimes established under the BDCP, current flows, the State Water Board's August 2010 flow criteria report, and other flow data demonstrates that flow regimes proposed under the BDCP are at best similar to existing, deeply inadequate flows – and often less than that, with reduced

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[119] SWRCB, "Comments on the Second Administrative Draft Environmental Impact Report/Environmental Impact Statement for the Bay Delta Conservation Plan," p. 1 (July 05, 2013), available at: baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/State_Water_Resouces_Control_Board_Comments_on_BDCP_EIR-EIS_7-5-2013.sflb.ashx (emphasis added).

[120] EPA regulations state that "criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. For waters with multiple use designations, the criteria shall support the most sensitive use." *See* 40 CFR § 131.11; *see also* 40 CFR § 131.6.

[121] Calif. Water Code § 13000.

[122] *City of Burbank v. State Water Resources Control Bd*., 35 Cal.4th 613, 626, 108 P.3d 862 (2005) (citing the Supremacy Clause).

[123] Letter from Felicia Marcus, Regional Administrator, US EPA, to John Caffrey, Chair, SWRCB (Sept. 26, 1995), available at: http://earthlawcenter.org/static/uploads/documents/WQCP1995Approval.pdf.

[124] *Id.,* Attachment 1.

[125] U.S. FWS, "Comments on the Revised Notice of Preparation and Notice of Additional Scoping Meeting for the State Water Resources Control Board Review of the Southern Delta Salinity and San Joaquin River Flow Objectives in the 2006 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary," p. 1 (May 23, 2011), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cm mnts052311/amy_aufdemberge.pdf. *See* above for other statements of scientists and agencies on Delta flow.

average outflow in many months (see discussion on Delta flows, above). For example, comparing the BDCP "evaluated starting operations" to scenarios without the BDCP shows the BDCP results in an average decrease in Delta outflow for the period of January through June, despite the August 2010 flow criteria report calling for an increase to 75% unimpaired Delta outflow.

The August 2010 flow criteria report from the SWRCB used science to identify the *minimum* amount of unimpaired flow that would protect Delta fish species and habitats; this report far better reflects the flows needed to protect these sensitive beneficial Delta uses. A new Bay-Delta Plan that incorporated the BDCP's proposed flow regimes would fall significantly short of this benchmark, and thereby would fail to protect the most sensitive beneficial uses as required by the CWA.

ESTABLISHMENT OF A STATE PROGRAM OF INSTREAM WATER RIGHTS FOR WATERWAYS SHOULD BE EVALUATED IN THE BDCP

The BDCP fundamentally fails to achieve its purpose to conserve ecosystems and move the state toward recovery of threatened and endangered species. As established above, the BDCP also runs afoul of NEPA, CEQA, the Delta Reform Act and the CWA, in addition to ESA and the NCCPA. The BDCP Lead Agencies should abandon the preferred alternative and work with stakeholders to create alternative flow regimes that protect ecosystems and species, so that we may begin to restore the Delta to health. The SWRCB update of the Bay-Delta Plan – which must ensure "freshwater flow improvements to protect beneficial uses"[126] – provides a critical opportunity now to establish robust, legally-based instream flow objectives and protections in the Delta.

Californians "must change their relationship toward the environment and water."

An additional, important, yet unexamined, path forward lies in creation of a comprehensive, instream water rights program that protects ecosystems and species. The Delta Vision Blue Ribbon Task Force found in 2008 that "Californians must . . . change their relationship toward the environment and water."[127] Our current legal system treats the environment's needs as an afterthought to our wants. The state has attempted to address the needs of waterways and fish for flows through a "co-equal goals" approach to water management; however, water supply reliability can only be achieved consistent with an *overarching* goal of environmental sustainability. The state Supreme Court has reached the

[126] U.S. EPA Region IX, "Comprehensive Review of the Bay-Delta Water Quality Control Plan" (Dec. 11, 2012) (Letter from Karen Schwinn, U.S. EPA Water Division to Thomas Howard, SWRCB, available at: http://www2.epa.gov/sites/production/files/documents/sfdelta-decpost-workshopltr-dec2012.pdf).
[127] Delta Vision Blue Ribbon Task Force, "Our Vision for the California Delta," (2008), available at: http://www.water.ca.gov/deltainit/docs/Delta-Vision-Summary.pdf.

same conclusion, finding that "water exports from the Bay-Delta ultimately must be subordinated to environmental considerations."[128]

Forcing a false dichotomy between environment and economy will only pit one against the other, to the detriment of both. We cannot extricate ourselves from our environment, no matter how many policies and laws to that effect that we adopt. The "co-equal goals" presumption allows us to imagine that our own needs are not dependent on the needs of the ecosystems to which we are inextricably linked. Rigid adherence to this flawed presumption only delays our acceptance of the inevitable: that we must learn to live within our means, or the environment will ensure that that happens in a manner for which we did not plan. By designing our water supply systems consistent with an overarching goal of ecological health, implemented through recognition of the rights of waterways to the water they need to survive, we will be able to plan a sustainable, reliable water future for California.

The state should develop a program of instream water rights to ensure the ongoing, sound health of waterways and aquatic species.

As challenged by the Delta Vision Blue Ribbon Task Force, we need to "change our relationship toward the environment and water" by recognizing in law the rights of rivers to flow with clean water, and the rights of fish to swim and have the aquatic habitat they need to flourish – not just to avoid extinction, but to thrive.

If water rights are to be the legal system by which water is allocated, then the law must reflect the science and ethics of our integration with our environment: legal water rights for waterways must be developed, allocated, and enforced to support water needs for healthy aquatic ecosystems and a healthy California. Our legal system currently addresses ecosystem water needs only indirectly, through such methods as permit conditions, provisions in the state Constitution and Water Code to prevent "waste and unreasonable use" (when implemented), Water Code Section 1707 water transfers, the public trust doctrine, and the Endangered Species Act. None of these otherwise important tools are actual water *rights*, however, at a level equivalent to currently-allocated water rights for human uses. The result to date has been that ecosystem water needs are consistently relegated to a tangential role in state water planning, until the ecosystems and/or their non-human inhabitants are at the brink of collapse. That is when the ESA hammer falls – abruptly, with little foresight, controversially, and often too late.

California needs a legal system that allows the state to plan effectively for the water needs for *both* Californians and California's ecosystems and species. The dangerously well-

[128] *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings*, 43 Cal.4th 1143, 1168 (June 5, 2008). The state Supreme Court further found that the then-Delta management program (CALFED) was "premised on the theory, as yet unproven, that it is possible to restore the Bay-Delta's ecological health while maintaining and perhaps increasing Bay-Delta water exports"; the Court added that "[i]f practical experience demonstrates that the theory is unsound, Bay-Delta water exports may need to be capped or reduced." *Id.* As described in these comments, experience has indeed demonstrated that the state must move toward reducing exports sufficiently to ensure the health of Delta waterways and aquatic species.

trod path of "use, overuse, environmental decline, then hasty and unplanned reaction" can begin to be broken by granting ecosystems the right to be at the planning table from the beginning, at a level *legally* at least "co-equal" to human water uses – rather than at the end, when the damage is done.

We can start now to address this legal imbalance by drafting changes to our laws to recognize water rights for waterways based on their flow requirements, including the needs of fish, using the science we already have and obtaining the additional science we need. Formalizing and effectuating water rights for ecosystems will ensure that waterway and fish needs are considered up front, that planning is effective, and that implementation and enforcement are clearer. The BDCP alternatives analysis must include consideration of this important legal and policy avenue. As noted above, "all appropriate methods of accomplishing the aim of the action" – that is, to sustain and restore Delta habitats and species, including endangered and threatened species – must be considered, "including those without the area of the agency's expertise and regulatory control as well as those within it."[129]

California is undertaking various processes now that could set state water policy for decades. What is needed is a statewide vision similarly broad in scope that reflects our interconnections with the natural world, and that commits us to actions commensurate with the sweep and importance of these efforts and the challenges we face. Accordingly, the process before us must include consideration of water rights for waterways, to ensure the well-being of the state's people and environment.

One example of advancement of waterway rights in law is found in Oregon's Instream Water Rights Act (IWRA). The IWRA recognized a broad array of instream uses as beneficial uses,[130] converted minimum flow requirements to instream rights,[131] and established a streamlined system to convert water rights to instream uses.[132] Not only did the IWRA create instream water rights for waterways throughout Oregon, but it also began

[129] *Environmental Defense Fund v. Corps of Engineers of United States Army*, 492 F.2d 1123, 1135 (5th Cir. 1974) (emphasis added); 40 C.F.R. § 1502.14(c). Again, "legislative action" (such as that which may be needed to establish a program of instream water rights) "does not automatically justify excluding [the alternative] from an EIS." *City of Sausalito v. O'Neill*, 386 F.3d 1186, 1208 (9th Cir. 2004) (citing *Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810, 815 (9th Cir. 1987), *overruled* on other grounds by *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989) (quoting *City of Angoon,* 803 F.2d at 1021); *see also Kilroy v. Ruckelshaus,* 738 F.2d 1448, 1454 (9th Cir.1984) ("In some cases an alternative may be reasonable, and therefore required by NEPA to be discussed in the EIS, even though it requires legislative action to put it into effect").

[130] O.R.S. §§ 537.332 - 537.334 (recognizing that public uses that are valid instream uses include "conservation, maintenance and enhancement of aquatic and fish life, wildlife, fish and wildlife habitat and any other ecological values").

[131] IRWA converted all minimum streamflows established under the 1955 Minimum Perennial Streamflow Act to instream water rights. O.R.S. § 537.346.

[132] O.R.S. § 537.348.

to create a "'culture' of flow restoration"[133] in which conservation groups, regional land trusts, state agencies and others became partners for waterway health.

Limitations in Oregon's program could be addressed through careful crafting of a similar initiative in California. For example, newly established instream water rights in Oregon receive a priority date based on the day they were created, making them junior to most off-stream (human) water rights. This, of course, limits the amount of water practically available for waterways and hobbles the IWRA's effectiveness in reversing years of over-appropriations (although some of the Oregon's most senior water rights have recently been converted to instream uses).[134] Another limitation is that only the Oregon Department of Fish and Wildlife, Department of Environmental Quality, and the State Parks and Recreation Department can appropriate new instream water rights,[135] which the Oregon Water Resources Department holds in trust.[136] Nevada, on the other hand, allows any private party to appropriate water for instream use, unless the State Engineer finds this to interfere with existing rights, threaten the public interest or threaten a protectable interest in a domestic well.[137] California could learn from the work of other states in developing a state instream water rights program that ensures that the law backs up the science of waterways' flow needs.

Additional elements of a state instream water rights program.

"Finding" instream flows for fully appropriated or over-allocated waterways can present a challenge in California; however, a number of steps can be taken to overcome this challenge. One initial step could be to adopt a program similar to Oregon's Allocation of Conserved Water Program, which sets aside a certain percentage of conserved water for instream uses. Such a program could also be expanded to require that water conserved with public funds be converted to instream use. Other potential strategies for "finding" water include, but are not limited to, the following:

- Determinations as to whether the existing water use is a "waste and unreasonable use" pursuant to the California Water Code and California Constitution;
- Assessment of methods of water use and methods of diversion, changes in which can improve waterway health;
- Determinations as to whether the existing water use is a violation of the public trust;
- Initiatives to convince existing water rights holders to give up their water rights voluntarily, such as via a charitable giving process;
- Increases in fees on diversions to encourage voluntary release of unneeded rights;
- Review of unexercised water rights and reapplication of those rights to waterways;

[133] Janet Neuman *et al*., *Sometimes a Great Notion: Oregon's Instream Flow Experiments*, 36 ENVTL. LAW 1125 (2006).
[134] *Id*. at 1151, 1154.
[135] O.R.S. § 537.336.
[136] O.R.S. §§ 537.332-537.349.
[137] Nev. Rev. Stat. § 533.370.

