California Legislature

Assembly Committee on Water, Parks and Wildlife

2023-2024 Legislative Bill Summary

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Assembly
California Legislature

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December 2024

To all interested parties,

I am pleased to provide this report on the activities of the Assembly Water, Parks, and Wildlife Committee covering the 2023-24 Legislative Session. This report contains summaries of the measures referred to, acted upon, or introduced within the committee's jurisdiction during the 2023-24 Legislative Session. It also details the oversight and informational hearings conducted by the committee during this time.

I would like to acknowledge and thank former Chair Rebecca Bauer-Kahan, Vice Chair Devon Mathis, and other members of the Water, Parks, and Wildlife Committee for their service and engagement on the committee this past legislative session. I also want to recognize Stephanie Mitchell for her excellent work as a California Council on Science Technology (CCST) Science Fellow in 2023; the committee was so impressed with her work that she was brought on as full time staff to the committee at the end of her fellowship!

I look forward to continued collaboration with the returning and new members of the committee, other legislative colleagues, the agencies and departments within the committee's jurisdiction, and stakeholders to address pressing issues within the committee's jurisdiction in the next legislative session.

More information on legislative measures can be found online at http://leginfo.legislature.ca.gov/. Please contact the committee at (916) 319-2096 if you have questions or would like additional information about the bills summarized in this report.

Sincerely,

Diane Papan, Chair
Assembly Water, Parks, and Wildlife Committee

Fish and Wildlife

AB 64 (Mathis) - Beaver restoration.

Would have required the Department of Fish and Wildlife to, through consultation with beaver restoration program partners, develop a program to promote beaver restoration.
Status: Held in Assembly Appropriations Committee

AB 293 (Alanis) - Lifetime hunting and sport fishing licenses: Gold Star Family members.

Would have required the Department of Fish and Wildlife to issue free lifetime hunting and sport fishing licenses to eligible Gold Star Family members.
Status: Held in Assembly Appropriations Committee

AB 345 (Wilson) - Habitat restoration: flood control: advance payments.

Authorizes the Department of Water Resources and the Central Valley Flood Protection Board to provide advance payments, as specified, to local agencies for projects that restore habitat for threatened and endangered species under state or federal law or improve flood protection.
Status: Chapter 647, Statutes of 2023

AB 606 (Mathis) - California Endangered Species Act: accidental take: farms or ranches.

Extends the sunset to authorize accidental take of listed species in the course of otherwise lawful and routine agricultural activities until January 1, 2029, and requires the Department of Fish and Wildlife to conduct outreach to raise awareness within the agricultural community about required reporting of accidental take.
Status: Chapter 447, Statutes of 2023

AB 655 (Petrie-Norris) - Fish and wildlife: aquatic invasive species: Caulerpa.

Prohibits a person from selling, possessing, importing, transporting, transferring, releasing alive in the state, or giving away without consideration all salt water algae of the genus *Caulerpa*, except possession for bona fide scientific research.
Status: Chapter 119, Statutes of 2023

AB 809 (Bennett) - Salmonid populations: California Monitoring Program Fund.

Requires the California Department of Fish and Wildlife to establish the California Monitoring Program to collect comprehensive data on anadromous salmonid populations to inform salmon and steelhead recovery, conservation, and management activities.
Status: Chapter 455, Statutes of 2023

AB 859 (Gallagher) - Hunting: navigable waters.

Would have specified that hunter trespass on private property is limited to lands and lands temporarily inundated by non-navigable waters and that the right of the public to use

navigable waters for hunting, fishing, or other public purpose is protected, consistent with the California Constitution.
Status: Vetoed by Governor.

Governor's Veto Message:
"This bill would modify existing law that prohibits the use of temporarily inundated lands for hunting without written permission to instead authorize the use of temporarily inundated navigable waters for hunting.

I support the intent of this bill to clarify the public's right to navigate temporarily inundated waterways for fishing, hunting, or other enjoyment, as guaranteed by the California Constitution. However, this bill contains overly broad language that could extend access rights beyond the public trust doctrine, thus impacting private property owners' rights. The bill also creates inconsistency with the definition of navigable waters in the Harbors and Navigation Code, which is likely to result in confusion in communities across California. I encourage the Legislature to refine these revisions in subsequent legislation.

For this reason, I cannot sign this bill."

