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 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.”

More recently, 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 world.

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 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. These rights should be reflected in the legal system for allocating water in the state.

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 the 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 promote healthy 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 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 Delta-dependent wildlife for our children and grandchildren, 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 criteria⁷ 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;⁸ these too should be compiled and gaps identified.

More broadly, initiatives are underway at U.S. EPA⁹ and the California Water Quality Monitoring Council-led “Healthy Streams Partnership”¹⁰ 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,¹¹ physical habitat, toxicity,¹² and chemistry¹³. 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 effluent limitations in permits until the state can show a “reasonable potential” that a discharge will actually violate water quality standards.¹⁴

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 waterway 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 their inhabitants to be healthy, thrive, and evolve can only be protected if the burden of proof is placed not on the environment, but on those attempting to introduce threats to waterway, who 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,¹⁵ toxicity, biological objectives, and other indicators to regularly track waterway health and improve our assessments of what is “healthy.” Diversion data from eWRIMS¹⁶ 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 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, while they would be held by the waterway, 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 appointed and be 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 will 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.
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
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/.


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 CVPIWP 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.


40 C.F.R. § 122.44 (d)(1)(i).


California Constitution § Article X Section 2.

Water Code § 1257.

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).