- Formal adjudications of relative water rights; and
- Efforts with the federal government to review and adjust the allocation of federal water rights in California.

As water rights are freed up, they could be reassigned to waterways in a prioritized effort that considers the relative requirements of waterways and aquatic species populations.

Other key elements to address in developing a rights-based system for protecting the health of waterways and species include enforcement and accounting. With respect to enforcement, ecosystem water rights would be "held" by the waterways, but must be managed on their behalf by human agents. Independent legal guardians or trusts can be established for this task, and given a clear fiduciary responsibility to protect and enforce the identified water rights fully. While these entities should be accountable to the public, they should not be a government agency, as they must have full and primary responsibility for protecting the waterways to which they are assigned. Guardians/trusts necessarily should be required to coordinate with each other pursuant to a statewide water system vision, due to the broad interconnections among California's surface water and groundwater systems.

With respect to accounting, the state would need to ensure that flows put back into a waterway are being maintained in the waterway and not simply removed downstream. Such a system of accounting need not be limited to instream water rights, but also could be valuable in the context of Section 1707 transfers and other, existing approaches to restore waterway health. A clear system for tracking and maintaining assigned waterway flows in the medium- and long-term will provide needed accountability and transparency for the public.

Necessarily, the state should also develop a process for funding program costs, including: guardian/trust costs, accounting, oversight, research, monitoring and other program elements. A reliable source of funding is essential; oversight funding cannot simply be delegated to intermittent grants and allocations. Fees on water diversions, for example, should at a minimum be tapped as a regular funding stream, with less-regular sources (such as federal or other grants) identified for short-term/pilot initiatives.

The BDCP should assess a program of instream water rights for waterways.

An instream water rights program is a critical step towards restoring the Delta to health, and is necessary to set Californians on a path towards achieving resilient, self-sufficient water supplies. Such a program accordingly should be assessed in the Alternatives section of the EIR/EIS and considered in the BDCP itself. By recognizing and enforcing the rights of the Delta and its tributary waterways to flow, California can create flow regimes that will far better protect the Delta ecosystem and aquatic species, as well as the human communities that rely on the Delta for food, clean water and quality of life on an ongoing basis.

CONCLUSION

The long-term decline of the Delta ecosystem is a story of our lost connection with nature. Once a pristine ecosystem and the West Coast's largest estuary – a rich, biodiverse habitat of unspoiled grasslands, riparian forests, willow thickets, and other features, with an abundance of native fish species such as salmon – the Delta has suffered tremendously from society's misguided belief that nature can be endlessly exploited and degraded. As a first step towards recovery, we must enhance flow, which is essential for aquatic species populations and the larger health of the Delta.

The BDCP instead focuses on reinforcing and, in many cases, increasing existing Delta exports. As such, it fails to achieve its purpose of conserving the Delta ecosystem and recovering threatened and endangered species. The BDCP also will likely result in implementation strategies that will violate the CWA, rather than actually restoring and conserving Delta beneficial uses.

Fortunately, we can still restore the Delta by adopting (at a minimum) sufficient flows to support healthy fish species and Delta habitats. Moreover, the time is ripe to establish a comprehensive instream water rights program that ensures the longevity of the Delta ecosystem and species, and serves as a model for the state as a whole. Rather than following the same destructive path that transformed one of the world's most magnificent estuaries into an engine for unsustainable development – which has left the Delta fragmented, thirsty and sick – let us create a vision of people, ecosystems and species flourishing together.

* * *

Thank you for your attention to these comments. We look forward to working with you to set in place water policies and strategies that will protect the health of Delta habitats and species for many generations to come.

Best regards,

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cc: Tim Vendlinksi, U.S. EPA Region 9
Felicia Marcus, SWRCB
Tom Howard, SWRCB

Attachment: Comment Letter from ELC to the SWRCB, "Bay-Delta Water Quality Control Plan Draft SED" (March 28, 2013)

Attachment 2

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March 28, 2013

Charlie Hoppin, Chair and Board Members
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

VIA ELECTRONIC MAIL c/o Ms. Jeanine Townsend at commentletters@waterboards.ca.gov

Re: Comment Letter – Bay-Delta Plan SED

Dear Chair Hoppin and Board Members:

Earth Law Center (ELC) welcomes the opportunity to provide these comments on the State Water Resources Control Board's (SWRCB) "Draft Substitute Environmental Document"[1] (Draft SED). Earth Law Center is a non-profit organization that advances legal rights for ecosystems and species to exist, thrive and evolve, and particularly supports the development of water rights for waterways as critical to their long-term health and well-being.

ELC incorporates by reference the comment letters submitted to the SWRCB on this Draft SED by the Environment Water Caucus (EWC) and by C-WIN/California Sportfishing Protection Alliance/AquAlliance. EWC submits these comments to address some of the flow issues raised in these letters in additional depth.

As an overarching point, ELC shares the deep concerns expressed strongly in the EWC and C-WIN/CSPA/AquAlliance with regard to the inability of the Draft SED to protect Bay-Delta water quality, particularly as it pertains to the protection of aquatic species and habitats. The importance of the extant effort, particularly in light of the multiple stressors already plaguing Delta health and the threats still to come, demand careful attention to full and accurate application of the law and facts in the decisionmaking task before us. Unfortunately, the Draft SED fails to meet that challenge.

Specifically, in addition to the above-incorporated issues raised in the referenced NGO letters, ELC believes that the Draft SED must be revised and recirculated for additional public review for the following reasons:

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[1] SWRCB, "Draft Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay-Sacramento/San Joaquin Delta Estuary: San Joaquin River Flows and Southern Delta Water Quality" (Dec. 2012), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2012_sed/.

- California has a federal mandate under the CWA to protect waterway beneficial uses, particularly "protection and propagation of fish, shellfish, and wildlife" (CWA Section 101(a)(2)). This mandate may properly impact individual water rights as needed to address "legitimate and necessary water quality considerations." Accordingly, the Draft SED must specifically consider CWA compliance in developing and assessing alternative flow scenarios.
- State flow (and salinity) objectives must meet Clean Water Act (CWA) requirements to fully protect – *not* "reasonably" protect – beneficial uses. If there are multiple use designations, the level of quality necessary to support the most sensitive uses must be maintained. Uses cannot be balanced away, and application of the Section 13241 factors cannot result in beneficial use protection that is less than that mandated by the CWA.
- As a result of its flawed application of the law and facts, the Draft SED adopts a Preferred Alternative flow requirement that (assuming it is implemented, which is unclear from the document) will fail to protect existing beneficial uses. Indeed, the state by its own data is in danger of acting to eliminate existing beneficial use(s), in direct violation of the CWA.
- The CWA specifically allows for incidental impacts on water rights to occur as a result of actions necessary to address water quality concerns, a point decisively upheld by the U.S. Supreme Court. The state cannot avoid CWA based on a misunderstanding of the relationship between water quality and quantity under the law. The CWA must guide the state's development of criteria to protect beneficial uses impacted by flow.
- The state must complete and circulate for public comment a thorough antidegradation analysis for its chosen alternatives, which in turn must meet the requirements of the CWA. Currently, no antidegradation analysis has been done, despite data demonstrating that – at best – new flows will barely top the inadequate flow levels that currently exist,[2] and may actually be lower. New Preferred Alternatives must be developed consistent with the CWA and an antidegradation assessment performed on the new alternatives before the documents are recirculated, so that the public has a meaningful opportunity to comment on (hopefully nonexistent) potential degradation of the Tier 2 water bodies affected by the Board's action.

These points are discussed further below.

Ultimately, to be effective, the decisions of the Water Board to protect aquatic life and habitats through improved flows should be enshrined in law through water rights for waterways, prioritized to ensure that flows are available when needed. We must care for the waters that support us in order to ensure our collective, long-term well-being.

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[2] In a national report released March 2013, U.S. EPA characterized the biological condition of over three-quarters of Central Valley rivers and streams as "very altered," with *no* rivers or streams labeled as "good." These degraded conditions will not improve without significant intervention in the form of meaningfully higher flows. U.S. EPA, "National Rivers and Streams Assessment 2008-2009," p. 97, EPA/841/D-13/001 (Feb. 28, 2013), available at: http://water.epa.gov/type/watersheds/monitoring/aquaticsurvey_index.cfm. The complete coastwide closure of the ocean salmon fishery in both 2008 and 2009, the first since its beginnings in the early part of the 20th century, is just part of the evidence of the significant and ongoing impacts of this degradation.

THE STATE WATER BOARD MUST SPECIFICALLY ADDRESS CLEAN WATER ACT MANDATES TO FULLY PROTECT BENEFICIAL USES

The Clean Water Act Requires Protection of Beneficial Uses through Science-Based Criteria that Address the Most Sensitive Uses

The Draft SED's analysis avoids direct interaction with the Clean Water Act, choosing instead to rely on Porter-Cologne provisions such as Sections 13000 and 13241, which call only for the highest water quality that is "reasonable" in light of competing uses and other factors. However, as noted by the state Supreme Court, Porter-Cologne "cannot authorize what federal law forbids."[3] Under the federal Constitution's Supremacy Clause (Art. VI), a state law that conflicts with federal law, as the weaker Porter-Cologne provisions clash with CWA requirements, is "without effect."[4]

The CWA was established to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[5] To ensure that water quality improves, rather than degrades, the CWA requires state adoption of water quality standards that "shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses."[6] The use of waterways for the "protection and propagation of fish, shellfish, and wildlife" was given special attention through the "fishable/swimmable" provision in CWA 101(a)(2). This provision effectively creates a rebuttable presumption that these uses are attainable unless a state or tribe "affirmatively demonstrates, with appropriate documentation, that such uses are not attainable"[7] (though "existing uses" cannot be eliminated).[8]

In setting criteria to protect the beneficial uses, U.S. EPA regulations[9] require states to "protect [*not* 'reasonably' protect] the designated use." The EPA regulations add that:

> [s]uch criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. *For waters with multiple use designations, the criteria shall support the most sensitive use*.

(Emphasis added.) The regulations conclude that criteria may be based on U.S. EPA Guidance developed pursuant to CWA Section 304(a) or "[o]ther scientifically defensible methods," including

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[3] *City of Burbank v. State Water Resources Control Bd*., 35 Cal.4th 613, 626, 108 P.3d 862 (2005).
[4] *Id.*
[5] CWA § 101(a); *PUD No. 1 of Jefferson County v. Washington Department of Ecology*, 511 U.S. 700, 704 (1994) (*PUD No. 1*). For most of the CWA's implementation history, regulatory attention has been primarily focused on the chemical integrity of waterways, even though the letter of the law demonstrates that it was also written to address other elements of waterway health. Regulatory agencies have significantly increased their attention on biological integrity over the last 5-10 years. Physical integrity is now starting to reach the regulatory docket, particularly since the *PUD No. 1* Supreme Court decision, with more states adopting narrative flow criteria and taking other actions under the CWA to create more flows in waterways.
[6] CWA § 303(c)(2)(A); *PUD No. 1* at 704.
[7] *See, e.g*., U.S. EPA, "Water Quality Standards Academy, Key Concepts (Module 2.c)," available at: http://water.epa.gov/learn/training/standardsacademy/mod2/page4.cfm.
[8] 40 CFR §§ 131.10(g), (h)(1).
[9] 40 CFR § 131.11; *see also* 40 CFR § 131.6.

biomonitoring. In other words, *criteria must protect the most sensitive beneficial use and must be based on science*. Other considerations (such as cost) do not factor into the development of criteria.

