

PORTFOLIO RECOMMENDATION GROUP

FINAL DRAFT RECOMMENDATIONS

SEPTEMBER 13, 2019

These recommendations were developed by an ad hoc, unsponsored effort with participation by state and local governmental agencies, urban water agencies, tribes, environmental groups, irrigation districts, environmental justice groups, fire leaders, flood agencies, and watershed groups. In the time available, there were many other very important issues that the group did not have time to address. It is also important to note that many participants will be submitting their own sets of recommendations directly to the Newsom Administration.

While some recommendations may address the current and emerging water needs of vulnerable communities, others should be developed and refined to through conversations with representatives of those communities to reflect their needs.

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If you have questions, please contact the subgroup facilitator. Contact information found at the top of each subgroup section.

HUMAN RIGHT TO WATER

If you have any questions about these recommendations, please contact the subgroup facilitator—Toby Briggs (tobybriggs@friendsoftheriver.org)

1. MULTIDISCIPLINARY TASK FORCE FOR LOW-INCOME RATES

Convene a multidisciplinary task force to identify and recommend funding and programmatic options for a statewide water low-income rate assistance program for water rates to present to the legislature.

Recommendation: Convene a multidisciplinary task force to identify and recommend funding and programmatic options for a statewide water low-income rate assistance program for water rates to present to the Administration.

Background: In 2015, the California legislature passed AB 401 (Dodd) which required the State Water Board to develop a plan for the funding and implementation of a low-income rate assistance program for water bills. That plan was due to be submitted to the legislature in January or 2018 but has been delayed and should be completed by the end of this year.

The Board's estimates for a price tag has been as high as approximately \$600m annually, Strong leadership from the governor, as he showed in the establishment of the Safe and Affordable Drinking Water Fund, is needed to make this program a reality.

Proposal: To accomplish this, we recommend that the governor appoint a multi-disciplinary task force, with members from across the state, to review the State Board proposal and make suggestions about how to structure, administer, and fund a LIRA program. The task force should also investigate the need and potential-to expand the program to wastewater.

The task force should operate with transparency and provide opportunities for the public to provide input for the recommendations.

Task force members should include representatives from or for:

- A) Social justice advocates
- B) Public Water Systems from various regions, varied customer bases and different sizes
- C) State Agencies including the Board of Equalization, the State Controller, State Treasurer and State Water Board
- D) *Academics and scholars, including economists*
- E) Entities with experience administering such programs

2. EFFECTIVE REGULATION TO RESTORE WATER SOURCES

Direct California Environmental Protection Agency Secretary to take all necessary actions to ensure that the SWRCB, Department of Toxic Substances Control, Division of Oil, Gas, and Geothermal Resources; and Department of Pesticide Regulation adopt and implement effective regulations, emphasizing a science-based, proactive approach to protect and restore sources of drinking water impacted by agricultural and industrial discharges to avoid unnecessary, costly and energy-intensive drinking water treatment.

3. ENSURE ACCESS TO SAFE WASTEWATER SERVICE

Ensure equitable access to safe wastewater service by:

- A) Assess wastewater management needs
 - i) Data collection to determine the extent of wastewater related needs, focused on related health inequities
 - ii) Increase funding for implementation of the identified wastewater related needs.
- B) Implement authority of the regional boards to ensure equitable extensions of sewer service to communities currently relying on failing septic tanks or any other inadequate wastewater infrastructure.

4. DRINKING WATER AND SANITATION NEEDS OF PEOPLE EXPERIENCING HOMELESSNESS

Address the Drinking Water and Sanitation Needs of People Experiencing Homelessness

- A) Assess and identify drinking water and sanitation needs of people experiencing homelessness.
- B) Quantify co-benefits, such as for water quality and public health, of state investments in the provision of water and toilets for people experiencing homelessness, in order to leverage resources across multiple sectors.
- C) Provide state financial and regulatory (i.e., credit) incentives to install public restrooms to address the sanitation needs of homeless residents and meet stormwater quality goals.
- D) Increase state funding for access to safe and hygienic public restrooms, and institute state and regional policies to ensure resources are appropriately distributed across local jurisdictions.