AB 953 (Connolly) - Coastal resources: voluntary vessel speed reduction and sustainable shipping program.
Would have required the Ocean Protection Council to implement a statewide voluntary vessel speed reduction and sustainable shipping program.
Status: Held in Senate Appropriations Committee

AB 1008 (Bauer-Kahan) - The Western Joshua Tree Conservation Act.
When heard by this committee, this bill would have enacted the Western Joshua Tree Conservation Act, which provides for the conservation of the Western Joshua Tree. That language was included in SB 122, the public resources trailer bill (Status: Chapter 51, Statutes of 2023). This bill was later amended out of this committee's jurisdiction into a bill that clarifies that the California Consumer Privacy Act of 2018 applies to personal information regardless of its format.
Status: Chapter 802, Statutes of 2024

AB 1041 (Ramos) - Wildlife: white sage: taking and possession.
Would have made it unlawful to uproot, remove, harvest, cut, or sell the plant white sage and specifies the fines for those activities.
Status: Held in Assembly Water, Parks and Wildlife Committee

AB 1322 (Friedman) - Pesticides: diphacinone.
Prohibits the use of the rodenticide diphacinone in wildlife habitat areas and prohibits the use of diphacinone in the state until the Department of Pesticide Regulation has completed a reevaluation and developed and adopted further restrictions on its use; and makes changes to existing restrictions on the use of second-generation anticoagulant

rodenticides consistent with those placed on diphacinone.
Status: Chapter 836, Statutes of 2023

AB 1407 (Addis) - Coastal resources: ocean recovery and restoration: large-scale restoration.

Would have required the Ocean Protection Council to establish a Kelp Forest and Estuary Restoration and Recovery Framework that has a goal of large-scale restoration of kelp forests, eelgrass meadows, and native oyster beds by 2050.
Status: Ordered to the inactive file on Senate Floor

AB 1581 (Kalra) - Conservation: Restoration Management Permit Act and California State Safe Harbor Agreement Program Act.

When first heard by this committee, this bill would have exempted specified entities from the requirement to obtain a lake and streambed alteration agreement (LSAA) from the Department of Fish and Wildlife for activities authorized pursuant to a specific take authorization provision under the California Endangered Species Act, but requires the same notification requirements and payment of fees as those already in place under the LSAA process. This bill was later amended to establish the Restoration Management Permit and revise the California Safe Harbor Agreement.
Status: Chapter 681, Statutes of 2024

AB 1611 (Lowenthal) - Fish and Game Code: violations.

Makes violations of additional sections of the Fish and Game Code and related regulations, mostly applicable to commercial fishing, punishable as either an infraction or misdemeanor.
Status: Chapter 129, Statutes of 2023

AB 1760 (Committee on Water, Parks, and Wildlife) - Fish and Game Code.

Makes technical changes to the Fish and Game Code recommended by the California Law Revision Commission.
Status: Chapter 132, Statutes of 2023

AB 1838 (Jackson) - Wildlife areas: San Jacinto Wildlife Area.

Would have required the Department of Fish and Wildlife to update the management plan of San Jacinto Wildlife Area (SJWA) every 15 years, develop partnership with various organizations for the stewardship of SJWA, and hold annual public hearings regarding SJWA.
Status: Held in Assembly Appropriations Committee

AB 1889 (Friedman) - conservation element: wildlife and habitat connectivity.

Requires a city, county, or city and county to consider the impact of development on the movement of wildlife and habitat connectivity as part of the conservation element of its general plan.
Status: Chapter 686, Statutes of 2024

AB 2196 (Connolly) - Beaver restoration.

Establishes a program in the Department of Fish and Wildlife to promote beaver restoration across California.
Status: Chapter 705, Statutes of 2024

AB 2214 (Bauer-Kahan) - Ocean Protection Council: microplastics.

Would have required the Ocean Protection Council (OPC) to lead an interagency coordination group to recommend statutory changes, adopt a workplan to implement recommendations from the 2022 Statewide Microplastics Strategy (Strategy), and examine the appropriateness of policies and approaches for reducing microplastic pollution that were developed by other states or countries.
Status: Vetoed by Governor

Governor's Veto Message:
"This bill requires [OPC] to lead an interagency coordination group to recommend statutory changes and adopt a work plan to implement recommendations from the [Strategy].

In 2018, Governor Brown signed Senate Bill 1263, requiring the OPC to develop a [Strategy]. The resulting Strategy, developed by the OPC in coordination with state agencies and external partners, provides a comprehensive and coordinated approach to identify early actions California can take to address microplastic pollution and advance existing microplastic research.

