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AWAKENING TO EARTH RIGHTS

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July 31, 2012

Charlie Hoppin, Chair and Board Members
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814
c/o Jeanine Townsend, Clerk to the Board
***Via Electronic Mail*: commentletters@waterboards.ca.gov**

Re: 8/7-8/8/2012 Board Meeting, Item #7 – "Inclusion of Impairments Due to Low Flow in the 2012 Integrated Report"

Dear Chair Hoppin and Board Members:

Thank you for the opportunity to present an overview of the flow issues raised in the joint 2012 California Integrated Report Scoping Letter submitted by numerous conservation and fishing organizations in August 2010 ("Scoping Comments"). The Scoping Comments, which are incorporated by reference, may be found here: http://www.cacoastkeeper.org/document/ccka-comments-on-2012-303(d)-list.pdf. Section III of the Scoping Comments in particular (pages 11-25) addresses the topic before the Board today: the identification and Section 303(d) listing of water bodies threatened or impaired by alterations in natural flow. As described in more detail below, we urge the Board to take action, as called for by the Clean Water Act, to list water bodies threatened or impaired by altered flow in the state's Section 303(d) list. Such listings are an important precursor to further action under existing and future laws and policies to ensure the long-term health of the state's waterways.

THE 2012 303(D) LIST MUST INCLUDE WATERWAYS THREATENED OR IMPAIRED BY ALTERED FLOWS

Section 303(d)(1)(A) of the Clean Water Act requires states to identify waters for which effluent limitations for specified point sources are not stringent enough after implementation of technology-based controls to implement water quality standards applicable to those waters. In other words**,** if a water body's standards are not being met in the water body, then it *must* be listed in the state's Section 303(d) list. This is a separate and distinct task from determining whether or not total maximum daily loads (TMDLs) are required to address those impairments, as discussed in CWA Section 303(d)(1)(C).

U.S. EPA has found that "pollution" (the category under which altered flows is generally placed) must result in a 303(d) listing if it results in impairment, and it will result in a TMDL if pollutants are also present.[1] U.S. EPA's 2006 Guidance specifically describes "lack of adequate

[1] U.S. EPA, "Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act," p. 56 (July 29, 2005), available at: http://www.epa.gov/owow/tmdl/2006IRG/report/2006irg-report.pdf (2006 Guidance).

flow" as a *cause* for listing an impaired or threatened segment in Category 4C of the 303(d) list,[2] distinguishing it from listings of *sources* contained in separate summary tables.[3]

This position is also supported by the National Research Council (NRC), which found that the "TMDL program . . . should encompass all stressors, *both pollutants and pollution*, that determine the condition of the waterbody."[4] In making this finding, the NRC noted that "activities that can overcome the effects of 'pollution' and bring about water body restoration – such as habitat restoration and channel modification – should not be excluded from consideration during TMDL plan implementation."[5]

The health of rivers, streams, creeks and other waterways is inextricably linked to the volume, frequency, magnitude, timing, and duration of flows. "[W]ater 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 . . . a fishery."[6] It is for this reason that other states have already begun listing waterways impaired by altered flows on their 303(d) lists. U.S. EPA has compiled nationwide data showing that 50,660 miles of rivers and streams, 548,980 acres of lakes, reservoirs and ponds, 299 square miles of bays and estuaries, and 32,660 acres of wetlands nationwide have already been listed on states' 303(d) lists as impaired by flow alterations.[7] This corresponds to listings for at least 136 water body segments nationwide in the District of Columbia, Idaho, Michigan, Montana, Ohio, Tennessee, Wyoming, and even California.[8] California must take similar, deliberate action statewide, both to comply with Section 303(d)(1)(A) and to ensure that the state establishes *effective* programs to ensure waterway health where flow is an impairing factor.

Finally, the Scoping Comments further articulate that water segments impaired by altered flows *at a minimum*[9] should be placed in Category 4C, which houses water segments "impaired or affected by non-pollutant related [*e.g.*, "pollution"] cause(s)." Such placement is consistent with the U.S. EPA 2006 Guidance and will ensure that the waterways appropriately are included on the state's 303(d) list, which in turn will highlight the need for swift action to restore altered flows.