5. ROLE OF IRWM IN ADDRESSING DAC WATER-RELATED NEEDS

- A) IRWM DACI Data and Lesson Learned:
 - i) DWR should compile the 12 regional needs assessments from the Proposition 1 IRWM DAC Involvement (DACI) program into a statewide perspective and share data with relevant state funding assistance and data programs (i.e. CWSRF, DWR's drought program, GAMA, Safe and Affordable Drinking Water Fund, etc). The data should also be made publicly available.
 - ii) Identify DACI program successes and support continued implementation and funding in those IRWM regions.
- B) IRWM Program Development:
 - i) Evaluate the IRWM program to identify program successes and needed improvements.
 - ii) *Background:* The IRWM Program can be a well-established mechanism for outreach and involvement of disadvantaged communities (DACs), Native American Tribes, non-governmental organizations (NGOs) and other stakeholders in local and regional water resource management decision-making processes. Where there are different regional needs, the IRWM program allows for voluntary participation by interested parties to plan and address regional needs through the development of multi-benefit projects and programs. [However, the program has not been evaluated since its establishment through Proposition 50 in 2002](#) and a thorough review of how the program can be made more effective, build on successes, and improve in other areas is needed.

6. RELIEVE CASH-FLOW BURDENS PLACED ON DISADVANTAGED COMMUNITIES (DACs)

Direct the SWRCB and DWR to reduce the cash-flow burden they place on disadvantaged communities (DACs) that are recipients of grant funds by employing all of the following measures:

- A) Speed up the contracting process once grants are awarded so funds can go out as soon as possible
- B) Decrease the time it takes to make payments on invoices submitted by DAC grant recipients;
- C) Make it common practice to advance a portion of the awarded grant funds to the DACs to ensure they are able to pay vendors and contractors in a timely manner.
- D) Work with the State Treasurer to revise the state's antiquated payment policy and allow electronic payment of grant funds/invoices

7. IMPROVE DROUGHT RESILIENCE IN CALIFORNIA'S VULNERABLE COMMUNITIES

Prioritize proactive statewide drought resilience planning for vulnerable communities not served by a public water system, including through implementation of DWR’s 2019 drought and water shortage planning process.

- A) Direct DWR to work with the State Board to integrate drought and water shortage planning for communities and households not served by a public water system with implementation of the Safe and Affordable Drinking Water Fund.
 - i) By 2022, develop and implement state small and domestic well umbrella drought contingency plans, utilizing a multi-disciplinary stakeholder process. The process should include representatives from impacted communities, environmental justice organizations, local government, water agencies and other key stakeholders.
 - ii) Utilize the needs assessment and mapping of high risk areas required as part of SADWF implementation to assess drought and water shortage needs and solutions for state small and domestic well communities.
- B) If necessary pursue legislative authority necessary to manage and implement umbrella plans for state small and domestic wells.

DIVERSE WATER SUPPLIES

If you have any questions about these recommendations, please contact the subgroup facilitator-- Marguerite Patil (mpatil@ccwater.com)

8. IMPLEMENT RECENTLY ENACTED WATER USE EFFICIENCY LAWS

- A) The Administration should implement the just-enacted laws, SB 606 (2018) and AB 1668 (2018), prior to considering new water use efficiency standards for suppliers. These landmark new laws provide the statutory requirements for making water conservation a California way of life and for defining water use efficiency. It is key to achieve reasonable water use efficiency statewide as required by these laws and in a manner that preserves water conservation as a tool water suppliers will use to respond to droughts.
- B) The State should provide financial assistance to help water agencies implement these laws.
 - i) Provide state financial support to urban retail water agencies, in the form of funding, assistance, and training, to ensure all urban retail water agencies are able to gather and compile the data necessary to calculate the urban water use objective.
 - ii) Provide funding to assist local water suppliers in complying with water loss target goals also referenced in SB 555 as well as SB 606/AB 1668.
 - iii) Provide dedicated support for urban retail water supplier activities associated with improving efficiency of CII water use, including the installation of dedicated irrigation meters and the implementation of performance measures, such as conducting water use audits and preparing water management plans.
 - iv) Provide state financial support to agricultural water agencies to help them comply with the new laws.

9. ACCELERATE IMPLEMENTATION OF WATER REUSE

- A) Water reuse can be expanded in California, and a number water agencies have indicated that they are planning both potable and non-potable reuse projects. Most agencies exploring potable reuse projects have indicated that regulatory certainty is needed so that they can plan, design and develop their potable reuse project knowing it will comply with what the State Water Resources Control Board (State Board) will require of more direct forms of potable reuse. The State Board had indicated that they need additional research completed before they are able to craft certain potable reuse regulations. At the same time, non-potable reuse has an important role in California. The regulations governing non-

potable reuse have not been updated in 20 years. Updating these regulations can lead to greater reuse.

