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• The Bay Institute • California Coastkeeper Alliance •
California Sportfishing Protection Alliance • California Water
Research • California Wilderness Coalition • Clean Water
Action • Crab Boat Owners Association • Community Water
Center • Defenders of Wildlife • Environmental Justice
Coalition for Water • Environmental Water Caucus •
Environmental Working Group • Fly Fishers of Davis • Foothill
Conservancy • Friends of the River • Friends of the San
Francisco Estuary • Golden Gate Salmon Association • Golden
West Women Flyfishers • Institute for Fisheries Resources •
Karuk Tribe • Los Angeles Waterkeeper • Merced River
Canyon Committee • Mono Lake Committee • National Parks
Conservation Association • Natural Resources Defense Council
• Northern California Council of Fly Fishers International •
Pacific Coast Federation of Fishermen's Associations •
Planning and Conservation League • Protect American River
Canyons • Protect our Water • Restore the Delta • River
Partners • Russian River Watershed Protection Committee •
Sacramento River Preservation Trust • Sacramento River
Council • San Francisco Baykeeper • Save the American River
Association • Save The Bay • Sierra Club California • Sierra
Club Mother Lode Chapter • South Yuba River Citizens League
• Southern California Watershed Alliance • Surfrider
Foundation • Tuolumne River Conservancy • Tuolumne River
Trust • Upper Merced River Watershed Council • Wholly H2O •
Winnemem Wintu Tribe**

AQUATIC OPPORTUNITIES

A Water Agenda for California's Next Governor

I. A New Water Vision for California

California leads the world on many fronts. It's time to lead on water. More than any other issue, water is where California faces the confluence of climate change, ecosystem health, social justice, and economic prosperity. Many parts of the world

already face similar water-related challenges. With the world’s fifth-largest economy and a strong record of environmental leadership, California is poised to forge visionary solutions and become a global leader on water.

To grasp the reins of leadership, California’s next Governor must adopt a new, sustainable approach to water management in the face of a changing climate; one that restores the environment on which we all depend, protects public health and safe drinking water, and creates green jobs and a stronger economy. This new approach should also improve efforts to incorporate the needs and perspectives of local communities living near water projects and affected waterways but that are not served by those projects. This document offers a new approach to achieve these goals. The climate crisis has arrived. The time for bold action is now.

II. Looming Water-Related Threats

Climate Change Impacts on California’s Water Resources: Climate change is making California’s fluctuating weather even more variable, with floods and droughts becoming more frequent and severe. This decade has already seen both the worst drought and wettest year in recorded history. The Colorado River, which supplies more than 10% of California’s water use, is in its 19th year of drought and faces shortages as early as 2020. Looking forward, the frequency of catastrophic floods is projected to increase three- or four-fold over the next 40 years, and the number of deep droughts is projected to double. Further, warmer temperatures are reducing the Sierra snowpack, the state’s largest reservoir, upending the reliability of water supplies and harming habitat for salmon and other species already struggling to survive.

Urgent Water-Related Threats to People and the Environment: Changing hydrology and our failure to adapt increasingly threaten the rivers, lakes, estuaries, and aquifers on which we depend for drinking water, industry, agriculture, healthy fish and wildlife, and the ecosystems that are the environmental hearts of many communities. What would California be without a San Francisco Bay Estuary crowded with boats, Salton Sea and Central Valley wetlands teeming with birds, or a Fisherman’s Wharf alive with fishermen? We can protect these natural riches and provide water for a growing population and economy, but we must act now in response to growing threats to California’s water resources.

- **The San Francisco Bay Estuary:** Over the past decade, populations of a broad range of fish species in the Bay-Delta ecosystem, the largest estuary on the West Coast, have collapsed. Several species are at risk of extinction and poor water quality is a growing concern.
- **Salmon Fishing Industry:** In 2008-2009, as a result of irresponsible water management during a drought, the California salmon industry was shut

down for the first time in state history, prompting the loss of thousands of jobs and billions of dollars in economic activity. Today, returning adult salmon are near record lows, threatening another possible shutdown and permanent damage to the fishing industry.