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[2] "Examples of circumstances where an impaired segment may be placed in Category 4c include segments impaired solely due to lack of adequate flow or to stream channelization." *Id.*

[3] *See* U.S. EPA, "National Causes of Impairment" versus "National Probable Sources Contributing to Impairment," available at: http://iaspub.epa.gov/waters10/attains_nation_cy.control#causes.

[4] National Research Council, "Assessing the TMDL Approach to Water Quality Management," p. 13 (Nat'l Academy Press, Wash. D.C., 2001) (emphasis added), available at: http://yosemite.epa.gov/r10/ecocomm.nsf/0/02c1d365605fd21c88256a0700632c26/$file/nastmdlrpt.pdf.

[5] *Id.*

[6] *PUD No.1 v. Washington Department of Ecology*, 511 U.S. 700, 719 (May 31, 1994).

[7] *See* U.S. EPA, "Specific State Causes of Impairment That Make Up the National Flow Alteration(s) Cause of Impairment Group," available at: http://iaspub.epa.gov/tmdl_waters10/attains_nation_cy.cause_detail?p_cause_group_name=FLOW%20ALTERATION%28S%29. *See also* details of flow impairment listings at U.S. EPA, "Impaired Waters, Cause of Impairment Group: Flow Alteration(s)," available at: http://iaspub.epa.gov/tmdl_waters10/attains_impaired_waters.control?p_cause_group_id=545.

[8] *See* U.S. EPA, "Watershed Assessment, Tracking and Environmental Results: Specific State Causes of Impairment That Make Up the National Flow Alteration(s) Cause of Impairment Group," available at: http://iaspub.epa.gov/tmdl_waters10/attains_nation_cy.cause_detail_303d?p_cause_group_id=545.

[9] As noted in the Scoping Comments, California's 303(d) list already includes a small number of waterway segments impaired by altered flows in Category 5.

IDENTIFICATION OF WATERWAYS THREATENED OR IMPAIRED BY ALTERED FLOWS WILL ADVANCE NEEDED LAWS AND POLICIES TO ENSURE WATERWAY HEALTH

Roughly 1,000 pages of attachments to the Scoping Comments, along with numerous other "readily available" data sources, demonstrate that the health of many of the state's waterways is significantly impacted by altered (primarily reduced) water flows. As a result, water-dependent species are increasingly becoming threatened with extinction, a danger that must prompt swift and effective action to formally identify and remediate these flow concerns before it is too late.

Disturbingly, though, some of the state's water governance leaders are already shifting towards consideration of management policies that include "allowing species to go extinct," and "endangered species triage" as a new water governance tool.[10] An ethical structure that deems it acceptable to decide which species may have access to sufficient clean water and which may not is one that will lead to denying clean water to fellow humans. Indeed, it already has in California, as demonstrated in a recent, legislatively-mandated report prepared for the Water Board.[11]

California can and must do better. The state should set up a system of laws and policies that ensures that sufficient clean water is kept in the state's waterways to ensure the long-term well-being of people and environment. Simply relying on greater efficiencies in water use to increase the levels of water in streams and other waterways is inadequate.[12] Greater efficiencies may free up more water, but where that water goes depends on the push given it by state laws and policies – which currently do not favor instream flows.

With the formal recognition provided by 303(d) listings of waterways threatened or impaired by altered flows, California can take better advantage of numerous tools to redirect and retain clean water in waterways. For example, Water Code 85023 notes that "[t]he longstanding constitutional principle of reasonable use and the public trust doctrine shall be the foundation of state water management policy…." Both of these important tools have been vastly under-utilized to date. The Public Trust Doctrine has helped protect key California waterways in the past, and its use should be affirmatively elevated by the state. The Reasonable Use Doctrine, though it may be used "broadly to promote the efficient use of water,"[13] has unfortunately had even less application. We agree that "[i]nefficient water use is unreasonable water use" and that a Reasonable Water Use Unit should be created to "enforce the prohibition against the waste or unreasonable use of water."[14] Reasonable diversion is another element of the Reasonable Use Doctrine that similarly should be implemented fully to help ensure that saved water is kept in waterways where needed.