- i) Focus on removing regulatory and funding hurdles for both potable and non-potable reuse.
 - a) Update Title 22's Water Recycling Criteria (CCR, Title 22, Division 4, Chapter 3), which has not been updated in nearly 20 years, to remove outdated and overly prescriptive requirements for non-potable recycled water that are not needed to protect public health or the environment.
 - b) Clarify requirements and establish review time lines for Section 1211 Wastewater Change Petition process which is necessary to redirect treated effluent currently being discharged into waterways for use in a potable or non-potable reuse project.
 - c) Fund and expedite the completion of the State Water Resources Control Board regulation called for in SB 966 (Weiner, 2018) for risk-based water quality standards for the onsite treatment and reuse of non-potable water for non-potable end uses in multifamily residential, commercial, and mixed-use buildings.
 - ii) Focus on developing the potable reuse regulations for raw water augmentation and treated drinking water augmentation.
 - a) Fund and complete the research needed for the State Water Resources Control Board to develop regulations for raw water augmentation by 2023.
 - b) Fund and complete the research needed for the State Water Resources Control Board to develop regulations for treated drinking water augmentation by 2025.
- B) Statewide financial assistance.
- i) Provide additional grant funding and low-interest loans to accelerate water reuse projects.
 - ii) Supplement the State Revolving Fund (SRF) and address backlog of SRF funding and accelerate the implementation of projects languishing in the planning phase.

10. IMPROVE SURFACE/GROUNDWATER SYSTEM OPERATIONS AND MANAGEMENT

- A) **Forecasting** - Increase available water supplies and reduce flood risk by incorporating forecasted watershed runoff estimates into reservoir water control manuals. This will require investments in existing and new technologies used to identify atmospheric river

(AR) patterns and anticipate watershed runoff responses; and coordination between the responsible regional, state and federal agencies at a watershed scale. Forecast Informed Reservoir Operations (FIRO) that exemplify this approach are currently underway at Lake Mendocino on the Russian River, Prado Reservoir on the Santa Ana River, and Folsom Reservoir on the American River.

- B) **Groundwater Storage** - Adapt to climate induced variability in watershed precipitation patterns – more rain, less snow; more intense floods; and more prolonged droughts – by facilitating (with funding and technical support) and working in collaboration with regional interests to integrate and enhance regional surface and groundwater capture, storage, conveyance, and delivery infrastructure. In addition to investments in forecast based reservoir storage operations, this will require development of integrated water delivery systems that allow conjunctive use of surface and groundwater supplies; integrated regional management of groundwater basins that includes groundwater banking; and development of direct groundwater recharge infrastructure that allows capture and storage of excess watershed runoff.
- C) **Regional Models** - Promote models of integrated regional water management such as the American River Basin which: (1) has reached agreement (through the efforts of the Sacramento Water Forum) on a flow standard for the American River supported by technical, scientific, physical and institutional investments, as well as improving infrastructure and regional interconnections, facilitated by collaborative planning through the Regional Water Authority, that increased capacity for conjunctive use of surface and groundwater supplies; (2) has potential capacity for water banking that could address regional issues including the development of SGMA compliant groundwater management plans for the South American and Cosumnes groundwater basins and potential statewide environmental and water supply benefits (if the proposed Sacramento Regional Water Bank is implemented); and (3) is pursuing (through the Sacramento Area Flood Control Agency) physical and operational (forecast based) improvements to Folsom Dam and the largest non-federal reservoirs in the watershed with the aim of reducing flood risk and capturing watershed runoff which is in excess to the flow requirements of the American River and the Delta for delivery down the existing Folsom South Canal and storage in the Cosumnes and South American groundwater basins through direct recharge.

11. MODERNIZE WATER TRANSFERS

- A) Review, approval, and oversight of water transfers can be greatly improved. Water users face uncertain and lengthy processes that differ based on the approving agency (DWR, SWRCB, and Bureau of Reclamation). Others raise legitimate concerns that some water

transfers are not publicly transparent, create third-party impacts, and lack sufficient environmental mitigation. In drought years, the urgency to implement transfers may result in hasty approvals. Long-term transfer plans are often controversial and are frequently challenged in court.

- B) If properly undertaken, transfers should play a significant and valuable role in resilient water management. Transfers may also increasingly play a role in attempts to address SGMA requirements, increase groundwater recharge, meet instream flow standards, develop recycled water supplies, and provide public benefits from new storage projects in transferee areas. Without further refinement, the existing mechanisms and processes for water transfers could impede rather than facilitate successful water supply outcomes and continue to potentially result in unwanted impacts.
- C) The Governor should convene a Water Transfers Task Force comprised of agency representatives, water users, water marketing experts, communities, private sector representatives, and environmental interests to develop a plan for improving the water transfer process in California. The plan should focus on: (a) better data, process, and efficiency, (b) the potential for a standardized water transfer agreement, and (c) the identification and treatment of environmental and economic effects in transferor areas.