Finally, in addition to the uses to be protected and the criteria to protect those uses, water quality standards include an antidegradation policy to ensure that the standards are "sufficient to maintain existing beneficial uses of navigable waters, preventing their further degradation."[10] EPA regulations add that "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected."[11]

The Proposed Preferred Alternative for Flow Does Not Protect Fish and Aquatic Life as Required by the Clean Water Act

In its August 2010 flow criteria report,[12] the Water Board found that "[t]he best available science suggests that current flows are insufficient to protect public trust resources" (page 2), and that "[r]ecent Delta flows are insufficient to support native Delta fishes for today's habitats" (page 5). The Board concluded that:

> In order to preserve the attributes of a natural variable system to which native fish species are adapted, many of the criteria developed by the State Water Board are crafted as percentages of natural or unimpaired flows. These criteria include… *60% of unimpaired San Joaquin River inflow from February through June.*

(Page 5 (emphasis added).) These conclusions were supported in testimony by state and federal fish and wildlife agencies speaking before the Water Board at the March 20, 2013 public hearing on the Draft SED.

By contrast with the scientifically-supported flow criteria that would protect the well-being of sensitive fish and other aquatic life, the Draft SED recommends a flow objective of (potentially)[13] 35% unimpaired flow.[14] This barely skirts current flows,[15] which the Draft SED

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[10] *PUD No. 1* at 705; CWA Sec. 303(d)(4)(B); 40 CFR § 131.6.
[11] 40 CFR § 131.12.
[12] SWRCB, "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem" (Aug. 3, 2010) (2010 Flow Report) available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf.
[13] As discussed further in the Antidegradation section below, the Draft SED actually does not commit to a 35% preferred flow alternative. Instead, flows could be 25% of unimpaired flows, there may be no flow changes at all, or flows could decrease. Draft SED, App. K: "Draft Lower San Joaquin River Fish and Wildlife Flow Objectives and Program of Implementation," pp. 4-5.
[14] The vague nature of the narrative standard further facilitates this lack of attention to the flows needed to protect beneficial uses. In particular, the narrative objective calls on the state to "[m]aintain flow conditions from the San Joaquin River Watershed to the Delta at Vernalis, together with other *reasonably controllable* measures in the San Joaquin River Watershed, sufficient to support and maintain" beneficial uses, focusing on flows that "*reasonably* contribute" to maintaining beneficial uses. Draft SED, Appendix K, p. 1. The continued, inappropriate focus on "reasonably" attainable flows will not support beneficial uses. By contrast, Tennessee's narrative flow standard to protect fish and aquatic life is direct: "Stream or other waterbody flows shall support the fish and aquatic life criteria." Tennessee Rule 1200-04-03-.03 – Criteria for Water Uses, available at: http://tn.gov/sos/rules/1200/1200-04/1200-04-03.20110531.pdf.
[15] *See, e g*., Draft SED, App. C, p. 2-56 ("February through June flow volume at Vernalis has been reduced to a median of 27% of unimpaired flow… Observed flow from February through June as percentages of unimpaired flows have

acknowledges have been contributing to the overall decline in salmon and other fish populations.[16] The Water Board attempted to justify this figure its public Fact Sheet on the Draft SED, stating that "[t]he 35 percent unimpaired flow proposal *strikes a balance* between providing water for the protection of fish and other competing uses of water, including agriculture and hydropower generation."[17] As we have just seen, the CWA does not provide for "balancing" beneficial uses; instead, it mandates adoption of criteria that "support the most sensitive use" – in this case, the protection of fish and aquatic life. Rather than the 60% demanded by science, the Draft SED's inattention to CWA requirements has produced criteria far below that needed to protect sensitive beneficial uses, and so runs afoul of the CWA.

Again, state and federal fish and wildlife agencies testifying at the Water Board hearing on March 20th reiterated this point, stating that the 35% flow recommendation was inadequate and would continue the decline of fish populations and fisheries.[18] The agencies also faulted the Water Board for not incorporating the salmon *doubling* goal, which mandates an increase of roughly 78,000 returning salmon per year.[19]

In addition to its inappropriate "balancing" of beneficial uses, the Water Board appears to have also shaved the science-based 60% flow figure down to the flawed 35% flow through a misplaced reliance on Porter-Cologne and its Section 13241 factors,[20] rather than protecting the most sensitive beneficial use as required by the CWA. As the Draft SED states in the Executive Summary, one key purpose of the plan amendments is the development of "flow objectives during the February–June period and a program of implementation for the *reasonable protection* of fish and wildlife beneficial uses."[21] This deference to "reasonable" protection presumably arises from

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fallen well below medians of 41%, 21%, and 26% in the Stanislaus, Tuolumne, and Merced Rivers respectively").

[16] Draft SED, p. ES-10 ("scientific information indicates that higher flows of a more natural pattern are needed from the three eastside, salmon-bearing tributaries during the spring (February–June) to protect fish and wildlife beneficial uses (including SJR Basin fall-run Chinook salmon and other important ecosystem processes)").

[17] SWRCB, "Bay Delta Plan Update: Draft San Joaquin River Flow and Southern Delta Salinity Requirements Released for Public Comment," p. 2 (Dec. 31, 2012), available at: http://www.swrcb.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2012_sed/docs/sjr_factsheet2012.pdf (emphasis added).

[18] In an independent assessment of progress in improving Central Valley conditions for fish, scientists concluded that "(i)t is especially important to specify the flow regime in the lower river and through the Delta that is necessary for the biological requirements of anadromous fish," and that meeting statutory obligations will require "a significant reduction in the amount of water pumped out of the system." Circlepoint, for U.S. Bureau of Reclamation and U.S. Fish and Wildlife Service, "Listen to the River: An Independent Review of the CVPIA Fisheries Program," (Dec. 2008) (Listen to the River), available at: http://www.usbr.gov/mp/cvpia/docs_reports/indep_review/FisheriesReport12_12_08.pdf.

[19] Draft SED, p. 1-13 ("Section 3406(b)(1) of the Central Valley Project Improvement Act (CVPIA) directs the Secretary of the Interior to develop and implement a program that makes all reasonable efforts to at least double natural production of anadromous fish in California's Central Valley streams on a long-term, sustainable basis"). The current Bay Delta Water Quality Control Plan similarly contains a narrative objective (apparently unimplemented) stating that "Water quality conditions shall be maintained, together with other measures in the watershed, sufficient to achieve a doubling of natural production of chinook salmon from the average production of 1967-1991, consistent with the provisions of State and federal law." SWRCB, "Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary," Table 3 (Dec. 13, 2006), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/wq_control_plans/2006wqcp/docs/2006_plan_final.pdf. *See also* Listen to the River (criticizing the agencies for failing to integrate CVPIA implementation into their other activities).

[20] Draft SED, pp. 1-19, 18-1.

[21] *Id*., pp. ES-9–ES-10 (emphasis added).

the following statement of policy under Porter-Cologne:

> The Legislature further finds and declares that activities and factors which may affect the quality of the waters of the state shall be regulated to attain the *highest water quality which is reasonable*, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.[22]

This provision, while modern at its adoption in 1969, falls short of the mandates of the CWA, adopted three years later. Water Code Section 13241 similarly requires the adoption of objectives that will only ensure the "reasonable protection of beneficial uses." The proof of the impacts is in the flow figures – 60% when consistent with the CWA (*i.e.*, based on science rather than also on economics and other factors),[23] and 35% when the "balancing" and Section 13241 factors are applied.

As noted above, the state Supreme Court has found that Porter-Cologne "cannot authorize what federal law forbids." The federal CWA dictates that criteria must be based on science, and that criteria must protect the most sensitive beneficial use. The state may consider other factors if it so chooses, but that analysis cannot result in criteria less protective than dictated by the CWA.[24] If the state desires to take action that would impact such uses,[25] it must complete an antidegradation analysis that clearly demonstrates the need for the change and justifies it with data. Pre-empting this process with state factors that throw in the towel on fish and wildlife protection before effort has even begun cannot be construed as consonant with the CWA.[26]

Significant work remains for the state to craft a solution to the disappearance of fish populations and healthy aquatic habitat in the Lower San Joaquin River.

THE CLEAN WATER ACT ENCOMPASSES THE USE OF FLOW MODIFICATIONS TO PROTECT BENEFICIAL USES

The Draft SED's reliance on Porter-Cologne over the stricter requirements of the CWA perhaps can be attributed to a mistaken perception that the CWA does not address flows. This issue was decided to the contrary, however, by the U.S. Supreme Court in *PUD No. 1 of Jefferson County v. Washington Department of Ecology*, 511 U.S. 700 (1994) (*PUD No. 1*), which found the distinction between water quality and quantity under the CWA to be "artificial."

In *PUD No. 1*, Supreme Court took up the question of whether Washington state had properly issued a CWA Section 401 certification imposing a minimum stream flow requirement to protect fish populations. The Supreme Court held that conditioning the certification on minimum stream flows was proper, as it was needed to enforce a designated use contained in a state water

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[22] Calif. Water Code § 13000 (emphasis added).
[23] 2010 Flow Report, p. 2.
[24] *City of Burbank*, 35 Cal.4th at 627-28.
[25] Existing, "Tier 1" uses, however, cannot be degraded further. 40 CFR § 131.12(a)(1).
[26] It bears noting that this, of course, is true for the salinity objectives as well.

quality standard.[27] In reaching this decision, the court noted that "a project that does not comply with a designated use of the water does not comply with the applicable water quality standards," and that Washington had properly determined that the project as proposed (*i.e.*, without the minimum flow conditions) would have been inconsistent with the applicable designated use of "[s]almonid [and other fish] migration, rearing, spawning, and harvesting."[28]

In responding to project proponents' argument that the CWA only addresses water "quality" and excludes regulation of water "quantity," the Supreme Court held that:

> [t]his is an artificial distinction. In many cases, water quantity is closely related to water quality; a sufficient lowering of the water quantity in a body of water could destroy all of its designated uses, be it for drinking water, recreation, navigation or, as here, as a fishery.[29]

The Supreme Court specifically took note of CWA Sections 101(g) and 510(2), which address state authority over the allocation of water as between users. The Court found that these provisions "do not limit the scope of water pollution controls that may be imposed on users who have obtained, pursuant to state law, a water allocation." This conclusion is supported by the "except as expressly provided in this Act" language of Section 510(2), which conditions state water authority; and by the legislative history of Section 101(g), which allows for impacts to individual water rights as a result of state action under the CWA when "prompted by legitimate and necessary water quality considerations."[30]

Other states and U.S. EPA Regions have already embraced this direction and protected aquatic beneficial uses through actions that impact flows. For example, numerous states[31] have already adopted "instream flow water quality standards," with Texas and New Mexico (among potentially others) examining them as well. In a recent letter to the state of Alabama, U.S. EPA Region 4 noted that "the tools under the CWA are increasingly being used to protect and restore the hydrology of waterbodies"[32] and recommended that Alabama

> utilize the ... CWA to develop instream flow water quality standards (WQS) for the protection of all designated uses and for application in all other purposes under the CWA. Under the CWA, WQS include the designated use of a waterbody, ... criteria to protect those designated uses and the state's antidegradation requirements. All three of these WQS

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[27] *PUD No. 1,* 511 U.S. at 723.
[28] *Id*. at 714.
[29] *Id*. at 719.
[30] *Id*. at 720 ("*See* 3 Legislative History of the Clean Water Act of 1977 (Committee Print compiled for the Committee on Environment and Public Works by the Library of Congress), Ser. No. 95–14, p. 532 (1978) ('The requirements [of the Act] may incidentally affect individual water rights. . . . It is not the purpose of this amendment to prohibit those incidental effects. It is the purpose of this amendment to insure that State allocation systems are not subverted, and that effects on individual rights, if any, are prompted by legitimate and necessary water quality considerations')." *See also* Memorandum from U.S. EPA Water and Waste Management and General Counsel to U.S. EPA Regional Administrators, "State Authority to Allocate Water Quantities – Section 101(g) of the Clean Water Act" (Nov. 7, 1978), available at: http://water.epa.gov/scitech/swguidance/standards/upload/1999_11_03_standards_waterquantities.pdf.
[31] At a minimum, the following states have adopted flow criteria: Tennessee, Kentucky, Vermont, New Hampshire, Rhode Island, New York, Virginia, and Missouri. Letter from U.S. EPA Region to Alabama Department of Environmental Management, pp. 10-12 (Nov. 19, 2012) (U.S. EPA Reg. 4 Letter) (attached).
[32] *Id.*, p. 10.