As noted in the Scoping Comments, another existing tool that can be used to address identified flow impairments is the Porter-Cologne mandate that Basin Plans include a program of

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[10] PPIC, *Managing California's Water: From Conflict to Reconciliation* (Feb. 2011), available at: http://www.ppic.org/main/publication.asp?i=944.
[11] U.C. Davis, "Addressing Nitrate in California's Drinking Water" (Jan. 2012), available at: http://groundwaternitrate.ucdavis.edu/.
[12] *See, e.g.*, Delta Watermaster, "The Reasonable Use Doctrine and Agricultural Water Use Efficiency" (Jan. 2011), at: http://www.waterboards.ca.gov/board_info/agendas/2011/jan/011911_12_reasonableusedoctrine_v010611.pdf.
[13] *Id.*
[14] *Id.*

implementation that describes how water quality standards will be attained.[15] Where standards are not being attained – such as where flow alterations have been identified as impairing waterway beneficial uses – implementation plans must incorporate specific strategies for achieving waterway health. As noted in the above-cited NRC report, "activities that can overcome the effects of 'pollution' and bring about water body restoration … should not be excluded from consideration during TMDL plan implementation." Such activities similarly should not be excluded from the state's Basin Plan implementation process.

Full (or even moderate) application of these important tools to address flow impairments, however, remains elusive. One reason is the state's continued failure to even identify water bodies threatened or impaired by altered flows. Listing under Section 303(d) is the proverbial first step in admitting the state has a problem. This admission will open the door for action under the Public Trust Doctrine, Reasonable Use Doctrine, Basin Plan implementation plans, and other existing tools to address such impairments.

The Board should not stop with these existing tools, however. Rather, in implementing existing law, the Board should keep an eye toward future strategies that could even more effectively ensure the long-term well-being of the state's waterways, environment and residents. For example, the Board could begin consideration of a more holistic and streamlined system of water governance that considers both water flows and water quality together in addressing waterway health. Under such a system, regulators could conceivably adjust water rights and/or water pollutant discharge requirements within the same regulatory process, depending on the needs of the waterway, its inhabitants, and its users, rather than in a piecemeal manner that fails to reflect the environment as the system that it is.

More significantly, though, the needs of waterways will always remain subservient to the wants of human users unless and until waterways' needs are respected and clearly reflected in law. As discussed in detail in the attached written Testimony to the Joint Committee on Fisheries and Agriculture (Testimony), the state must develop a water governance system that guides us to regulate our behavior in recognition of the independent rights of waterways and fish to exist, thrive, and evolve.

Currently, our water rights allocation system places the environment's access to water on a second tier status, below all human uses. This approach rests on an outmoded, injurious perception of humans' ability to predict and control the natural world, and the perceived right by humans to use the natural world to feed human desires. The failure of this "governance" approach

[15] Water Code Section 13241 reads: "Each regional board shall establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance…." Section 13242 follows that: "The program of implementation for achieving water quality objectives shall include, but not be limited to:
(a) A description of the nature of actions which are necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private.
(b) A time schedule for the actions to be taken.
(c) A description of surveillance to be undertaken to determine compliance with objectives."
It is both the law and good public policy for California to take action to ensure that waterways identified as threatened or impaired, including those threatened or impaired by "pollution," are restored to health as called for by Porter-Cologne.

to grasp the full scope of the relationships that exist among humans and the environment means that it will fail to constrain unwanted (or support desirable) human behavior as needed to respect those relationships. Until we address this built-in, legal water rights imbalance, we will not ensure the long-term health of waterways and fish populations.

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 conditions in permits, mandates (currently unimplemented) to prevent "waste and unreasonable use," Water Code Section 1707 water transfers, the public trust doctrine, application of the Endangered Species Act (ESA), and other strategies. None of these otherwise important tools are actual water *rights*, however, at a level commensurate with water diversion 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.

California needs a legal system that allows the state to plan effectively for the water needs of *both* Californians and California's aquatic ecosystems and water-dependent species. The dangerously well-trod path of "use, overuse, environmental decline, then hasty and unplanned reaction" can begin to be broken by granting waterways the right to be at the planning table from the beginning, at a level *legally* "co-equal" to human water uses – rather than at the end when the damage is done. This effort necessarily must include all water sources, including aquifers, given their intricate connections in the state water ecosystems and governance systems. Further details on this recommendation and suggestions for its implementation are included in the attached Testimony.