- **Salton Sea:** The health of the Sea is declining dramatically because of falling lake levels. In addition to catastrophic impacts on waterbirds and the Pacific Flyway, wind-driven dust storms are causing serious local health impacts, including alarmingly high levels of asthma in children.
- **Drinking Water Quality:** Both rural and urban areas suffer from lack of access to safe, clean, affordable water. Ongoing agricultural contamination threatens dozens of Central Valley and Central Coast communities reliant on groundwater for drinking. More than a quarter of a million California residents are at risk from nitrate contamination alone. Even more are affected by naturally occurring contaminants. All told, more than a million California residents are served water that does not meet safe drinking water standards.

Federal Attacks on California Water Resources: Unfortunately, the Trump Administration and Congress are exacerbating these problems. Federal agencies are seeking to weaken dozens of rules protecting California’s environment, including undermining the Endangered Species Act, Central Valley Project Improvement Act, and Clean Water Act. The Trump Administration is defying State Water Resources Control Board (“State Water Board”) requirements, raiding the State Water Project, and attempting to raise Shasta Dam in violation of state law. Congress has launched similar assaults on federal and state laws, including seeking to prohibit state and federal judicial review of the Delta tunnels and pre-empting state law. These efforts fly in the face of a century of federal deference to state water law. Fortunately, California has the tools to protect itself from these attacks.

III. Principles for a 21st Century Approach to Water: The water priorities of the next administration should be driven by several foundational principles:

- **Climate Change Must Drive Innovative and Sustained Action:** A warming climate is already causing water scarcity and insecurity, increased flood risk, and threats to ecosystem health, problems that will worsen over time. Such disruptive threats suggest the need for a visionary 21st century approach to state water policy. Many of the recommendations in this document flow from this overarching principle.
- **Development and Adoption of Innovative Water Technologies are Essential:** California is a world technology leader, yet the state lacks a

strategy to tap into innovation in the water sector. Water technology, much like energy technology, can be an economic driver and job creator. It is also a key to restoring rivers and aquifers and ensuring a clean, reliable water supply. New technologies – such as leak detection systems, onsite water treatments systems, new efficiency tools, and data collection and sharing platforms – are essential to maximizing sustainable and resilient water resources for the 21st century.

- **The Transition to a Sustainable Water Future Can Create New Jobs:** In addition to spurring technological innovation, the solutions to meet California’s future water needs can create sustainable green jobs. These solutions can produce new jobs in technology firms, manufacturing, wholesale and retail sales, as well as on-the-ground jobs in plumbing, landscaping, habitat restoration and more. Investments in the health of aquatic ecosystems will also generate new jobs in tourism, one of California’s most important economic drivers.
- **California Must Control its Own Water Future:** The Trump Administration and Congress have launched unprecedented attacks on California’s aquatic resources, state agencies, and state laws. Although the state has resisted federal attacks in areas such as climate change and ocean health, the state’s efforts to improve and enforce its laws related to water resources must be strengthened.
- **Community Health and Water Resources are Fundamentally Linked:** Human health and water are closely intertwined. In the Central Valley and Salinas Valley, agricultural runoff has contaminated drinking water supplies. Around the Salton Sea, dust from a dying sea threatens local residents, especially children. In the Bay-Delta, as well as lakes and rivers across the state, toxic algae blooms are threatening pets, livestock and the health of people who recreate in or drink affected waters. Throughout the state, the future of fishing communities and California Tribal cultures rely on healthy salmon runs. In addition, managing land and water for multiple benefits, such as through floodplain restoration, can produce broad community (e.g., new public parks) and ecosystem benefits (e.g., rearing habitat for native fish) that go beyond those of single-purpose water projects.

IV. Priority Recommendations

1. Resist Federal Water-Related Rollbacks. *Direct state agencies to implement new programs and work with the state legislature to pass legislation that protects California’s aquatic resources and the state’s ability to manage its own water from attacks by the Trump Administration and Congress. Specific actions should include:*

Protect Endangered Species Using State Law: *Direct the California Department of Fish and Wildlife (CDFW) to fully protect endangered species, including Chinook salmon and other Bay-Delta species, under state law - independently from federal Endangered Species Act (ESA) implementation.* For decades, California has largely relied on federal agencies to take the lead in protecting California endangered species. Unfortunately, under the current administration, federal agencies are working to weaken ESA protections for salmon and other Bay-Delta species without scientific support. CDFW has independent authority under the California Endangered Species Act (CESA) to protect federally listed species that are also protected under state law. It must now begin to exercise that authority aggressively and fully. CDFW should also take early action on petitions to list non-federally protected fish species, including Klamath spring-run Chinook salmon.