> components can be used by Alabama as relevant and vital tools to protect and restore healthy hydrology in the state.[33]

In this letter, U.S. EPA Region 4 also noted that some states are setting flow criteria "outside the CWA" and raised concerns about that practice being potentially inconsistent with protection of state water quality standards, including their beneficial use components.[34] U.S. EPA Region 4 recommended instead "setting the instream flow standard through existing CWA provisions," and noted that "[o]nce approved, those standards would be in use for all purposes under the CWA…."[35]

EPA concluded in this letter that "*Alabama should not set conditions which would be less stringent than or in conflict with the state WQSs under the CWA*."[36] It is important to recognize that this is just the path that the Water Board is currently taking with its weak, 35% unimpaired flow objective.

Finally, U.S. EPA Region 1 embraced consideration of flows well before even Region 4. Shortly after the *PUD No. 1* decision, for example, U.S. EPA Region 1 issued a letter to the Rhode Island Department of Environmental Management reiterating the findings of *PUD No. 1* and recommending numerous option for the state to address flow issues through the CWA, including pointing out that "[f]ishery restoration/management plans can also be integrated into water quality standards."[37]

In summary, the Clean Water Act demands the protection of beneficial uses through science-based criteria that protect the most sensitive uses fully. Flow criteria cannot be less stringent than or in conflict with state water quality standards under the CWA. The Draft SED's recommendation of 35% unimpaired flow, if it even occurs,[38] will be barely more than existing flows causing widespread degradation of fish and aquatic life and habitat uses, and far less than the science-based 60% flow properly focused on protection of these sensitive uses. The state cannot avoid its responsibilities under the CWA by relying on state factors that balance away these beneficial uses.

CALIFORNIA MUST PREPARE AN ANTIDEGRADATION ANALYSIS THAT IS CONSISTENT WITH BOTH STATE AND FEDERAL LAW AND CIRCULATE IT FOR PUBLIC COMMENT WITH THE REVISED DRAFT SED

Before addressing antidegradation, it is worth noting that the alarming decline in Delta fish and other aquatic life raises the question of whether the state's actions may result in the elimination of existing uses. As noted by the U.S. Supreme Court, "no activity is allowable ... which could partially or completely eliminate any existing use."[39] The anemic potential increases in flows (as

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[33] *Id.*, p. 9.
[34] *Id.*, p. 12.
[35] *Id.*
[36] *Id.* (emphasis in original).
[37] Letter from U.S. EPA Region 1 to Rhode Island Department of Environmental Management (June 25, 1996) (U.S. EPA Region 1 Letter) (attached).
[38] *See supra* n. 13 and the next section.
[39] *PUD. No. 1*, pp. 718-19; *see also* 40 CFR §§ 131.10(g), (h)(1).

well as the inadequate salinity criteria) fail to support existing aquatic life and habitat beneficial uses as required by the Clean Water Act, and the Draft SED must be revised and recirculated for that reason alone.

The Draft SED must also be revised to include an antidegradation analysis that meets both state and federal requirements. This is critical in light of the poor correlation in the Draft SED with actual flows that will improve, rather than continue or potentially worsen, current conditions. To learn more, we must turn to Appendix K.

As discussed above, the proposed 35% unimpaired flow figure falls well below the science-based 60% flow demanded by the CWA and will perpetuate the decline of aquatic life in the Delta. However, Appendix K makes clear that the Draft SED does not actually commit to even this 35% preferred flow alternative. The actual required percentage of unimpaired flow may range as low as 25% of unimpaired flow,[40] or there may be no flow changes at all. As to the latter, Appendix K states that "the State Water Board may allow modifications to the numeric requirements in this program of implementation" based on future monitoring.[41] Moreover, "adaptive management of flows does not have to rely on the unimpaired flow percentage method, but instead can use . . . other management approaches."[42] Even these "other management approaches" do not necessarily have to be linked with flow results in the water. Appendix K declares that "as long as the approved adaptive management plan is *designed* to achieve the applicable unimpaired flow range …, *compliance with the plan* will be deemed compliance with those flows."[43]

In other words, Appendix K offers up the fact that, as long as the state complies with a management plan that is written to ostensibly meet flows as low as 25% of unimpaired flows, the state has allegedly met its water quality duties, *regardless* of the actual flows that result from those activities. In sum, *the state has devolved from science-based criteria of 60% of unimpaired flows to a management plan that may or may not achieve the inadequate flows that currently exist.*

The fact that these numeric and non-numeric "implementation" activities are tied to a narrative standard does not save them, as the narrative standard is also disconcertingly vague in its attempted protection of beneficial uses. As noted above,[44] the narrative objective calls for flows that "reasonably" contribute to protecting beneficial uses.[45] The continued, inappropriate focus on "reasonably" attainable flows in this narrative objective, as with the numeric flow criteria, will continue to fail to support beneficial uses, and in fact may hasten their decline.

In light of these concerns with continued – and perhaps accelerated – degradation under the proposed project, the Draft SED must be revised to include an antidegradation analysis that meets both state and federal antidegradation requirements. The Draft SED currently states that the SWRCB "will considered [sic] all relevant information and determine if the [LSJR or SDWQ] alternatives would *unreasonably* affect the water quality or adversely affect the designated

[40] Draft SED, App. K, pp. 4, 5.
[41] *Id*., p. 5.
[42] *Id*., p. 4.
[43] *Id*., p. 5.
[44] *See supra* n. 14.
[45] Draft SED, Appendix K, p. 1.

beneficial uses of water from the estuary in the final SED."[46] First, the state must complete the antidegradation analysis now – not at the final SED – and must submit it for public review and assessment if it is to justify the continued degradation in beneficial uses expected from the proposed actions. Second, the state must meet the significant analysis, supporting data, and public participation requirements for these Tier 2[47] waters pursuant to both state and federal antidegradation mandates.

Federal antidegradation requirements protecting Tier 2 waters do not simply require California to make a statement about whether the proposed activities would "unreasonably" impact beneficial uses and water quality. Rather, federal antidegradation requirements require that the quality of Tier 2 waters be "maintained and protected" unless the state meets a rigorous set of required showings and "full satisfaction" of public participation provisions. Specifically, U.S. EPA antidegradation regulations for Tier 2 waters require that:

> Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully….[48]

None of this work has been done to date. Indeed, as noted above, the state has not even yet defined for the public the extent of the flow controls that may or may not occur. Accordingly, the level of potential degradation (along with the justification for it) remains unclear.

Though the Draft SED appears to focus on California's antidegradation policy, particularly through its language up front regarding actions that "unreasonably" affect water quality, [49] it similarly fails to conduct the analysis necessary to give the public a meaningful opportunity to comment on the potential impacts of the proposed project. This analysis is especially important in light of the recent decision of the Third Appellate Court in *Asociacion de Gente Unida por el Agua v. Central Valley Regional Water Quality Control Board*, 210 Cal.App.4th 1255 (Nov. 6, 2012). In this decision, the Court found that the state antidegradation policy "measures the baseline water quality as that existing in 1968 and defines high quality waters as the *best quality achieved since that date,"*[50] encompassing most waters of the state as high quality water to be protected. It further finds that any actions to lower water quality below that level will trigger the antidegradation policy,[51] which requires that such high quality "will be maintained until it has been demonstrated"

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[46] Draft SED, p. 19-1 (emphasis added).
[47] *Id*., p. 19-2 ("The project area's waterbodies are classified as Tier 2 waterbodies per the Federal Antidegradation Policy").
[48] 40 CFR § 131.12(a)(2).
[49] Draft SED, Sec. 19.1, p. 19-1.
[50] *Asociacion de Gente Unida por el Agua v. Central Valley Regional Water Quality Control Board*, 210 Cal.App.4th 1255, 1270 (Nov. 6, 2012) (emphasis added).
[51] State Water Resources Control Board, "Resolution 68-16: Statement of Policy with Respect to Maintaining High Quality of Waters in California" (Oct. 28, 1968), available at:

that "any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies."[52]

Based on this direction, a thorough antidegradation analysis must be performed to identify and justify any changes in water quality as a result of the actions in the Draft SED. The Court in *Asociacion de Gente Unida por el Agua* found inadequate the Central Valley Regional Water Quality Control Board's dairy program antidegradation analysis, which had relied on the associated Order's statement that the program "does not authorize any further degradation to groundwater." Stating that "[t]he wish is not father to the action,"[53] the Court rejected the agency's claim that its proffered monitoring program would "enforce" the "no degradation" directive.[54] Though in the current situation the Draft SED contains no antidegradation analysis at all, the court's decision bears careful study in light of the Draft SED's assertion that the preferred flow alternative will protect beneficial uses – an assertion significantly called into question after a close examination of Appendix K. The state cannot rely on a wish that its proposed activities will protect the most sensitive beneficial uses as required by the CWA and state law – it must demonstrate convincingly that this will be the case.

Finally, it is worth reiterating that federal antidegradation requirements are no less important in the case of flow issues than in other situations in which beneficial uses are to be protected. For example, referencing *PUD No. 1*, U.S. EPA found that a state's antidegradation program "must obviously address water withdrawals as well as discharges," to ensure there is "adequate ability to protect existing uses."[55] U.S. EPA has stated further that antidegradation requirements are "relevant and vital tools to protect and restore healthy hydrology."[56] California must fully evaluate hydrology protections and impacts in the revised Draft SED and perform the assessments necessary to correct (or justify) any concomitant flow-related impacts on beneficial uses, consistent with state and federal law.

CONCLUSIONS

The role and import of the federal Clean Water Act is noticeably muted in the Draft SED. Instead of developing science-based criteria to protect sensitive aquatic life and habitat beneficial uses, the Draft SED inappropriately relies on an array of weaker state law factors to water down the science-based criteria to recommendations that could worsen, rather than improve, the current, tenuous environmental health of the Delta. The state must redraft and recirculate an SED that fully complies with the clear CWA mandate to protect beneficial uses fully, without degradation unless justified by an adequate antidegradation analysis.