* * *

Our laws and policies reflect our priorities as a society. To survive and flourish in the face of increasing pressures on the state's water system, California must adopt and implement laws and policies that reflect the simple fact that we must learn to live within our water means. Otherwise, the environment will ensure that we do so in a manner for which we did not plan. Identification of waterways threatened or impaired by altered flows (as required by the Clean Water Act) is the first, and critical, step in this process. Such formal identification will recognize the impacts of our flawed water use practices, help advance implementation of current governance tools, and assist with the evolution of needed governance alternatives.

We look forward to working with you to achieve a vision of clean, abundant waters for the benefit of California's people and natural world, now and in the future. Thank you.

Sincerely,

Linda Sheehan, Executive Director

attachment

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WRITTEN TESTIMONY OF LINDA SHEEHAN, EARTH LAW CENTER[i] BEFORE THE JOINT COMMITTEE ON FISHERIES AND AQUACULTURE ON THE OCCASION OF THE 39TH ANNUAL FISHERIES FORUM STATE CAPITOL, ROOM 4202, SACRAMENTO, CA FEBRUARY 22, 2012

Chair Chesbro, Vice-Chair Evans, and Joint Committee Members: thank you for the opportunity to testify before you today with regard to protecting flows for fish. The challenges before you are significant. Climate change, water over-diversion and pollution, lack of clear water use and permit records, aquatic habitat degradation, and under-funding of oversight programs all contribute to a slow but steady decline in the health of our waterways – and, accordingly, our fish populations.

You have heard today and elsewhere of the many steps that we as a state need to take in order to protect our environmental heritage. What I would like to focus on today is not so much the steps along the way, but more the path itself.

Our environmental laws are premised on a fundamental, underlying assumption that the natural world – including water and fish – is essentially property that is ours to use to advance our desires. This assumption consistently subjugates the environment's needs to human wants. Accordingly, our environmental laws will fail to fully protect the needs of the natural world in the face of escalating human desires. The alternative I present today recognizes the independent rights of waterways and fish to exist, thrive, and evolve, and proposes a water governance system that guides us to regulate our behavior in acknowledgment of those rights.

CARVING OUT RIGHTS FOR WATERWAYS AND FISH TO EXIST, THRIVE AND EVOLVE

California's History of Recognizing the Rights of Waterways and Fish

Self-regulation in recognition of the rights of waterways and fish is not a new concept in California history. California's native peoples have for centuries understood their environment as having an intrinsic value of its own, and the concept of "private" rights in the use of water was unknown. Water was essential to life, and it could not be bartered or sold. Indeed, a number of indigenous groups today still view salmon as "relatives," and "necessary for the continuation of life."

John Muir, in his fight to save Hetch Hetchy, provided eloquent arguments that recognized and respected our integration with the natural world, even well before the advent of modern ecological science. As Muir wrote, "[w]hen we try to pick out anything by itself, we

find it hitched to everything else in the universe. . . . The sun shines not on us but in us. The rivers flow not past, but through us . . . ." However, Gifford Pinchot, Muir's rival and the first chief of the United States Forest Service, ultimately won the battle to dam Hetch Hetchy and to define the nation's "conservation ethic," calling it "the art of producing from the [environment] whatever it can yield for the service of man."

Pinchot's utilitarian tenet that water, land, forests, fish and wildlife are "resources" or "wealth" to be extracted, manipulated and controlled for human benefit is now so ingrained that it is rarely even noticed, let alone challenged. But, in fact, it is merely an assumption, and one that we can change. Muir's observations mirrored a far longer history in this state of indigenous traditions reflecting an integrated and respectful relationship with the environment, one that is also consistent with modern ecological science. This approach provides a basis for a new system of self-governance that will better protect the health of waterways and fish.

Impacts of an Imbalanced Legal System in the Face of Increasing Shortages

The impacts of our flawed regulatory system are making themselves increasingly visible as our rivers slow and fish populations dwindle. Last year's Public Policy Institute of California report, *Managing California's Water,* itself provides an illustration of such impacts by criticizing the Endangered Species Act for its lack of a "provision for allowing species to go extinct," and calling for "endangered species triage" as a new water management tool.[ii] This "God Squad" strategy is the natural result of a fundamentally flawed world-view of "humans over nature," one that will lead to our scrabbling for the remnants of a once-beautiful and flourishing environment.