12. DEVELOP BEST ESTIMATE OF FUTURE HYDRAULIC CONDITIONS

- A) The Governor should direct that by the end of 2021 his Administration will issue an “Estimated Future Central Valley Hydrologic Conditions” report, based upon best available science, including independent and transparent peer review of models (i.e. Calsim and other hydrologic models) developed to inform it, that identifies a reasonable range of Central Valley watershed hydrologic conditions resulting from climate change (on a monthly time-scale, and under the various water year types) that could be expected to occur in 2050, 2075 and 2100. The report should include “worst case” drought and flood scenarios as well. This report shall be updated at least every five years and included in the Department of Water Resources’ (DWR) Climate Change Assessment Reports and used to inform future California Water Plan (CWP) Updates.
 - i) As part of the above effort, the State should facilitate, with technical and financial assistance where appropriate, the downscaling of the modeling techniques and information to watersheds outside the Central Valley, including watersheds throughout California that will be facing similar challenges to promote similar planning and prioritization efforts at the local/regional level.
- B) The Governor shall also direct that the DWR, utilizing the “Estimated Future Central Valley Hydrologic Conditions” report’s data and information, focus the next CWP Update in 2023

on developing a strategy incorporating priorities for investments, programmatic and operational recommendations, as well as regulatory adaptation, to most effectively meet the water supply, flood risk reduction, ecosystem management, and other challenges California will confront as a consequence of the identified changes in future hydrologic and related conditions (loss of snowpack, increased air/water temperatures, flashier and more intense precipitation, sea level rise, changes in soil moisture and related new demand scenarios, etc.).

- i) Each subsequent CWP Update should incorporate the then best available data and experience to review and revise the State's water resiliency strategy going forward.

13. PROMOTE RESILIENCE OF GROUNDWATER SUPPLIES

- A) Continue to implement the landmark Sustainable Groundwater Management Act (SGMA) but simultaneously work to mitigate adverse socioeconomic impacts in the San Joaquin Valley and other areas. See 2.
- B) Improve groundwater replenishment policies:
 - i) Integrate storage, stormwater management and conveyance to increase replenishment.
 - ii) Develop water banking.
 - iii) Expand brackish groundwater treatment.
- C) Incentivize greater water banking and development of emergency supplies by:
 - i) Specifically recognize banked water and emergency water supplies as a categories of supply a water supplier may discuss and assess in an Urban Water Management Plan, in addition to base load supplies and contingency supplies;
 - ii) As the Department of Water Resources develops the structure and reporting requirements for the Annual Water Supply and Demand Assessment, include banked water and emergency water supplies in the reporting structure, and in the calculation of water supply compared to water demand;
 - iii) Provide that bank water and emergency water supply can be used in a Water Shortage Contingency Plan as part of the planned water supplier response to a water shortage; and
 - iv) Establish as state policy that state agencies shall allow a water supplier that develops and establishes an emergency supply to use that supply during a water shortage or drought consistent with its Water Shortage Contingency Plan.
- D) Quantify water available for groundwater recharge and how much is needed for the environment.

14. DELTA CONVEYANCE

- A) A resilient water portfolio for California will need to include actions and initiatives that help the Sacramento-San Joaquin Delta adapt to climate change, which is expected to raise water levels, increase salinity, increase flood risk, and alter the timing of flows, among other changes.
- B) The Delta watershed receives water from 40% of California's land mass and about half of the state's runoff from the Sacramento and San Joaquin Rivers. Consequently, water used within and exported from the Delta plays a major role in California's prosperity. Water exported from the Delta provides high-quality water supplies that support the production of recycled water, the replenishment of groundwater basins and other actions vital to the diversification of regional and local supply portfolios. Improvements to through Delta and isolated conveyance should be evaluated as a component of an effective adaptation approach.
- C) There has been a great deal of controversy over whether and how to change the current configuration of the Delta, whereby flows from the incoming rivers flow through the Delta and are then exported from the existing SWP and CVP pumps in the South Delta. There is not agreement, in particular, that new isolated conveyance (possibly in the form of a tunnel) is necessary to address climate change. If there are any changes to the current means of conveying water through the Delta for export, such new conveyance should:
 - i) be designed and operated to take advantage of high flow periods and to protect and avoid injury to beneficial uses of water, including maintaining salinity control in the Delta according to applicable standards,
 - ii) be economically viable and provide sufficient capacity, given water availability, for the delivery of supplies to those who choose to participate,
 - iii) be consistent with the state law requirement to reduce reliance on the Delta for future water supply needs,
 - iv) be protective of sensitive fish and wildlife,
 - v) be resilient to sea level rise and seismic events,
 - vi) be designed and operated to place an appropriate emphasis on the future of the Delta itself including historic communities, agriculture and ecosystems, and
 - vii) be planned and funded such that levees continue to receive strategic reinvestment by beneficiaries of the system.
- D) The Delta is an evolving place and it needs an overall risk management strategy to address a variety of challenges. Only a comprehensive and integrated approach to the Delta, one component of the state's overall water portfolio, will ensure progress on all fronts.