The state cannot simply stand by while Delta health continues to spiral downward. The CWA provides the tools to begin to reverse this slide and must be used by the Water Board. In

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http://waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf.
[52] *Asociacion de Gente Unida por el Agua*, 210 Cal.App.4th at 1270.
[53] *Id.* at 1260.
[54] *Id.* at 1261.
[55] U.S. EPA Region 1 Letter, p. 3.
[56] U.S. EPA Region 4 Letter, p. 9.

addition, the Board should begin examination of the active use of water rights for waterways to ensure final flow commitments are met. The Delta's aquatic life and habitats "should not be destroyed because the state mistakenly thought itself powerless to protect them."[57] We urge the Water Board to incorporate these comments into a revised project and SED that will advance the letter and intent of the CWA to ensure a thriving, biodiverse, flowing Delta.

Thank you for your attention to these comments.

Best regards,

Linda Sheehan
Executive Director

Attachments:

Letter from U.S. EPA Region 4 to Alabama Department of Environmental Management (Nov. 19, 2012)
Letter from U.S. EPA Region 1 to Rhode Island Department of Environmental Management (June 25, 1996)

[57] *National Audubon Society v. Superior Court*, 33 Cal.3d 419, 452 (1983).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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NOV 19 2012

Lance LeFleur
Director
Alabama Department of Environmental Management
Post Office Box 301463
Montgomery, Alabama 36130-1463

Dear Mr. LeFleur:

Thank you for the opportunity to provide input into the State of Alabama's development of a comprehensive statewide water management plan. The Environmental Protection Agency strongly supports Governor Bentley's directive to develop a plan that is based on sound science and that will "benefit Alabamians now and for generations to come." As we have discussed at the most recent State Directors meetings, our stewardship of water resources in the Southeast is facing new challenges from increased demands on limited freshwater supplies. Your effort acknowledges that competing uses of ground water and surface water for industrial, municipal and agricultural uses, power generation, new reservoirs, inter-basin transfers and water diversions are all bringing this issue into sharp focus. Planning is further complicated by droughts, floods, climate change and existing hydrologic modifications.

Fortunately, our understanding of the science of water management has evolved significantly over the past decade. We applaud your efforts to bring this science to bear in assisting Alabama's efforts to balance multiple water needs. Long-term planning for the stewardship of Alabama's waters will serve to protect the significant ecological resources of the state, as well as ensure future delivery of drinking water, power generation and sustainable economic development.

The EPA has been working to better understand the complex issues of addressing water quantity and water quality effectively under the existing authorities of the Clean Water Act (CWA). The EPA Region 4 has had the benefit of working with other state and federal partners that have long been involved in this issue. For instance, population pressures and water disputes compelled many states in New England to begin development of water plans more than twenty years ago. All six of the New England states have developed hydrologic protection of state waters either through their state water quality standards program under the CWA and/or through state water allocation and permitting programs. The eight states surrounding the Great Lakes, facing challenges of competing water uses, spurred development of water plans under the Great Lakes and St. Lawrence Seaway Compact, including innovative tools such as Michigan's Water Withdrawal Assessment Process and Internet Screening Tool. Alabama can draw on such tools, expertise, innovation and success both here in the Region and nationally. We have provided several examples in our comments and would welcome the opportunity to share with you any of these resources and contacts in the coming year as you develop and refine your plan.

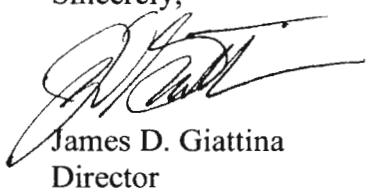
As requested, the EPA has completed a review of the *Water Management Issues in Alabama* report. Our comments include recommendations about how Alabama could utilize tools that are already available under the CWA to address many of the State's water resource issues, with a focus on efficiency, conservation and reuse, and development of instream flow water quality standards under the CWA. We support Alabama's water conservation and efficiency efforts, which can be a key component in water resource management. In addition, the EPA recommends that the State consider using its CWA authority under the water quality standards program to develop "instream flows which can serve as a cornerstone

of a statewide water management plan" (*Water Management Issues in Alabama*, Alabama Water Agencies Working Group, pg. 6). We further support the proposal to examine and recommend "appropriate flow dynamics for rivers and streams to support biological, recreational, and industrial/transportation needs and requirements" (Id., pg. 4), and have included examples of successful flow standards from throughout the country. We share with you the expectation, as you move forward, that all newly developed water plans and policies will of course be consistent with your state water quality standards under the CWA.

Our enclosed comments follow the format of the Water Issues Area Summaries while also addressing the 2009 recommendations from the Permanent Joint Legislative Committee on Water Policy and Management and the areas of stated importance from the Governor in his charge to the Alabama Water Agencies Working Group in April 2012.

With the benefit of evolving research in this area, we believe it is possible to develop the tools needed to protect, and where possible restore, the hydrologic condition and ecological integrity of state waters, while efficiently carrying out necessary and important water supply planning and economic development. We stand ready to assist your group in any way possible, and please do not hesitate to contact me at (404) 562-9470 or Ms. Lisa Perras Gordon at (404) 562-9317 if you have any questions.

Sincerely,



James D. Giattina
Director
Water Protection Division

Enclosure

cc: Glenda Dean

Alabama Water Agencies Working Group
EPA Region 4 Stakeholder Comments
November 2012

The Region 4 office of the Environmental Protection Agency (EPA) has reviewed the report entitled *Water Management Issues in Alabama* (the WMI Report) by the Alabama Water Agencies Working Group (AWAWG) and offers the following stakeholder input.

General Stakeholder Input

The EPA supports the development of a statewide water management plan as detailed in the WMI Report. The EPA's two primary issues for stakeholder input are conservation and reuse, and the recommendation to develop instream flow water quality standards. The EPA is also providing comments below in seven other areas. In addition to those comments, the EPA is providing information regarding the significance of Alabama's aquatic ecology that was not included in the WMI Report.

Alabama's globally significant aquatic biodiversity

The United States is often cited as one of the top countries in the world for aquatic biodiversity, ranking 1st for crayfishes, freshwater mussels, freshwater snails and many aquatic insects and 7th for fish diversity. In fact, whereas the U.S. has over 300 species of freshwater mussels, all the rivers of Europe have only 10 and the entire continent of Africa just 56. There is no question that Alabama is at the heart of the U.S. freshwater diversity, with more species of mollusks (180 species of both snails and mussels) and fish (>300 species) than any other state (ADCNR 2012). *Rivers of Life*, a NatureServe report on aquatic biodiversity, highlights the state of Alabama in general and the Mobile River basin in particular as having "extraordinarily diverse assemblages of freshwater animal species..." and also references the Cahaba River which it describes as a "treasure trove of botanical life" (Master et al. 1998). However, the report notes that many of Alabama's species are vulnerable. In fact, Tennessee and Alabama came in 1st and 2nd for the greatest number of imperiled freshwater species nationally. The report finds that just two regions of the U.S., one of which is the Mobile River Basin, are home to 35% of all vulnerable species in the U.S. Seventy percent of those species occur nowhere else in the world. Conservation practices and development of instream flow protections may provide the safeguards needed for many of these species that make Alabama a unique ecological treasure.

Freshwater ecosystems, as a whole, have suffered more decline than terrestrial ecosystems in recent decades (Master et al. 1998). Nationally, aquatic systems are under significant stress, and particularly in the Southeast, with the largest number of imperiled species. More than two centuries of alterations to aquatic habitat, such as dams, surface water and ground water withdrawals, impervious cover, introduction of non-native species and channelization have significantly altered the aquatic environment. Only recently have scientists begun to quantify the extent of that alteration. In a national assessment, the U.S. Geological Survey found that alteration of waterways has impacted the magnitude of minimum and maximum streamflows in more than 86% of monitored streams nationally and may be the primary cause of ecological impairment in river and stream ecosystems (Carlisle et al. 2011). Every aspect of the lives of aquatic plants and animals is cued by and inextricably linked to the natural variability of our rivers and streams (Southern Instream Flow Network 2010). Alterations and reductions in stream flow and fragmentation of our waterways concentrate toxic and conventional pollutants, reduce fish passage, increase stream temperatures, increase predation, reduce access to stream bank habitat, eliminate the

connectivity to feeding and breeding locations in the flood plain and in some instances even eliminate stream flow altogether.

The EPA supports Governor Bentley's efforts to create a statewide comprehensive water plan that includes instream flow protection which may provide protection for Alabama's significant aquatic biodiversity. The EPA applauds this movement towards greater stewardship of these resources and hopes that with public outreach citizens can take even greater pride in their state's ecological riches.

Little was mentioned of Alabama's global significance in this area in the WMI Report. EPA encourages the AWAWG to acknowledge and support the exceptional aquatic biodiversity of Alabama as it works toward the completion of the statewide water management plan.

Water Issue Area Specific Comments

Water Resources Management

As a means of managing and planning for water supply while minimizing impacts to public resources such as streams and wetlands, we encourage the state to place up-front emphasis on conservation and management principles.

Fixing ~~leak~~king infrastructure and incentivizing efficient use can free up significant supply already in the treatment and distribution system, often closing demand-supply gaps at a fraction of the cost of developing new supply. Whereas many distribution systems have unaccounted-for water (UAW) volumes upwards of 20-30%, states that have UAW goals generally target losses of no more than 10-15% (EPA 2010a). With its *Water Conservation Standards* of 2006, for example, Massachusetts established that water suppliers should conduct annual audits and semi-annual system-wide leak detection surveys with a goal of reducing UAW volumes to below 10%. Suppliers must then work towards fixing system leaks and reducing unaccounted-for water, with regular reporting requirements. Fixing leaks and managing system losses can increase financial benefits because water treated and transported through the distribution system, but lost before reaching an end user, is unbilled and thus represents revenue loss that could be recovered. In the mid-1990s, for example, Gallitzin, Pennsylvania's small distribution system was experiencing high water losses exceeding 70% (EPA 2002). After a thorough leak detection and mapping effort, the authority initiated a leak repair program and a corrosion control program at the water treatment plant. Just four years after implementation, delivery had decreased by 68%, with UAW down to 9%. Chemical treatment and energy cost decreases were 47% and 61%, respectively, which allowed the authority to keep water rates down.

Projects that impact hydrology, such as new or expanded water supply, development, and recreational or amenity impoundments, often require Clean Water Act (CWA) Section 404 permits, making them subject to review for compliance with the 404(b)(1) Guidelines. In reviewing such projects EPA considers whether the applicant has demonstrated adherence to the mitigation sequence, with avoidance and minimization of impacts to aquatic resources as the first two steps. EPA also reviews proposed projects for full consideration of alternatives in selection of the Least Environmentally Damaging Practicable Alternative. For water supply project proposals, full implementation of conservation and

efficiency measures, including water reuse options, is a primary alternative that could have a fraction of the impacts to aquatic resources of developing new supply infrastructure. A study that surveyed multi-family residential units across several cities found that the introduction of sub-metering reduced water consumption by 10-26% (Mayer et al. 2004). EPA looks for such measures to minimize or altogether avoid aquatic resource impacts. A state water management plan can serve as the policy basis for prioritizing projects that use and improve upon existing infrastructure, and make use of existing investments so that they have less impact to aquatic resources. A state plan can facilitate such measures being considered together as a comprehensive approach rather than in isolation.