Indeed, not only endangered species, but also other people have already become part of this "triage" process. Clean water today bypasses many poorer California communities, forcing families to buy bottled water with limited funds in order to avoid illness and even death from the tap. If we decide it is acceptable to select which other species may access water, we set up an ethical structure that will lead to denying clean water to our fellow humans.

The Legislature has attempted to address the widening cracks in the water governance system 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. Indeed, the California Supreme Court itself has unanimously stated "*water exports from the Bay-Delta ultimately must be subordinated to environmental considerations*."[iii] If the environment fails, so will the reliability of our water supply.

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 continue to imagine that our own needs are not completely dependent on the needs of the ecosystems to which we are inextricably linked. This only delays our acceptance of the inevitable: that we simply must learn to live within our means, or the environment will ensure that that happens in a manner for which we did not plan.

Introducing Water Rights for Waterways and Fish

The alternative to the current governance structure is to modernize our laws based on the recognition that rivers have a right to flow, and fish have a right to swim.[iv] These rights should be reflected in the legal system for allocating water in the state.[v]

Currently, our water rights allocation system places the environment's access to water on a second tier status, below all human uses. We currently fail to recognize in law the waterway's equivalent right to keep necessary water in its system. This approach rests on an outmoded, injurious perception of humans' ability to predict and control the natural world, and the perceived right to use the natural world to feed human desires. The failure of this approach to grasp the full scope of the relationships that exist among humans and the environment means that it will fail to allow and constrain human behavior as needed to respect those relationships. Until we address this built-in, legal water rights imbalance, we will never be able to achieve even a "co-equal goals" vision, let alone healthy waterways and fish populations.

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 conditions in permits, mandates (currently unimplemented) to prevent "waste and unreasonable use," Water Code Section 1707 water transfers, the public trust doctrine, and application of the Endangered Species Act (ESA). None of these otherwise important tools are actual water *rights*, however, at a level equivalent to currently-allocated water diversion 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.

Unless California is willing to write off fish and water-dependent wildlife for our children and grandchildren,[vi] California needs a legal system that allows the state to plan effectively for the water needs for *both* Californians and California's ecosystems. The dangerously well-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* "co-equal" to human water uses – rather than at the end when the damage is done. This necessarily must include all water sources, including aquifers, given their connections in the state water system.

PROCESS FOR DEVELOPING AND IMPLEMENTING RIGHTS FOR WATERWAYS TO BE HEALTHY, THRIVE, AND EVOLVE

Defining "Healthy" Waterways

The process for developing and allocating necessary water rights for waterways could begin immediately with collection of the data needed to assess the amount, timing, and quality of water needed by waterways to maintain their health. With respect to flows, the State Water

Resources Control Board's Delta flow criteria[vii] are one key starting point. Significant additional research has been done over the years in assessing overall fish and ecosystem needs in the Delta and connected systems elsewhere in the state;[viii] these too should be compiled and gaps identified.

More broadly, initiatives are underway at U.S. EPA[ix] and the California Water Quality Monitoring Council-led "Healthy Streams Partnership"[x] to develop standard indicators that can be used along with a holistic analytic process to identify a "healthy" waterway, and to set regulations accordingly. Indicators that could feed into this integrated assessment process include not only flows but also bioassessment,[xi] physical habitat, toxicity,[xii] and chemistry[xiii]. These developing processes would assess the health of waterways overall, and form the basis for regulation of human activities that could injure waterways. Such efforts to keep waterways "healthy" stand in stark contrast to the current Clean Water Act regulatory process, which fails to require needed preventative action until the state can show a "reasonable potential" that a discharge will actually violate water quality standards.[xiv]

The California Water Quality Monitoring Council's work to identify metrics for "healthy" waterways should lead to updated water quality standards based on science that include all elements of waterway "health" (flows, biological objectives, toxicity, sediment, dissolved oxygen, etc.), with synergistic and cumulative impacts as part of the equation. If the science is unavailable or in development, the state should adopt a "precautionary approach" to decision-making in the face of this uncertainty. In other words, if we don't yet have the science, we need to scale back on existing and proposed new uses until we do. The current decisionmaking approach in the face of scientific uncertainty amounts to little more than blind experimentation with waterways and their habitats and inhabitants. The rights of waterways and species to be healthy, thrive, and evolve can only be protected if the burden of proof is placed not on the environment or the public, but on those attempting to introduce threats to waterway. Such parties should be required to show beyond a preponderance of evidence (or a similar standard) that there is no reasonable likelihood that the proposed activities will individually, cumulatively or synergistically impact on the health of the waterway, or the fish and other species that depend on it.