15. BRACKISH WATER TREATMENT

- A) The Administration should consider new opportunities for brackish water treatment of surface water and expansion of brackish water treatment of groundwater as an adaptation to climate change and sea level rise.
- B) Desalination is the removal of the salinity and other dissolved solids from seawater or brackish water. Seawater and brackish water are potential sources of drinking water in many parts of the state, but reverse osmosis or electrodialysis systems are required to make the water potable.
- C) The cost to create drinking water from seawater is high because the concentration of salts in seawater is so high (35 grams/liter) and there is concentrated waste 'brine' that must be disposed; the efficiency of creating drinking water from seawater is typically in the 35% range. Brackish water is typically from 1% to 10% of the concentration of seawater. Brackish water treatment efficiency is much greater -- typically 90%.[1], [2], [3]
- D) The benefits of brackish water desalination of surface water supplies have been recognized and brackish desalination projects have been funded under Proposition 1.[4] A City of Antioch project is one of the recipients; other locations subject to sea level rise and changes in salinity could also use this technology, which could be supported with local solar and wind energy supplies.[5]
- E) There are already over 30 brackish water desalination plants in California.[6], [7] Brackish water desalination is an existing part of California's water portfolio, and with advancements in technology that should continue to reduce costs, California should consider advancing projects that increase water supplies by using brackish water desalination.

[1] <https://www.wwdmag.com/desalination/desalination-seawater-and-brackish-water>

[2] <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/brackish-water-desalination>

[3] <http://www.caldesal.org/groundwater.php>

[4] <https://www.newsdeeply.com/water/community/2018/03/20/desalinated-water-in-california-doesnt-have-to-come-from-the-ocean>

[5] <http://www.antiochbrackishdesal.com/>

[6] <https://www.fluencecorp.com/california-to-increase-reliance-on-brackish-water-desalination/>

[7] <https://www.mercurynews.com/2018/01/29/california-water-desalination-projects-move-forward-with-new-state-funding/>

HEALTHY WATERWAYS

If you have any questions about these recommendations, please contact the subgroup facilitator -- Toby Briggs (tobybriggs@friendsoftheriver.org)

16. CLIMATE RESILIENT RIVERS

The state should establish scientifically sound biological objectives for the ecological health and management of rivers and aquatic habitats and set adequate instream flow standards designed to meet set objectives.

- A) This recommendation is needed to ensure healthy watersheds in a warming climate as called for in Executive Order N-10-19. It is also necessary to evaluate options for delta conveyance and transfers, provide greater regulatory certainty, and allow water managers to determine water availability for groundwater recharge needed for SGMA implementation.
- B) To implement this recommendation, the Governor should fund, staff and direct the State Water Resources Control Board, or a parallel process, to determine instream flow standards and any non-flow measures for the Bay-Delta watershed and 100 priority streams outside the Delta by December 31, 2022 that are based on independent, peer-reviewed scientific analysis that demonstrate the ability of the standards and measures to meet required biological outcomes.

CLIMATE RESILIENT WATERSHEDS

If you have any questions about these recommendations, please contact the subgroup facilitator—Jodie Monaghan (jodie@jmconsultants.net)

INTRODUCTION

As climate change impacts our environment in more pronounced ways, the State needs to substantially increase its technical, financial and regulatory support for watershed scale management that enhances resilience to climate change impacts. This management must fully integrate forest restoration, water supply and water quality, flood control and groundwater recharge activities.

This integrated approach will require multidisciplinary collaboratives working at the watershed scale to develop and manage comprehensive plans that incorporate and build upon existing planning efforts.

These approaches will require increasingly sophisticated monitoring and modeling. They will require an integrated assessment of ecological assets and ecosystem services. The plans should include infrastructure investments and management strategies. The plans need to be adequately and reliably financed from a range of funding sources. To encourage and support these multi-benefit watershed management plans, the state should work with federal and local governments, Tribes, private landowners and other interested parties to do the following:

17. LANDSCAPE-WIDE PLANS IN THE UPPER WATERSHEDS

On a landscape basis, and across jurisdictions, achieve resilience in the upper watersheds by:

- A) Assessing the current condition of the watershed
- B) Identifying areas of need (restoration, vegetation management, flooding, etc.)
- C) Developing a budget to address the needs
- D) Developing a comprehensive landscape-wide implementation Plan that addresses water, fire, and carbon stability - and use the Plan to prioritize, coordinate, and/or restructure new and existing funding streams and regulations to facilitate project implementation
- E) Coordinating new and existing funding streams and regulations to facilitate project implementation
- F) Creating an expedited system for permitting, funding, and implementing projects

- G) Identifying a regional mechanism (possibly IRWMs, JPAs, Conservancies, etc.) to implement the goals of this recommendation
- H) Including an adaptive management component in every project and plan.