When water supply projects are determined to be necessary, demonstrated maximization of conservation and efficiency measures can facilitate federal permit review. Any new supply development (such as a reservoir) should be sized appropriately for the documented purpose and need, and designed to mimic the natural conditions as closely as feasible in the downstream waters. Dewatering of the downstream segments should not be allowed during the filling stages of impoundments. Many of these projects require long-term financial and maintenance obligations, which should be outlined and accounted for in all applications to ensure protection of the water quality necessary to protect designated and existing uses throughout the life of the project. The maintenance of impoundments, including the costs for activities such as dredging of sediments, is often not adequately considered, and can lead to degradation of resources. Whereas free-flowing streams can be economic boons by bringing recreational users and tourism, with associated hospitality and recreational gear business, reservoirs can be an economic liability. One such example is that of the Hickory Log Reservoir in Canton, Georgia. Costs for that reservoir have increased to more than five times the original estimate, creating an economic burden threatening other fundamental needs of the city. *The Atlanta Journal-Constitution* reported in June 2012 that water bills for city of Canton customers have increased 30% to pay for expenses for the reservoir, which is full but not yet delivering water (Scott 2012).

Incorporating protection for aquatic species is a critical element of a good water resource management plan. Impoundments, for example, represent a significant threat to connectivity of Alabama's exceptional aquatic resources, including the many threatened and endangered species of freshwater mussels found in the state.

Therefore, the EPA would like to encourage the State to give priority to maximizing efficiency measures and the possible expansion of existing facilities versus building new reservoirs in order to avoid impacts to aquatic resources such as streams and wetlands, and to protect overall ecological/environmental integrity. My staff would be happy to work with the AWAWG and member agencies to provide technical support of the state's efforts.

As the WMI Report recognizes, water resource management "needs to be holistic across an entire watershed or drainage basin due to the interrelationship of the natural and human processes and activities that can impact each other, in some cases from a great distance. This includes both land and water resources, since land use can have significant impacts on water resources and related ecosystems." A water management plan that incorporates all uses should give equal consideration to instream uses, e.g., aquatic life, aesthetic values, physical stability, and ecological viability (habitat, water quality) as it does to anthropogenic off-stream uses (supply, impoundment), as recognized for some time by western

states and more recently by eastern states and the Instream Flow Council (Breckenridge 2004). The CWA provides that each state must specify appropriate water uses to be achieved and protected for each waterbody (40 CFR 131.10(a)). The state must take into consideration the use and value of water for public water supply, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agriculture, industrial uses and other purposes including navigation. For the past 30 years, North Carolina has successfully utilized the designated use provisions under its water quality standards (WQS) program to work with local jurisdictions to directly address issues where land use affects water use. For instance, a use designation for Class WS-II Waters provides additional protections for drinking water supplies by requiring local jurisdictions to adopt "nonpoint source and stormwater pollution control criteria for the entire watershed" (NCDWQ 2007). Once the use designation is adopted, those provisions are placed into ordinances of local jurisdictions, which are then responsible for their implementation. These provisions also include best practices such as buffers, housing density options or advanced storm water management. The state is careful to point out that these practices do not limit economic development, but rather ensure sustainable development in sensitive areas. *Alabama could review North Carolina's use designations and consider more fully developing its designated uses under the CWA to provide protection for an entire watershed rather than just the waterbody, and require those provisions be adopted by local jurisdictions.*

Expanded Certificates of Use/Permitting:

The EPA strongly supports a comprehensive program for permitting and accounting for both ground water and surface water use in Alabama. Understanding water availability and use is essential to managing the resource (USGS 2012). Understandably, Alabama also would like to keep 'the regulatory burden to a minimum' (WMI Report p.12).

The EPA has three recommendations in this section:

- As other states have faced this challenge, new innovative tools have evolved that Alabama may want to explore. Michigan has developed an innovative and national award winning ground water withdrawal permitting system that provides detailed information on ground water use while keeping the regulatory burden to a minimum. Michigan's Water Withdrawal Assessment Process and Internet Screening Tool was developed collaboratively over six years by the Groundwater Conservation Advisory Council representing water users, state officials, technical experts and conservationists. This tool allows citizens to go on-line, type in information on proposed ground water use, and get instantaneous feedback to determine if the water withdrawal will affect local streams. If it does not, they need only complete forms to get permitted. If it does, they may try to change the location or withdrawal rate to get the "go-ahead." No direct government review is needed for the majority of the permits. Only those few wells that may cause biological effects on streams need to proceed to the more detailed site-specific permit review (Ruswick et al. 2010; Hamilton et al. 2011).

- As Alabama considers how to move ahead with issuing a Certificate of Use (COU) that 'will not interfere with an existing legal use of the water' we ask that you also consider a requirement that

the permitted use not cause or contribute to a violation of water quality standards, including any existing implicit protections for instream flow, such as support for aquatic life.

- In other states, authorities have found it important not to set the threshold too high for capturing withdrawals and impacts via a permitting system. In Massachusetts, for example (Breckenridge 2004), higher permit thresholds led to not capturing data on many withdrawals, compromising understanding of the total anthropogenic uses and impacts on systems, and increasing uncertainty in planning. An effective plan would incorporate estimates of unpermitted uses (e.g., those below the threshold and illegal withdrawals) to more accurately gauge impacts. A plan and permitting system that allows for periodic review and adaptive management will provide for more effective protection as lessons are learned, systems adjust to alterations and impacts, and new monitoring and scientific information becomes available, especially given the variability of hydrographs that is essential to maintenance of the physical/chemical system and aquatic life.

Economic Development

As indicated in Alabama's proposal, protecting the health of freshwater ecosystems is not only critical to biodiversity and ecology but also to the support of a thriving economy. Maintaining the integrity of natural biological and physical systems provides significant economic benefits to state and local economies. In July 2012, EPA Headquarters published a document entitled, *The Economic Benefits of Protecting Healthy Watersheds* (EPA 2012b). This fact sheet, based in part on a study that included data from Alabama entitled, *Forests for Water: Exploring Payments for Watershed Services in the U.S. South* (Hanson 2011) states that healthy intact watersheds provide many ecosystem services that are necessary for our social and economic well-being. These services include water filtration and storage, nutrient cycling, soil formation, flood prevention, food production and timber.

Protection of natural and aquatic resources can also be directly tied to the creation of jobs and a strong economy. For example:

- A 2012 report found that outdoor recreation contributed $646 billion in direct sales and services to the U.S. economy annually, supporting an estimated 6.1 million jobs, generating $39.9 billion in federal tax revenue and $39.7 billion in state/local tax revenue, and providing sustainable growth in rural communities (Outdoor Industry Foundation 2012). Outdoor recreation jobs numbering 215,126 were found in the East South Central states (AL, KY, MS and TN) (Outdoor Recreation Industry 2006).
- Twenty-four million Americans participate in paddling sports (kayaking, canoeing, rafting). Despite the national recession, the outdoor recreation economy grew approximately 5 percent annually between 2005 and 2011 (Outdoor Industry Association 2012).
- Local hydrologic restoration projects are bringing economic development to smaller communities in our region. A project to remove aging dams and restore naturalized white water flow to the Chattahoochee River on the Georgia/Alabama border is projected to bring 144,000 new visitors annually, create 700 jobs and add $42 million additional yearly revenue from recreational tourism (Adams 2011).

- Healthy estuaries, such as the Mobile Bay and coastal communities dependent on the natural timing and delivery of freshwater flows, contribute billions of dollars to state economies.

Protection of adequate instream flow also provides economic certainty to municipal and industrial dischargers. In recent years, there has been a trending downward of freshwater flows in many freshwater rivers and streams – much of which is anthropogenic in origin, such as over-pumping of ground water or surface water withdrawals. Some of these reductions may persist long enough to cause revisions to the calculated 7Q10 (the lowest recorded 7 days of flow in a ten year period). In addition, prolonged droughts have prompted those who control regulated rivers to consider dropping the low flow minimums or revise drought control manuals to allow for further reductions of the low flow values. National Pollutant Discharge Elimination System (NPDES) permits issued under Section 402 of the CWA use critical low flow values such as 7Q10s or negotiated low flows on regulated rivers to calculate a permittee's discharge limits. In areas where those low flow values are causing long-term changes, permits will have to be recalculated to protect for the new critical low flow. Where possible, protection of instream flows from anthropogenic alteration may prevent unnecessary and often costly additional treatment for those permittees.

Whereas resource management can often be portrayed as protection of ecology vs. protection for economic development, new data and studies indicate that they are quite often linked. Therefore, *the EPA encourages the AWAWG to acknowledge as they develop their plan that there may be significant economic benefits, in both ecosystem services, jobs and revenue, to protecting and maintaining intact aquatic ecosystems.*

Surface Water and Ground Water Availability

The EPA supports Alabama's approach of developing comprehensive scientific knowledge of surface water and ground water availability. The EPA recommends that as Alabama explores ground water development policy, it ensure that it addresses the linkages between ground water and surface water. Alabama notes surface water and ground water concerns in this section separately, but they should be treated in most areas as a single resource. Nearly all surface water bodies interact in some manner with ground water (Winter 1998). Withdrawal of surface water can deplete ground water and there are numerous areas in the Southeast where pumping of ground water has been known to directly affect surface water. Ground water depletion may cause significant reductions of surface water flow which may impair or remove designated uses without going through the provisions of the CWA (40 CFR 131.10 (g)). It should be noted that under the CWA, existing uses generally cannot be removed (40 CFR 131.10(h)).

The EPA recommends that newly developed ground water withdrawal policy directly link to Alabama's water quality standards so that any withdrawals will not cause or contribute to a loss of the water quantity needed to support the water quality, including support for meeting aquatic life uses, drinking water, recreation, etc.

The EPA will work with the State to explore any potential assistance that we can provide on funding options for maintenance of gaging stations, water quality and biological assessments and ground water and surface water assessments.

Water Conservation and Reuse

When it comes to protecting our limited fresh water supply, development and expansion of efficiency and conservation programs and efforts is an essential first step as we noted above, and we applaud the recognition in the *WMI Report* of the major impacts of water usage, and benefits of water conservation and reuse. Conservation not only reduces volumes requiring treatment (for consumption and as waste), but also reduces energy required to distribute and treat water. Conservation also preserves in-stream values such as water quality, habitat, physical stability, and aquatic life.

Water reuse, as recognized in the *Water Conservation and Water Reuse* section of the report, can be implemented in many settings. It can benefit municipal, agricultural, environmental, industrial, and private entities through uses such as those identified as well as through protection of environmental values. It can also represent an economic development advantage by reducing infrastructure and energy costs and resource demands in both public and private capacities. In September, EPA released its 2012 update of its manual *Guidelines for Water Reuse ("2012 Guidelines")*. This update includes new information on efforts by states across the country to develop water reuse, including regulations adopted by 30 states and one territory, and an inventory of diverse case studies (EPA 2012a). It can serve as a valuable resource and addresses two issue areas identified as considerations in the WMI Report. The first consideration given is:

- A tension exists within public water systems between the need to conserve water and a financial model predominantly based on water sales.

When water is reused as one measure for avoiding new withdrawals, this conflict is reduced; Chapter 7 of the *2012 Guidelines* addresses financial aspects of water reuse, including rate and fee structures. Other considerations describe success of these approaches as tied to public understanding and acceptance, for example:

- The public's perception of water reuse may be less receptive if they believe the recycled water is from a common public waste source.