Throughout this effort, it will be important to consider the state as a system. That is, rather than focusing piece-by-piece on individual waterways or regional water systems, the state should start to manage based on an understanding of how the waters of the state and their fish and other inhabitants are connected, and how those connections might fit into a sustainable water supply and delivery system. Integral to this effort is long-term, real-time monitoring of flows,[xv] toxicity, biological objectives, and other indicators to regularly track waterway health and improve our assessments of what is "healthy." Diversion data from eWRIMS[xvi] should be tracked and updated, and should be integrated regularly with DWR, USGS, and other flows data as well as contaminant data, again to continually assess the health of the state's waterways and fish. The data from these efforts will allow us to regularly refine our regulatory system, including the development of water rights needed to protect waterway and fish health.

Modernizing the Law to Protect the Rights of Waterways to Flow and Fish to Swim

While the research and decision-making processes are being established to advance the rights of waterways and fish to be "healthy," thrive and evolve, statutory changes can begin to be debated and eventually adopted to clarify the rights of waterways to clean water. The California Constitution prohibits the "waste or unreasonable use or unreasonable method of use of water" in order to protect the many beneficial uses of water in the state,[xvii] including but not limited to preservation and enhancement of fish populations.[xviii] The Water Code should be modernized to reflect that beneficial use by allowing waterways the rights to the water that science demonstrates that they need, and by clarifying the process by which those rights will be held and implemented. The Water Code should also recognize the primacy of waterway rights, given the pre-existing status of the waterway and the dependence of all other uses on healthy flows. Again, only by recognizing our dependence on healthy – rather than drained and polluted – rivers can we begin to modify our behavior to reflect the limits of the natural world.

In addition to identifying in law the rights of waterways to the flows that they need, the state must establish processes for pairing these ecosystem water rights with identified water sources. Strategies to "harvest" flows as needed for ecosystem water rights include but are not limited to the following:

- "Waste and unreasonable use" determinations made consistent with Water Code Section 275 and California Constitution Article X, Sec. 2.
  - Metrics need to be developed to aid in consistent "waste and unreasonable use" determinations; and pilot programs should be initiated to apply such metrics to clear violators, to allow them to be adjusted before being applied more broadly.
  - Evidence for hearings can include, for example, information on water diversions that are formally impairing the health of waterways, as identified pursuant to Clean Water Act Section 303(d).[xix]
  - Hearings must also consider the method of use and method of diversion, changes in which can also help lead to modifications of water supply and delivery systems to improve waterway health (*i.e.*, we use water reasonably by only taking what we need, which includes using water-efficient systems for supply, transport, and use that minimize impacts on the ecosystem)
- Efforts to help convince water rights holders to give up rights voluntarily via potential charitable giving process (which would require a clear, long-term accounting system, as discussed elsewhere in this testimony).
- Review of unexercised rights and reapplication to ecosystem needs as appropriate.
- Formal adjudications.
- Work with the federal government to review the allocation of federal water rights, and adjustment as needed to reflect the rights of waterways to flow.
- Development of a process to assign rights associated with "new" water from sources such as ecosystem-focused conservation and recycling.
- Increases in fees on diversions to encourage voluntary release of unneeded rights.

Given the significant over-allocation of water rights in the state on paper, and the unknown amount of water diverted under riparian and pre-1914 rights, this task may be complex and take

some time. It is not, however, insurmountable in light of the numerous existing legal tools that the state could use if it chooses to plan wisely, rather than continue to react to the courts as the effective arbiters of water governance in the state.

As water rights are freed up they should be reassigned to waterways in a planned effort that considers the relative needs of waterways and fish populations. This will necessarily be an ongoing, evolutionary process in light of the fact that both uses and the waterways themselves will change over time (due to climate change, for example).