Finalize State Water Board Wetland Protections: *Direct the State Water Board to immediately finalize its proposed wetland definition and dredge or fill procedures to protect California’s wetlands.* California has lost over 90% of its historic wetlands, and those that remain provide essential wildlife habitat, improve water quality, protect against floods, and recharge aquifers. These wetlands are at risk because of the Trump Administration’s efforts to roll back the Clean Water Rule and dramatically limit the scope of federal Clean Water Act jurisdiction. The State Water Board has authority under the Porter-Cologne Act to protect all California wetlands and has been working on a state wetlands policy for over a decade, but it has failed to adopt final new state protections. The State Water Board’s policy is well developed and will be ready for immediate adoption in January of 2019.

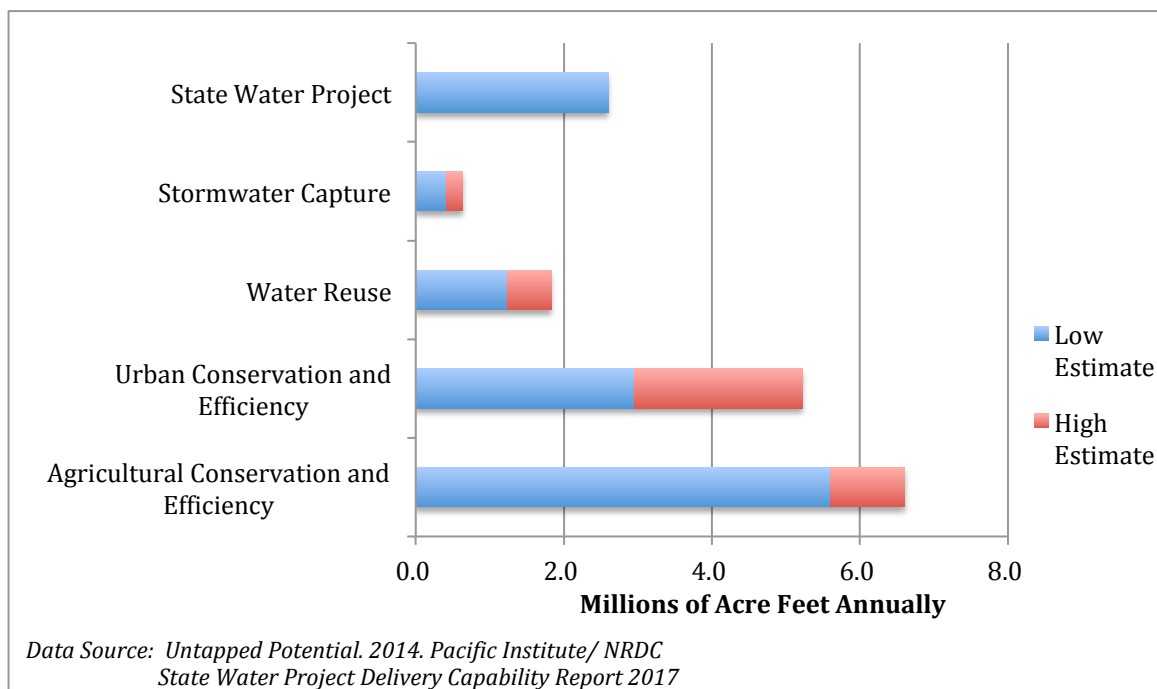
Pass Targeted Anti-Rollback Legislation: *Work with the legislature to pass a law to strengthen the state’s ability to resist federal water-related rollbacks.* Gubernatorial leadership is required to pass a bill that would ensure that the Bureau of Reclamation complies with CESA requirements. (The State Water Project already complies with CESA requirements. The state can compel the federal Central Valley Project to do so as well.) In addition, the bill should provide automatic CESA listings for federally ESA listed species that lack status under CESA, if these species are delisted federally or if existing federal protections are weakened. The bill should also strengthen citizen enforcement of state environmental laws. Furthermore, the legislature should pass a bill to protect desert springs, streams, and aquifers from damage from projects like the proposed Cadiz groundwater mining project.