This is a challenge that has played out nationally and in many communities as water reuse has been implemented, and Chapter 8 of the *2012 Guidelines* provides an excellent discussion of the issue and various approaches to public outreach and engagement. Much of this discussion, including the importance of proactively providing information to the public, is also translatable to conservation and efficiency programs.

An excellent example of a successful water reuse initiative is the Mobile Area Water and Sewer Systems (MAWSS) demonstration project funded by EPA through a $1.1 million National Community Decentralized Wastewater Demonstration Project grant. To deal with municipal treatment capacity overloads, the utility diverted wastewater to four satellite cluster facilities. Some of that diverted water is

then treated and used in a state-of-the-art underground drip irrigation system for a municipal park, decreasing the burden on the central treatment facility and reducing wastewater discharges to Mobile Bay (MAWSS 2005).

We have provided each of the southeastern states with a copy of EPA Region 4's 2010 *Guidelines on Water Efficiency Measures for Water Supply Projects in the Southeast* ("*WEGs*"). The *WEGs* emphasize many of the same goals expressed in the Alabama WMI report, and provide recommendations for effective implementation of conservation and efficiency measures (EPA 2010b). EPA is continually working to update these guidelines to incorporate more refined and quantifiable approaches and will continue to provide those as revised. The WMI Report issue area on conservation mentions measures such as fixing leaks, turning off water when not in use, rain barrel use, and non-potable water reuse in agricultural and industrial settings. We would highly recommend implementation of much more comprehensive measures (such as those identified in the *WEGs) and incentivizing them via funding programs and permitting requirements*. We especially endorse fixing leaking infrastructure, using an integrated resource management approach across residential, industrial, agricultural, and commercial settings, full-cost pricing, conservation pricing, metering of all water users, low-impact development and green infrastructure, retrofitting all buildings, water reuse, landscaping to minimize demand and waste, and efficient irrigation practices. Many state approaches can provide good examples of conservation and efficiency programs, such as the standards and recommendations in ten key areas in Massachusetts' *Water Conservation Standards* of 2006.

These approaches can conserve resources, reduce treatment costs, and reduce releases of pollutants into streams and rivers, as well as reduce unbilled losses. Conservation and efficiency measures can be promoted directly with residential, industrial, agriculture, commercial, municipal and local users, as well, not just public utilities, through establishment of codes, policies, and incentive programs, as demonstrated by many successful programs across the country. As recognized in the WMI report, developing a new water supply can be costly and time consuming, whereas demand can often be met for a fraction of the cost via conservation and efficiency measure implementation. Ashland, Oregon, for example, was facing a demand-supply gap and initially considered an $11 million reservoir or $7.7 million for 13 miles of new pipeline to withdraw from the Rogue River (EPA 2002). Instead they implemented an efficiency program comprised of system leak detection and repair, conservation-based water rates, a high-efficiency showerhead replacement program, and toilet retrofits and replacement. The cost of the program was just $825,875—less than 10% of the estimated cost of a reservoir—and less than a decade later demand was down considerably (16% of winter use), wastewater flow was reduced by 58 million gallons annually, and the town had realized considerable energy savings primarily associated with efficient showerhead replacement. Savings to utilities from avoiding additional infrastructure development can also be considerable. The WMI Report refers to the potential use of the Water Supply Assistance Fund; this presents an opportunity whereby efficiency-first guidelines could be established as part of this program. Additionally, the Regulated Riparian Model Water Code bolsters this emphasis by specifying a water authority's ability to "promulgate and establish guidelines and procedures relating to loans or grants" (ASCE 2004).

Again, EPA recommends that the state place up-front emphasis on conservation and efficiency as integral to water resource management. We highly recommend that the measures implemented be a far more comprehensive approach than that identified in the WMI Report, and that they be incentivized

through funding programs and permitting requirements. States such as Florida, Kansas, Colorado, Pennsylvania, Vermont, and Nebraska have used State Revolving Fund (SRF) programs to provide audit and leak detection programs, metering, and to improve efficiency in irrigation (EPA 2003). Kansas and Texas require implementation of approved water efficiency plans in order to receive SRF funding.

EPA welcomes the opportunity to work with Alabama to explore potential funding options to support Alabama's efforts to implement water efficiency measures and conservation and reuse programs. Nationally, the EPA already provides funding for efficiency, including reuse, through mechanisms such as the State Revolving Fund.

Interbasin Transfers

The EPA recommends that Alabama consider the procedures set out in Massachusetts' Interbasin Transfer Act (MGL Ch 21 Section 8B-8D), which governs water and wastewater transfers between river basins of the Commonwealth. This Act has been in effect for over 25 years and is considered part of an overall plan which has led Massachusetts to be considered a model for water supply efficiency. (See http://www.mass.gov/dcr/watersupply/intbasin/index.htm.) This well–established program includes many features that Alabama is considering, including defined basin units for evaluating and accounting for interbasin transfers and a "regulatory mechanism that provides for existing transfers and establishes criteria for new or expanded transfers." The Act also requires that efficiency measures be in place prior to approval of a transfer, such as conservation, leak detection, more accurate metering, etc. These efficiency measures correlate well with Alabama's stated goals regarding conservation.

Instream Flows

Under the WMI Report's Findings and Policy Options (pp.4-7) it recommends that the state:

- *Develop a policy concerning instream flows which can serve as a cornerstone of a statewide water management plan, and*
- *Develop an acceptable legal and regulatory framework for implementation of an instream flow policy.*

Under the issues identified by the Permanent Joint Legislative Committee on Water Policy and Management (2009) it recommended:

- *Examining and recommending appropriate flow dynamics [instream flows] for rivers and streams to support biological, recreational, and industrial/transportation needs and requirements.*

EPA concurs with these statements and recommends that Alabama utilize the well understood and well established tools under the CWA to develop instream flow water quality standards (WQS) for the protection of all designated uses and for application in all other purposes under the CWA. Under the CWA, WQS include the designated use of a waterbody, narrative and/or numeric criteria to protect those designated uses and the state's antidegradation requirements. All three of these WQS components can be used by Alabama as relevant and vital tools to protect and restore healthy hydrology in the state.

The WMI Report to the Governor states that "environmental legislation such as the Clean Water Act...often play[s] a major role in protecting instream flows in rivers and stream reaches but in a very indirect manner..." (WMI Report, p. 26). However, the EPA notes that the tools available under the CWA are increasingly being used to protect and restore the hydrology of waterbodies.

Many states have considered that the CWA is only concerned with water *quality* and does not regulate water *quantity*. However, the U.S. Supreme Court specifically addressed this under the CWA in PUD No. 1 of Jefferson County v. Washington Department of Ecology ("PUD"), 511 U.S. 700 (1994). In that case, the Court found that the distinction between water quality and quantity was "an artificial distinction" and that "[i]n many cases, water quantity is closely related to water quality..." (*PUD* at 1912-13). The linkage between water quality and water quantity has been well documented by the scientific community. Bunn and Arthington (2002) concluded that flow is a major determinant of physical habitat in streams and rivers and directly affects biological composition. Modifying flow regimes alters habitat and influences species diversity, distribution and abundance (Bunn and Arthington, 2002). Aquatic plant and animal species have evolved life cycle patterns directly tied to the frequency, magnitude, duration, timing and rate of change of natural flows. Ecologists now understand that flows following the range of the natural hydrograph are important for maintaining structure and function of aquatic ecosystems (Freeman and Marcinek, 2006). The *Regulated Riparian Model Water Code* recognizes the critical interconnectedness of water quantity and water quality at Section 1R-1-09, stating:

> Water allocation is inseparable from the regulation of water quality. Regardless of whether both functions are vested in a single agency, water allocation must be coordinated with water quality for effective management of a water source and to comply with federal laws and regulations. ... Two programs...will particularly affect State water allocation: 1. ambient water quality standards; and 2. effluent discharge standards for "point sources."

At this time, eight states and three tribes have adopted explicit narrative water quality criteria for protection of instream flows into their state WQSs under the CWA. Many more states are in the process of developing hydrologic standards under the CWA. Table 1 provides examples of how narrative criteria have been developed to protect not just the ecological conditions necessary to protect vital fisheries and aquatic life, but also recreation and all other designated uses under the CWA.

State/Tribe	Terms in WQS
NH	"surface water quantity shall be maintained at levels adequate to protect existing and designated uses"
RI	"quantity for protection of... fish and wildlife...adequate to protect designated uses" "For activities that will likely cause or contribute to flow alterations, streamflow conditions must be adequate to support existing and designated uses."
VT	Class A(1)- Changes from natural flow regime shall not cause the natural flow regime to be diminished, in aggregate, by more than 5% 7Q10 at any time; Class B WMT 1 Waters - Changes from the natural flow regime, in aggregate,

State/Tribe	Terms in WQS
	shall not result in natural flows being diminished by more than a minimal amount provided that all uses are fully supported; and when flows are equal to or less than 7Q10, by not more than 5% of 7Q10. Class A(2) Waters and Class B Waters other than WMT1 - Any change from the natural flow regime shall provide for maintenance of flow characteristics that ensure the full support of uses and comply with the applicable water quality criteria.
NY	For both Class N fresh surface waters and Class AA(S) fresh surface waters … "There shall be no alteration to flow that will impair the waters for their best usages."
VA	"Man-made alterations in stream flow shall not contravene designated uses including protection of the propagation and growth of aquatic life."
KY	"Aquatic Life. (1) Warm water aquatic habitat. The following parameters and associated criteria shall apply for the protection of productive warm water aquatic communities, fowl, animal wildlife, arboreous growth, agricultural, and industrial uses:...(c) Flow shall not be altered to a degree which will adversely affect the aquatic community."
TN	Criteria for Water Uses "(3) Fish and Aquatic Life (n) Habitat- The quality of stream habitat shall provide for the development of a diverse aquatic community that meets regionally-based biological integrity goals. Types of habitat loss include, but are not limited to: channel and substrate alterations… stream flow changes…. For wadeable streams, the instream habitat within each subecoregion shall be generally similar to that found at reference streams. However, streams shall not be assessed as impacted by habitat loss if it has been demonstrated that the biological integrity goal has been met. (o) Flow- Stream or other waterbody flows shall support the fish and aquatic life criteria." "(4) Recreational. (m) Flow- Stream flows shall support recreational uses."
MO	"Waters shall be free from physical, chemical, or hydrologic changes that would impair the natural biological community."
Seminole Tribe of FL	"Class 2-A waters shall be free from activities...that …Impair the biological community as it naturally occurs… due to …hydrologic changes"
Mole Lake Band of the Lake Superior Tribe of Chippewa Indians	"prohibited…human induced changes to … area hydrology that alter natural ambient conditions…such as…flow, stage…. Natural daily fluctuations of flow, stage… shall be maintained."
Bad River Band of the Lake Superior Tribe of Chippewa Indians	"Water quantity and quality that may limit the growth and propagation of, or otherwise cause or contribute to an adverse effect to wild rice, wildlife, and other flora and fauna of cultural importance to the Tribe shall be prohibited." "Natural hydrological conditions supportive of the natural biological community, including all flora and fauna, and physical characteristics naturally present in the waterbody shall be protected to prevent any adverse effects." "Pollutants or human-induced changes to waters, the sediments of waters, or area hydrology that results in changes to the natural biological communities

State/Tribe	Terms in WQS
	and wildlife habitat shall be prohibited. The migration of fish and other aquatic biota normally present shall not be hindered. Natural daily and seasonal fluctuations of flow (including naturally occurring seiche), level, stage, dissolved oxygen, pH, and temperature shall be maintained."