Other key elements to address in developing a rights-based system for protecting the health of waterways and fish include enforcement and accounting. With respect to enforcement, ecosystem water rights would be held by the waterways but 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. Such guardians or trusts should be also required to coordinate consistent with a statewide system focus, due to impacts of connected waterways and water 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. This is not a need limited to a "water rights for rivers" approach, but is one that is also applicable to the Section 1707 transfer process and other, existing approaches to restore waterway health. A clear system for tracking and maintaining assigned waterway flows in the medium- and long-term should be established to ensure success and provide accountability and transparency for the public.

Necessarily, the state should also develop a process for funding program costs, including guardian/trust costs, accounting and oversight, research and 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.

Tying Together Healthy Flows and Clean Water to Create a "Healthy Water System"

Finally, regulations, standards, and permits that implement these legal directives should further a holistic system of water governance consistent with rights to be healthy, thrive and evolve, where "holistic" considers both water flows and water quality in addressing waterway health. Currently, our governance system manages water flows and water quality separately, an inefficient and ultimately ineffective way to advance overall waterway health. We would recommend modernization of this system – for example, through amendments to the Porter-Cologne Water Quality Control Act – to create permitting or other regulatory systems that merge water quality and water rights. The goal would be to allow regulators to adjust water rights and/or water pollutant discharge requirements within the same regulatory process, depending on the needs of the waterway and its inhabitants as a system.

Again, enforcement, accountability and transparency are key, which is the reason that Porter-Cologne should also be updated to include Clean Water Act citizen enforcement tools that ensure the state stays on track in its efforts to improve the health of waterways and fish populations.

Also important is a process for making decisions in the face of uncertainty. As discussed above, the burden of proof to show no harm needs to be on those attempting to weaken standards or introduce new threats to waterway, and the precautionary approach should guide behavior where evidence is lacking.

Conclusions

The state is undertaking various processes now through the Delta Plan, the State Water Board's update of its Bay-Delta Plan, the potential water bond, and numerous other venues that could set state water policy for decades. What is needed is a statewide vision similarly broad in scope that reflects the science and ethics of our interconnections with the natural world, and that sets out commitments to acting within time frames commensurate with the sweep and importance of these efforts. "Water rights for waterways and fish" must be an element of this vision and action plan to ensure their effectiveness. Formalizing and effectuating water rights for ecosystems will ensure that waterway and fish needs are considered up front, that planning is effective and certain, that implementation and enforcement is clear, and that water is shared in a way that ensures that the needs of the state and its ecosystems are met. Accordingly, we ask that the Legislature take action to advance water rights for waterways and fish, integrated with water quality protection in a holistic regulatory system, as a tool to ensure the well-being of the state's people and environment.

We look forward to working with you to achieve a vision of clean, abundant waters for the benefit of California's people and natural world, now and in the future.

Thank you.

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[i] Linda Sheehan, Executive Director, Earth Law Center, lsheehan@earthlaw.org.

[ii] PPIC, *Managing California's Water: From Conflict to Reconciliation* (Feb. 2011), available at: http://www.ppic.org/main/publication.asp?i=944.

[iii] Blue Ribbon Task Force, "Delta Vision Strategic Plan," p. 40 (Oct. 2008), (emphasis in original), *available at*: http://deltavision.ca.gov/StrategicPlanningProcess/StaffDraft/Delta_Vision_Strategic_Plan_standard_resolution.pdf, referencing *Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* 43 Cal.4th 1143, 1168 (2008).

[iv] Ecosystems have the right not only to sufficient water, but also to clean water. Research shows that salmon die when exposed to combinations of pesticides that are harmless individually, exposing major flaws in our pollutant-by-pollutant regulatory system. *See, e.g.*, Cathy Laetz *et al*, "The Synergistic Toxicity of Pesticide Mixtures: Implications for Risk Assessment and the Conservation of Endangered Pacific Salmon," *Environmental Health Perspectives*, Vol. 117, No. 3, pp. 348-353 (March 2009), available at: http://www.eenews.net/public/25/9960/features/documents/2009/03/03/document_gw_01.pdf. Unfortunately, contaminants on an individual basis regularly exceed safe limits, increasing the danger to salmon – and humans – further. For example, toxic contamination is so ubiquitous in certain areas of the Central Valley that a USGS study

found nervous system pesticides in all *rainfall* samples collected. Celia Zamora *et al*, "Diazinon and Chlorpyrifos Loads in Precipitation and Urban and Agricultural Storm Runoff during January and February 2001 in the San Joaquin River Basin, California" in USGS, *Water – Resources Investigation Report 03-4091*, Sacramento, CA (2003), available at http://pubs.usgs.gov/wri/wri034091/.