Strengthen State and Tribal Relationships: *Work with California’s Tribal governments to galvanize opposition to federal water-related rollbacks.* California’s native Tribes can be an ally in both opposing federal rollbacks and developing state water management strategies that protect water quality and fisheries.

2. Create a New Climate Change-Driven Water Program: *Adopt an AB 32-style approach to address the water management challenges created by climate change.*

AB 32, the California Global Warming Solutions Act of 2006, established a specific, enforceable goal to reduce greenhouse gas emissions and created ambitious policies and programs to achieve that goal. These efforts have been reinforced by other energy policies, such as energy efficiency targets and the renewable portfolio standard. In an analogous - but not identical - manner, a new comprehensive California water program would include setting quantifiable goals and deadlines for: protecting and restoring aquatic ecosystems; accelerating progress in achieving sustainable groundwater management; reducing reliance on aquatic ecosystems and aquifers by investing in urban and agricultural conservation and efficiency and alternative water supplies; and investing in multi-benefit natural infrastructure. Multi-benefit floodplain projects can reduce flood risk, recharge groundwater, restore habitat, and expand parks and recreation opportunities. Also, as shown below, water conservation and efficiency, along with alternative water sources like water reuse (particularly in coastal areas), and urban stormwater capture can generate an enormous amount of additional water supply – far more than is exported from the Delta by the State Water Project. California needs a strategy to maximize these new, climate-resilient water sources.

New Climate-Resilient Water Sources and the State Water Project



3. Develop a Water Technology Strategy: *Develop a water technology strategy to bring the same technological innovation to the water community that California has brought to finding energy solutions. Focus on new water technologies that can help optimize water supplies, increase understanding of water use, monitor water*

quality, reduce reliance on aquatic ecosystems, and make water supplies more resistant to climate change. Such a state strategy should include:

- A new state inter-agency team, modeled after the successful Water-Energy Team of the Climate Action Team, designed to identify and act on opportunities for and obstacles to advancing new water technologies. One such opportunity is setting state standards to regulate potable water reuse.
- Dedicated funding in a future water bond to invest in new water technologies, including new Department of Water Resources (DWR) and Department of Food and Agriculture grants programs.
- State funding for regional water innovation programs in both agricultural and urban settings to encourage collaboration among water agencies, academic institutions, NGOs, the private sector, and others.
- Expanded efforts to collect, report, and integrate water-related data, including water rights, use, and quality.

4. Establish New Water Quality Standards to Protect the San Francisco Bay

Estuary: *Direct the State Water Board to complete the adoption and implementation of science-based standards for the Bay-Delta by mid-2020.* The State Water Board has been engaged in this process for nearly a decade. The Board is scheduled to adopt new flow standards for the lower San Joaquin River and its tributaries in December. In 2019, the Board will turn to the second phase of the Bay-Delta process, adopting new standards for Bay inflows and for flows on the Sacramento River and its tributaries. The current standards for the estuary, which were adopted in 1995, failed to prevent the collapse of the Bay-Delta ecosystem, and exhaustive scientific reviews have shown that much stronger flow standards are needed.

5. Reevaluate New Water Infrastructure: *After the State Water Board adopts new Bay-Delta flow standards, major water infrastructure proposals must be reevaluated.* The Delta tunnels and proposed traditional dams are antiquated 20th century solutions to 21st century problems. Some infrastructure proposals currently under consideration are based on current flow requirements and fail to address how the projects would function under a new, more protective flow regime in a warmer climate. Once the State Water Board has determined how much water is available for storage and diversion from the Bay-Delta ecosystem, projects such as the Delta tunnels, Sites Reservoir, Temperance Flat Dam, and others should be reevaluated by state agencies, with independent peer review, to determine if they are viable from a water supply, economic, and environmental perspective, or if they should be redesigned or dropped. This reevaluation should include examining options to accelerate investments in natural infrastructure, including restoring floodplains and wetlands, improving soil health, stewarding headwater regions better, expanding urban stormwater capture infrastructure, recharging overtapped groundwater aquifers, improving soil health, and improving habitat for wildlife on agricultural land.