Table 1: Narrative language in WQS of select states and tribes relating to hydrologic criteria. See EPA website for full text of specific criteria: http://water.epa.gov/scitech/swguidance/standards/wqslibrary/index.cfm)

It should be noted that some other states have set instream flow standards that are implemented through provisions other than the state WQSs. Should Alabama choose to develop instream flow standards outside of the CWA, it should ensure that those instream flow standards are consistent with the state WQSs. That is, Alabama should not set conditions which would be less stringent than or in conflict with the state WQSs under the CWA. The EPA recommends setting the instream flow standard through existing CWA provisions in order to avoid that confusion. Specifically, EPA suggests that Alabama develop instream flow water quality criteria into the state WQSs (Chapter 335-6-10). Once approved, those standards would be in use for all purposes under the CWA in Alabama, such as Section 401, Section 404, etc.

The WMI Report states that the use of the public trust doctrine to protect instream flows often does not take into account the inter- and intra-annual flow variability needed to support stream ecology (p. 26). That is true of many state water policies or specific 'negotiated instream flow requirements' for regulated rivers that have historically focused on protecting a minimum or base flow. As Alabama succinctly captures, there is now a better understanding of the importance of addressing the seasonal, intra-annual and inter-annual variable flow patterns needed to maintain or restore processes that sustain natural riverine characteristics (Instream Flow Council 2009). The EPA concurs with Alabama and supports the approach that does not focus solely on the necessary minimum flows. While a low flow value such as the 7Q10 has been used as a critical flow value for developing waste load allocations for industrial and municipal dischargers, it was never intended as a value to protect ecological integrity.

The EPA Region 4 encourages states to consider adopting environmental flow standards under the CWA based on a "natural flow paradigm" that more closely resembles natural conditions (Poff et al. 1997). Where resources are available, site-specific environmental flow determinations can be made. When such studies are not practicable, the use of tools such as the "Ecological Limits of Hydrologic Alteration" (ELOHA; Poff et al. 2010) could be used which provides a scientifically sound means to assess environmental flows across large regions. Other natural flow approaches can be used where site-specific data are not available, such as using a Percent-of-Flow (POF) approach. The POF approach "explicitly recognizes the importance of natural flow variability and sets protection standards by using allowable departures from natural conditions, expressed as percentage alteration" (Richter et al. 2012). The POF approach is relatively simple to implement and may provide a high degree of protection for designated uses that are dependent on natural flow variability. Region 4 notes that the POF approach may need to be modified to be more protective for certain categories of highly sensitive or ecologically significant water bodies. This could include waters designated as Outstanding Alabama Waters or Outstanding National Resource Waters or waterbodies that have a significant contribution of base flow from ground water. The concept of supporting a "natural flow paradigm" as an important ecological objective fits in

naturally with the structure of CWA WQS as it can be explicitly stated as a narrative or numeric criterion with frequency, duration and magnitude, utilized to protect designated uses and evaluated during antidegradation reviews.

Development of an instream flow WQS under the CWA would address many of the concerns stated in the Instream Flows section of the WMI Report (pgs. 26-27), including the following:

- *Consistency with fulfilling the trustee resource conservation requirements for the Alabama Department of Conservation and Natural Resources regarding wildlife (Code of Alabama, 1975, §9-2-2).*
- *Relieving concerns regarding 'complex and cumbersome' implementation and enforcement and multi-agency coordination. Use of WQSs under the CWA is an established and well understood process. Other agencies could rely on the standards as the metric to be used in other state programs.*
- *Providing clear definition of the needed natural, variable instream flows versus static minimum flows which do not afford adequate protection.*

Interstate Coordination

EPA would welcome the opportunity to participate in any way with other state and federal agencies to facilitate coordination of interstate issues. EPA has access to facilitation services that could be utilized as needed for resolution of interstate issues.

As well, we encourage all states to keep in mind the CWA provision to protect all downstream uses, including the hydrologic conditions needed to meet the designated uses (40 CFR 131.10(b)) of downstream states.

Water Resources Data

EPA welcomes the opportunity to work with Alabama and other federal partners to explore potential funding options in Alabama's efforts to acquire quality surface water and ground water data.

The EPA also notes that there is a wealth of data and research that is already being developed in the area of water management, water efficiency, the flow-ecology relationship and ground water/surface water interactions that can be used by the state to supplement its own data and research, including work being done by the Southern Instream Flow Network, the USGS, the US Fish and Wildlife Service and academic researchers. Research that is taking place in neighboring states may also be of use to Alabama in those areas with similar physical and geological formations.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001

OFFICE OF THE
REGIONAL ADMINISTRATOR

June 25, 1996

Timothy R.E. Keeney
Director
Department of Environmental Management
9 Hayes Street
Providence, RI 02908

Dear Director Keeney:

As you know, governments at the federal, state, and local levels, along with the private sector, have expended enormous efforts to reduce the discharge of pollution to our surface waters. This investment has yielded great improvements in water quality over the past two decades.

But these improvements are threatened by a growing problem: the ever-increasing diversion of water for hydropower generation, industrial and commercial use, agriculture, snowmaking, and municipal water supply. Whatever the end use, the result of unchecked water withdrawals can be a dangerous reduction in flows in rivers and streams and severe reductions in lake levels.

The effects of flow reductions can include disruption of fish passage, reduced protective cover, increased accesibility to predation, increased stream temperatures, and reduced spawning habitat. In addition, these effects can exacerbate the effects of chemical stressors. Reduced seasonal variations in stream flows can increase the potential that aquatic organisms will be exposed to toxic concentrations of chemicals from wastewater discharges. Artificially reduced flows have interfered with recreational uses, the restoration of historic salmon runs, and the cultural heritage of Native Americans.

We all have a responsibility to tackle the flow problem. This will become even more important as we accelerate our move toward a "watershed" approach to environmental protection--water withdrawals are a key factor in the health of a watershed.

A critical first step is to ensure that reasonable conservation measures are implemented in places where flow levels have become a concern. Last summer, the Ipswich River in Massachusetts literally ran dry--and yet some municipal water suppliers (who draw their water from wells in the Ipswich River watershed, directly contributing to lower water levels) had imposed no

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conservation requirements at all. In other areas, significant stretches of riverbed are essentially dry due to the diversion of flow through pipelines to power plants. The unlimited use of water in a time of shortage is a luxury that our environment cannot afford.

Below, I have described some existing mechanisms to encourage conservation and prevent excessive water withdrawals. I believe that these mechanisms have been underused in the past. We must make more active use of these approaches.

In addition to these existing mechanisms, additional programs may be needed to protect water levels. At the end of this letter I have included some suggestions in that direction.

Existing authority to prevent excessive water withdrawals

1. Water Quality Standards. Water quality standards for each water body include two elements: the designated uses of that water body, and specific criteria designed to protect those uses. While attention is often focused on the criteria, the designated uses are of equal importance--and in many circumstances provide authority for states to regulate water withdrawals.

For example, the Supreme Court has ruled that states may deny certification pursuant to Section 401 of the Clean Water Act to a project which will interfere with a designated use set forth in the state's water quality standards--even if specific criteria will not be violated. PUD No. 1 of Jefferson County v. Washington Department of Ecology, 114 S.Ct. 1900 (1994). Section 401 certification is required whenever a federal permit or license is needed for a project involving a discharge to waters of the United States.

The PUD case concerned a proposed hydroelectric power plant, which required a license from the Federal Energy Regulatory Commission. The Court held that the State of Washington was entitled to require the plant to maintain certain stream flows as a condition of Section 401 certification. The Court noted that the distinction between water "quality" and water "quantity" is "artificial"--

> In many cases, water quantity is closely related to water quality; a sufficient lowering of the water quantity in a body of water could destroy all of its designated uses...

Id. at 1912-13.

I suggest that states use their water quality standards, in combination with the § 401 certification process or state laws which implement such standards, to prevent activities which will reduce stream flows to unacceptable levels. At a minimum, this approach could be used to require appropriate conservation measures. Moreover, as discussed below, I recommend that states consider increasing the effectiveness of water quality standards by incorporating numeric flow

criteria.

2. **Antidegradation.** EPA regulations require that state water quality standards include an antidegradation program that ensures the protection of existing beneficial uses.

In order to protect such uses, an antidegradation program must obviously address water withdrawals as well as discharges. Each state should review its antidegradation program to ensure that there is adequate ability to protect existing uses.

3. **§ 404 permits.** The construction of new water withdrawal systems (or the maintenance of existing systems) may require § 404 permits. Those permits are subject to the § 401 certification process, which (as discussed above) provides a mechanism for states to protect flow levels.

4. **NPDES permits.** Some water withdrawals are linked to downstream discharges. For example, a municipality may withdraw drinking water from a river at one point and then discharge wastewater downstream of that point.

In permitting the wastewater discharge, the permitting authority should consider whether the water withdrawal by the municipality will reduce flow to the point where the discharge will cause exceedances of water quality standards. If so, the permitting authority should consider requiring conservation measures to ensure that stream flow is adequate to accomodate the discharge without exceeding standards.

5. **Endangered Species Act and state endangered species statutes**. If a river or stream provides habitat or potential habitat for endangered or threatened species, the federal Endangered Species Act or analogous state statutes may provide authority to restrict withdrawals or require conservation activities. This possibility should be considered in permitting and other decisions.

6. **Public Trust doctrine.** In some states the "public trust" doctrine may provide legal authority for the protection of water levels in rivers, lakes, and streams.

Additional programs to protect water levels

1. **Permitting withdrawals**. Those states which do not already have a system for permitting water withdrawals might consider creating one. Such a system does not have to be bureaucratically onerous or needlessly restrictive--the goal is to allow targeted efforts to conserve water and, if necessary, limit withdrawals in areas where low flows cause real environmental problems.

2. **Make water quality standards more explicitly protective of flows.** As discussed above, water quality standards already include designated uses, which can be applied to protect flow levels. Such protection could be enhanced, however, by including specific flow requirements in the standards.

For example, if a stream segment is designated as habitat for aquatic life, the standards might specify a flow level necessary to support such habitat. At the start, this might be done in a few segments with identified flow problems. The existence of such flow standards would support a state's efforts to impose conservation requirements through the § 401 certification process or other mechanisms.[1]

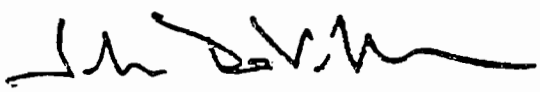
3. **Add biological criteria to water quality standards.** Water quality standards in many of the states have general biological criteria, in narrative form: for example, "high quality habitat," or "cold water fishery." These criteria provide a basis for the protection of habitat, but they are vague and subject to prolonged debate.

Maine has specific descriptive narrative criteria for its various classes of water. These criteria help to clarify habitat requirements and narrow the debate. We suggest that the states adopt at least class-specific narrative biological criteria, and preferably class-specific numeric measures of biological integrity.

I look forward to working with you on these issues. We will organize a meeting of appropriate staff to discuss how these approaches can be implemented in practice. We plan to hold such a meeting by the end of the summer.

Please feel free to call me or Ken Moraff at (617)/565-3741, with any comments, questions, or concerns. Thank you for your attention to this issue.

Sincerely,



John P. DeVillars
Regional Administrator

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1. Fishery management/restoration plans can also be integrated into water quality standards. For example, anadromous fish goals of state/federal restoration plans for the Connecticut, Merrimack, or Penobscot Rivers can be integrated into the respective state standards.