18. RELIABLE AND SUSTAINABLE FUNDING

Create a Governor’s Task Force to recommend ways to achieve reliable and sustainable funding for management and ecological restoration of source watersheds.

19. IMPROVED MONITORING AND DATA COLLECTION

Improve real-time monitoring and better data collection to facilitate better planning, decision-making, and management. Specific actions include:

- A) Partner with academic institutions and fund accordingly to peer-review existing hydrological models
- B) Improve modeling for flood management, weather forecasting, and emergency response planning at the state, regional, and local levels
- C) Improve collection and accuracy of snow surveys, such as through aerial collection of data
- D) Develop runoff estimates for all watersheds in major snow-covered areas to better manage reservoir operations
- E) Make all snowpack data and runoff forecasts immediately available for use by public agencies and other organizations to assist in timely decisions for flood management, ecosystem flow allocation, and groundwater replenishment.

20. AGENCY COORDINATION

The governor should establish a forum of state and federal agencies to support the planning and permitting of watershed management and ecological restoration projects, similar to the Bay Regional Restoration Integration Team (BRRIT) model in the Bay Area. The forum should meet at least quarterly and be comprised of the heads of the Department of Water Resources, CALFIRE, Central Valley Flood

Protection Board, Department of Fish and Wildlife, Tribal representatives, State Water Resources Control Board, Office of Planning and Research, other state agencies, and their federal counterparts. The purpose of the Forum should be to reduce the time and cost of permitting for multi-objective, sustainable management of watersheds *to increase climate resilience* including the objectives of catastrophic fire reduction, water quality improvements, water supply improvements, ecosystem improvements, and flood protection.

21. INCREASE VEGETATION MANAGEMENT

To achieve maximum protection of watersheds, appropriate fuel treatments consist with climate change must be done across the landscape without regard to ownership jurisdiction, including both industrial and non-industrial private lands and appropriate public lands. California must increase the capacity to accomplish vegetation management, including mechanical treatment, managed wildfire, and prescribed fire by:

- A) The state should work with interested stakeholders to develop a comprehensive workforce development strategy to create a workforce who will do vegetation management, biomass removal, ecosystem restoration, innovative wood product development, and water quality improvement;
- B) Offering incentives, such as low interest loans, direct investment, energy feed-in tariff, or grants, to acquire equipment and other infrastructure to utilize materials removed from fuels reduction.

SACRAMENTO-SAN JOAQUIN BAY-DELTA

If you have any questions about these recommendations, please contact the subgroup facilitator – Charles Gardiner (charles@catalystgroupca.com)

INTRODUCTION

The Delta is the heart of California’s interconnected water system—home for productive agriculture, numerous small communities, and recreation for the adjacent urban areas of Sacramento, Stockton, and the East Bay, a source and place of diversion for much of the state’s urban and agricultural water use, the recipient of flows and pollutants from upstream events and activities, the habitat and migratory route for fish and wildlife, and the conduit for freshwater flows to San Francisco Bay. Thus, the Governor’s proposed water resilience portfolio must successfully integrate actions that significantly improve the severely degraded Delta ecosystem and its outdated infrastructure, while honoring the Delta as an evolving place.

The overarching recommendation of the Delta sub-group is that **the State should strive for workable solutions through processes that are inclusive, transparent, open, and integrated throughout the Delta watershed and areas served by water diverted from the Delta, from the headwaters to the ocean.** A successful process will require a fresh approach to build credibility and avoid entrenched opposition by fully engaging the relevant state and federal agencies, local agencies, non-governmental organizations, and other stakeholders.

Having received input and insight from a wide range of Delta stakeholders, the Delta sub-group offers specific recommendations in three areas where we believe consensus is within realistic reach. There are other important issues that the subgroup did not have time to include or address fully here. The subgroup hopes to continue collaborative dialogue and contribute additional information on these important topics. We urge the Governor to include the following actions in the State’s resilient water portfolio.