6. Ensure the Human Right to Water: *Develop and implement a comprehensive state strategy to ensure the human right to water, including directing all relevant state agencies to develop policies and actions to achieve this state requirement.*

Specific actions should include:

Drinking Water and Sanitation: *Work with the legislature to develop a reliable funding mechanism and plan for reducing surface and groundwater contamination to ensure safe, clean, affordable, and accessible water supplies and sanitation for disadvantaged California communities, including people experiencing homelessness, This should include strategies, including water district consolidation, to ensure that all California residents - rural and urban - have access to safe, clean drinking water. In tandem with that plan, there should be an effort to develop and implement a new state strategy to achieve affordable water and sanitation for economically disadvantaged communities, households and vulnerable populations.*

Tribal Water Needs: *Develop a state strategy to implement the water-related provisions of the United Nations Declaration of the Rights of Indigenous Peoples. This strategy should include ensuring fishing rights and physical access to state waters for cultural purposes. Many tribal ceremonies require access to rivers or lakes, and some tribes have encountered significant obstacles in securing this access. In addition, the state should consult with tribes to obtain their consent prior to the approval of any water project that would affect tribal resources.*

Groundwater Management Implementation: *Ensure that the state’s sustainable groundwater management planning processes meaningfully engage and address the input provided by economically disadvantaged communities and other vulnerable populations that are dependent on groundwater for drinking water, and that within the first year of implementation each plan will result in the realization of the human right to water with regard to both water supply and quality.*

7. Comprehensively Protect the Public Trust and Move Toward a More Rational Water Allocation System: *Direct the State Water Board to implement a program to ensure comprehensive and effective protection of public trust resources. The State Board has issued water rights for an amount of water five times the average annual California runoff, and in some river basins, water rights total eight times natural runoff. This overallocation has contributed to the decline of rivers, the Bay-Delta, and salmon and other species, and is exacerbating the impacts of climate change. For many rivers, there are no enforceable flow requirements to ensure protection of public trust resources. A new State Water Board program should include:*

- Comprehensive new flow requirements statewide, beginning on priority streams (e.g., the Scott and Shasta rivers), to protect public trust resources

and determine how much water is available for consumptive use. (See related recommendations above.)

- Where appropriate, apply state-wide the recent Siskiyou County decision regarding the application of the public trust to groundwater.
- Real-time, publicly available information on in-stream flows, water diversions, and water rights.
- A modern, effective enforcement program to ensure that water users reduce water diversions when necessary to protect public trust resources.
- A Blue Ribbon Commission to ascertain how to move towards a more equitable water allocation system, once public trust resources are protected and the impacts of climate change are fully considered.
- Adoption, by all regional water boards, of Tribal, cultural and subsistence fishing, which are public trust uses, as beneficial uses to be protected by all Basin Plans.

8. Aggressively Enforce Existing Laws and Regulations: *Direct the State and Regional Water Boards and DWR to quickly and effectively enforce existing laws and regulations to ensure compliance with legal requirements for both water quality and water efficiency.* California’s landmark water efficiency laws have achieved major water savings, yet gaps in implementation mean that wasteful and unnecessary uses persist. To truly make conservation and efficiency “a California way of life,” state agencies must continue to set ambitious targets for indoor and outdoor water use and water loss reduction, and hold cities, counties, and water suppliers fully accountable for their obligations under the law. Regulations adopted during the drought to prohibit water waste should be strengthened and made permanent.

State agencies have tools at their disposal that allow for aggressive water efficiency and water quality enforcement that require minimum penalties in certain instances. Enforcement of existing laws and regulations are essential to protect and manage water resources, yet state agencies have underutilized these tools in the past. Agency enforcement strategies should address cumulative impacts and incorporate numeric goals, benchmarks, and priorities that are reviewed annually and disclosed to the public.