[v] For example, Ecuador amended its Constitution in 2008 to endow the environment with inalienable rights to "exist, persist, maintain and regenerate its vital cycles, structure, functions and its processes in evolution." The first case applying these provisions to a river was successfully concluded in 2011. *Wheeler v. Director de la Procuraduria General del Estado en Loja v. Provincial Court of Loja* (March 30, 2011) (In the Matter of the Vilcambamba River) (*see* http://therightsofnature.org/first-ron-case-ecuador/ for a case summary and http://earthlawcenter.org/static/uploads/documents/Vilcambamba_River_Decision_3_31_11.pdf for the decision itself in Spanish).

[vi] *See, e.g.*, NOAA/NMFS, "NMFS Biological and Conference Opinion on the Long-Term Operations of the Central Valley Project and State Water Project" (June 4, 2009), available at http://swr.nmfs.noaa.gov/ocap.htm. NMFS' final Opinion concludes that the CVPISWP operations are, among other things, likely to jeopardize the continued existence of federally listed endangered Sacramento River winter-run Chinook salmon, threatened Central Valley spring-run Chinook salmon, threatened Central Valley steelhead, and even federally listed Southern Resident killer whales.

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

[viii] *See, e.g.*, DFG Water Program documents at http://www.dfg.ca.gov/water/statewide_programs.html, including DFG instream flow reports at: http://www.dfg.ca.gov/water/instream_flow_docs.html, the SWRCB AB 2121 Instream Flows Policy and associated documents at http://www.waterboards.ca.gov/waterrights/water_issues/programs/instream_flows/, and the Ocean Protection Council instream flow analyses at: http://www.opc.ca.gov/category/projectsbytopic/. *See also* flow data and summary information submitted by California Coastkeeper Alliance pursuant to the State Water Board's Clean Water Act 2012 Section 303(d) list scoping process (http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2012.shtml) at http://www.cacoastkeeper.org/document/ccka-comments-on-2012-303%28d%29-list.pdf (comment letter; flow data attachments available upon request at lsheehan@earthlaw.org). DWR flow data and USGS stream gauge measurements are also integral to this assessment, among other sources of flow information.

[ix] U.S. Environmental Protection Agency, "Healthy Watersheds Initiative," *see* http://water.epa.gov/polwaste/nps/watershed/index.cfm.

[x] http://www.waterboards.ca.gov/mywaterquality/monitoring_council/index.shtml.

[xi] *See, e.g.*, DFG *et al*, "Ecological Condition Assessments of California's Perennial Wadeable Streams: Highlights from the Surface Water Ambient Monitoring Program's Perennial Streams Assessment (2000-2007)" (Oct. 2011), available at: http://www.waterboards.ca.gov/water_issues/programs/swamp/reports.shtml#bmp_assess.

[xii] *See, e.g.*, Univ. of California, Davis *et al*, "Toxicity in California Waters" (Oct. 2011), available at: http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/txcty_rprt.pdf.

[xiii] *See, e.g.*, SWRCB, "A Compilation of Water Quality Goals" available at: http://www.waterboards.ca.gov/water_issues/programs/water_quality_goals/.

[xiv] 40 C.F.R. § 122.44 (d)(1)(i).

[xv] *See, e.g.*, New South Wales Office of Water, "Real-Time Data," available at: http://www.water.nsw.gov.au/Real-time-data/hydro_index/default.aspx.

[xvi] http://www.waterboards.ca.gov/water_issues/programs/ewrims/.

[xvii] California Constitution § Article X Section 2.

[xviii] Water Code § 1257.

[xix] *See* http://www.cacoastkeeper.org/document/ccka-comments-on-2012-303%28d%29-list.pdf for more details on the need to identify waterways impaired by altered flows pursuant to Clean Water Act Section 303(d).