22. ENHANCE FLOOD AND CLIMATE CHANGE ADAPTATION FOR THE DELTA

Climate change is expected to have substantial effects on the sustainability and resilience of the Delta—sea level rise, storm surge, increased flood flows in wet periods, decreased inflows in droughts. In the next four years, the administration could make substantial progress on addressing vulnerabilities

in the Delta that affect people, the regional economy, and critical water supplies and infrastructure for much of the state. The Newsom administration should take decisive action in the next four years to halt and reverse subsidence, address Delta vulnerability to drought and flood, and increase investment in flood protection for people, infrastructure, and lands in the Delta. Specifically, the Newsom administration should implement the following:

- A) Subsidence is widely recognized as one of the most significant threats to the Delta. State landowners should be directed to adopt practices that stop subsidence. The State should provide financial and technical assistance to other public and private landowners who choose to adopt practices that can reduce and reverse subsidence and associated carbon emissions. The State should collect and analyze data from implementing best management practices to reduce subsidence and increase carbon sequestration to inform climate change adaptation efforts in the Delta.
- B) Direct the State Water Resources Control Board to inventory water available under the existing water rights priority system and for environmental needs, recognizing volatility in amount, timing, and quality.
- C) Acknowledge that chronic shortages, particularly among south-of-Delta agriculture, may worsen as a result of implementing the Sustainable Groundwater Management Act (SGMA) as well as climate change, and empower affected regions to plan for addressing those shortages (including flood capture, reservoir reoperation, and groundwater recharge).
- D) Prioritize Central Valley flood system management [including increased and sustained attention to the levee system in the Delta] by building on existing levee maintenance and subvention programs, adopting levee standards, increasing funding, and establishing a timeline for attaining the standards throughout the system to protect vulnerable people, infrastructure, property, and water quality.
- E) Listen respectfully to Delta constituents about the Delta as an evolving place in light of threats from climate change and respond with appropriate protection and adaptation strategies.
- F) Conduct a credible, multi-agency effort to fairly and honestly assess the Bay-Delta's vulnerability to climate change and to develop realistic adaptation strategies.

23. DEVELOP INTEGRATED OUTCOMES FOR THE DELTA AND THE WATER RESILIENCE PORTFOLIO

Actions to address the challenges in the Delta must remain connected to and coordinated with water resilience initiatives in the Delta watershed and in areas served by water supplies diverted from the Delta and its tributaries. The (re)consideration of Delta conveyance (both existing conveyance in Delta

channels and proposals for isolated conveyance under or around the Delta) should be closely integrated with planning and implementation of water resilience portfolio actions outside and within the Delta. That is, the State should assess and report on what is achievable to increase wet year water capture (storage, enhanced floodplains, groundwater recharge, etc.) and reduce water demand (conservation, recycling, desalination, etc.). Specifically, the Newsom administration should implement the following:

- A) Recognize and plan for extreme volatility of Delta water supplies, considering annual, seasonal, and even daily volatility.
- B) Direct the Natural Resources Agency to credibly plan to capture high flows when they are available in order to reduce exports when flows are low. This plan should include support for regional strategies, including storage and groundwater recharge, to capture and retain flood flows in each of the areas dependent on the Delta for a portion of their water supplies. Amend urban and agricultural water management plan directives to withstand at least three consecutive dry years, while maintaining minimum environmental flows.
- C) Demand an honest, open, and transparent consideration of a robust set of infrastructure alternatives (including intake locations, diversion controls, storage facilities, and climate change protections), while acknowledging the necessity of continued reliance on through-Delta conveyance to meet the co-equal goals and maintain Delta water quality.
- D) Ensure that the State provides sufficient funding for implementation, maintenance, and adaptive management for state projects and public lands in the Delta, such as actions implemented under the updated Bay-Delta Water Quality Control Plan and EcoRestore.

24. ECOSYSTEM/WILDLIFE STRATEGY

Restoring the Delta ecosystem is one of the co-equal goals for the Delta. Chapter 4 of the Delta Plan establishes goals and targets for restoration. The EcoRestore program has initiated more than a dozen restoration projects within the Delta. The Water Resilience Portfolio should describe an integrated multi-objective planning structure to achieve Delta landscape and habitat benchmarks through existing programs: Yolo Bypass, [Paradise Cut](#), [Delta Conservancy Public Lands Strategy](#), North Delta, and Suisun Marsh. Specifically, the Newsom administration should implement the following:

- A) Adopt integrated, multi-benefit, multi-stakeholder, multi-funder landscape-scale processes for reconciling the existing highly altered Delta with a functioning ecosystem. Models for integration include the [Yolo Bypass Partnership](#), the [Suisun Marsh Habitat Restoration and Management Plan](#), the Department of Fish & Wildlife [Delta Conservation Framework](#) and, potentially, the conceptual Paradise Cut flood control, habitat restoration, and water supply project. These processes, while time-consuming, have a better chance of garnering the support needed for implementation than piecemeal “mitigation” projects.