9. Create Signature Aquatic Ecosystem Restoration Programs: *Direct state agencies to plan and aggressively implement several signature aquatic ecosystem restoration programs, including at least the following:*

Salton Sea: *To reverse the decline of the Salton Sea ecosystem and avoid a major public health and wildlife crisis, the state must meet the annual habitat and air quality project goals formalized in the State Water Resources Control Board Stipulated Order and should lead the development and implementation of a comprehensive long-term plan for the Salton Sea, in coordination with affected stakeholders.* The key types of Salton Sea projects are: (1) habitat projects that address the needs of a variety of

species; (2) dust suppression to minimize dust emitted from the playa; and (3) water delivery infrastructure. Specifically, the state must do the following:

- Rapidly deploy sufficient staffing and resources to carry out this substantial public works project for the benefit of the Salton Sea and surrounding communities.
- Create a more durable and efficient governance structure that allows for rapid implementation of the State’s Phase I Plan and creation of a long-term plan for the management of the Sea beyond 2028.
- Implement projects to meet the Water Board’s Stipulated Order. The state has already disclosed that it will miss the current project construction deadlines through 2021.
- Implement a monitoring and adaptive management program to ensure that the state meets its annual construction goals and achieves the larger objectives of avoiding public health and wildlife impacts.
- Identify the costs for the implementation of the Phase 1 Plan and longer-term plan, including operations and maintenance. Secure funding to implement these plans.

The San Francisco Bay Estuary: *Launch a revitalized and integrated San Francisco Bay Estuary restoration project.* The Bay-Delta has been in free fall over the past decade. Without ambitious action, this ecosystem may experience multiple extinctions in the next four years. However, the Bay is often overlooked in discussions of Delta issues. A comprehensive restoration effort should, at a minimum, include:

- Integration of the needs of the Bay – as well as the Delta – of the largest estuary on the West Coast.
- Habitat restoration that goes beyond EcoRestore targets, including multi-benefit projects to reduce climate change-driven flood risks.
- Expanded state support for San Joaquin River restoration, pursuant to the 2006 restoration settlement agreement.

(See related recommendations above regarding climate change, reducing reliance on aquatic ecosystems, and new Bay-Delta standards.)

Feather River Salmon: *Direct DWR, CDFW, and the Resources Agency to collaborate on a signature salmon restoration project on the Feather River and its tributary, the Yuba River.* The State Water Project controls only one river – the Feather, once one of California’s most important salmon producers. Yet, state Feather River restoration efforts have been stalled for over a decade, lagging far behind efforts on other rivers. This failure has contributed to the decline of salmon runs and salmon-related jobs. There are many broadly supported components of a Feather River salmon restoration initiative, including:

- Retrofitting Thermalito Afterbay to restore spawning habitat by reducing thermal pollution that causes lethal temperatures for salmon.
- Restoring access for juvenile salmon to floodplain habitat in the Yolo and Sutter flood bypasses, including notching the Fremont and Tisdale weirs.
- Improving spring flows for juvenile salmon by coordinating Oroville Dam operations with groundwater management in the State Water Project service area.

Klamath River Solutions: *Develop a state strategy to complete the removal of four dams on the Klamath River – the nation’s largest dam removal project – and undertake related salmon restoration efforts.* A comprehensive effort should include:

- Expenditure of up to \$250 million in existing California bond funds, in addition to contributions from the dam owner.
- The State Water Board’s 401 certification for dam removal.
- Support for water settlement negotiations, habitat restoration, and water reform efforts.
- New State Water Board flow standards to protect public trust values on key tributaries (e.g., the Scott and Shasta Rivers.)
- Facilitating the use of Humboldt County’s water rights to assist in the restoration of the Trinity and Klamath Rivers.

These and other actions are necessary to avoid federal interference in this world-class salmon restoration project.

Dam Removal and Reoperation: *Aggressively pursue opportunities for salmon, steelhead, and river restoration through the removal and reoperation of antiquated dams.* These opportunities include the removal of Matilija Dam, as well as the removal or reoperation of hydropower dams on salmon rivers (e.g., Battle Creek, Butte Creek, and the Potter Valley diversion). To facilitate this and the previous three salmon-related projects, create an anadromous fisheries branch within CDFW.