- B) Use pilot restoration projects on both public and private lands to “learn before launch” of a broader Delta-wide restoration strategy.
- C) Involve Delta landowners and residents in planning for integrated, multi-benefit restoration projects to assure both integrated design and community support.
- D) Integrate a broad suite of “good neighbor” strategies in all restoration projects.
- E) Consider and address potential impacts of restoration actions, such as water quality, water supply, hydrology, transportation, and agricultural operations.
- F) Develop a restoration funding strategy that explicitly values ecosystem services and identifies the beneficiaries who can help to pay for them.
- G) To the extent that private lands are used to carry out restoration strategies, employ a measured, funded project solicitation process for land acquisition and project implementation.
- H) Focus on broader Delta ecosystem health and sustainability as the appropriate measure of success while incorporating Endangered Species Act (ESA) protections.
- I) Respond to the accelerating deterioration of the southern Delta with a robust, multi-benefit channel maintenance program to improve ecosystem function, flood control, water quality and water supply.
- J) Use science-based processes, such as the San Francisco Estuary Institute’s *Delta Renewed* report, to generate consistent and integrated reconciliation strategies.

GROUNDWATER

If you have any questions about these recommendations, please contact the subgroup facilitator – Jonas Minton (jmintonp@pcl.org)

25. REAL TIME FLOW AND WATER QUALITY DATA

The State should develop and make publicly available real time flow and water quality data and forecasting tools to maximize groundwater replenishment, environmental uses and flood management.

26. PROJECTIONS OF FUTURE HYDROLOGY

The State should provide local and regional agencies, Tribes, NGO's and others with projections of future hydrology with climate change on a watershed scale.

Here is just one example that goes beyond the already well known prediction of less snow/more rain. With climate change there will be warmer ground temperatures in the Pitt river watershed. This would lead to fewer days with ice on the ground. That will increase springtime groundwater percolation in that large watershed tributary to the Sacramento River. That will significantly alter the runoff hydrology.

27. INVENTORY NEEDED REPAIRS TO CONVEYANCE SYSTEMS

The State should work with local agencies and others to inventory needed repairs to conveyance systems due to groundwater subsidence, identify the benefits that would result, and provide assistance (e.g. cost sharing, low interest loans, etc.) for repair of these compromised conveyance systems.

28. IDENTIFY WAYS TO ASSESS AND IDENTIFY WELLS CONTRIBUTING TO SUBSIDENCE

The State should identify ways to assess and identify wells contributing to subsidence and investigate sustainable zones for pumping.

29. PROVIDE TECHNICAL AND FINANCIAL ASSISTANCE TO LOCAL AGENCIES TO IMPLEMENT GROUNDWATER PLANS

The State should provide technical and financial assistance to local agencies to implement sustainable groundwater sustainability plans including but not limited to geospatial tools, groundwater monitoring wells, local and regional conveyance and treatment system improvements.

30. PROVIDE A PROGRAM OF TECHNICAL ASSISTANCE TO AGRICULTURE AND FARMING COMMUNITIES

The State should provide a program of technical assistance to agriculture and farming communities (e.g. U.C. Cooperative Extension providing information to farmers to help them decide which crops and irrigation methods are more suitable to local conditions, develop and share land use planning tools and assessments in water supply limited regions for the benefit of the local economies and environment).

31. MONITOR IMPACTS OF SGMA AND PROVIDE ASSISTANCE

The State should monitor the need for real time assistance due to socio-economic impacts of SGMA and provide assistance for the most significant impacts.

32. IDENTIFY HOW PERMANENTLY FALLOWED LANDS CAN BE MANAGED TO PREVENT UNDESIRABLE CONDITIONS

The State should work with local agencies and communities to identify how permanently fallowed lands can be managed to prevent undesirable conditions (e.g. noxious weed proliferation, dust storms, etc.). Beneficial uses for that land should be identified along with funding sources for socially, environmentally and economically sustainable management.

33. ASSISTANCE FOR SEA WATER INTRUSION AND OTHER GROUNDWATER QUALITY PROJECTS

The State should identify ways to share costs for sea water intrusion and other groundwater quality projects (e.g. cost sharing, low interest loans, etc.).

34. WATER TRANSFER IMPROVEMENTS

The State should work with local agencies, NGO's, Tribes, and others to review processes for water transfers in more efficient ways and with greater certainty while at the same time protecting existing beneficial uses of potentially transferred water.