To date, the OPC has invested $7 million in funding for plastic pollution projects, including $3 million in funding specifically for microplastics. Recently funded projects are focused on examining the efficacy of microplastic removal from wastewater treatment plants; the use of low-impact development projects such as rain gardens and infiltration trenches; identifying sources and pathways of microplastics to stormwater; understanding ecological sensitivity to microplastics; and standardizing microplastic monitoring methods.

As scientific understanding advances, the OPC, alongside state agency partners, will evaluate the findings and lessons learned to provide policy recommendations to the Legislature by December 2025, per existing law. I believe this bill and the requirement for agencies to build out work plans ahead of the publishing of policy recommendations is premature.

For these reasons, I cannot sign this bill."

AB 2220 (Bennett) - Fish: commercial fishing.

Would have: (1) Authorized the Department of Fish and Wildlife (DFW) adopt and enforce regulations to require any commercial fishing vessel to carry an independent third-party observer onboard the vessel while operating within state fisheries; (2) Removed the exception that one giant seabass may be taken incidentally by commercial

fishing operations by gill or trammel nets; (3) Removed the exception that white sharks may be taken incidentally by commercial fishing operations by set gill, drift, or roundhaul nets; (4) Extended the prohibition of gill and trammel nets to all ocean waters of the state by January 1, 2025; and (5) Eliminated the authority of DFW to transfer gill or trammel net permits.
Status: Held in Assembly Water, Parks and Wildlife Committee

AB 2252 (Mathis) - Department of Fish and Wildlife: beaver translocation.

Would have required the California Department of Fish and Wildlife, through consultation with appropriate stakeholders, to develop a program to facilitate the translocation of beavers across California for conservation purposes.
Status: Held in Assembly Appropriations Committee

AB 2298 (Hart) - Coastal resources: voluntary vessel speed reduction and sustainable shipping program.

Would have provided for the expansion and implementation of a seasonal voluntary vessel speed reduction and sustainable shipping program off the California coast to reduce whale strikes and air pollution.
Status: Held in Senate Appropriations Committee

AB 2320 (Irwin) - Wildlife Connectivity and Climate Adaptation Act of 2024: wildlife corridors.

Would have declared that it is the state's policy to increase connectivity between habitat areas in order to protect wildlife and requires the annual 30x30 report to outline progress in protecting wildlife corridors.
Status: Held in Senate Appropriations Committee

AB 2330 (Holden) - Endangered species: incidental take: wildfire preparedness activities.

Would have established a process to facilitate the approval of an incidental take permit for listed species, if any, needed by a local agency to undertake wildfire preparedness activities.
Status: Vetoed by Governor

Governor's Veto Message:
"The bill would require the Department of Fish and Wildlife to develop and implement a program to assist local governments with the taking of threatened or engaged species as part of their wildfire preparedness planning efforts.

While I support efforts to increase the pace and scale of wildfire preparedness, this bill creates significant, ongoing costs that should be considered in the annual budget process. In partnership with the Legislature this year, my Administration has enacted a balanced budget that avoids deep program cuts to vital services and protected investments in education, health care, climate, public safety, housing, and social service programs that millions of Californians rely on. It is important to remain disciplined when

considering bills with significant fiscal implications that are not included in the budget, such as this measure.

For these reasons, I cannot sign this bill."

AB 2443 (Juan Carrillo) - Western Joshua Tree Conservation Act: agreements with counties or cities: industrial and commercial projects.

When heard by this committee, this bill would have authorized the Department of Fish and Wildlife to enter into an agreement with any city to delegate to the city the ability to authorize the taking of a western Joshua tree associated with developing commercial and industrial projects, concurrent with the city's approval of the project and if specified conditions are met. This bill was later amended out of this committee's jurisdiction into a bill that authorizes the cities of Lancaster, Palmdale, and Victorville to impose a transaction and use tax that exceeds the 2% statutory limitation.
Status: Chapter 961, Statutes of 2024

AB 2552 (Friedman) - Pesticides: anticoagulant rodenticides.

Expands the existing prohibition on the use of anticoagulant rodenticides to include a prohibition on the use of the first-generation anticoagulant rodenticides (FGARs) chlorophacinone and warfarin, and imposes civil penalties on the unlawful use of FGARs and second-generation anticoagulant rodenticides.
Status: Chapter 571, Statutes of 2024

AB 2558 (Hart) - Department of Transportation: projects: fish passage.

Would have expanded an existing prohibition on constructing impediments to fish passage so that it applies statewide instead of only to certain regions. Would have extended a requirement that the California Department of Transportation (Caltrans) report annually on its progress remediating fish passage barriers from 2025 to 2030 and required Caltrans to complete a programmatic environmental review of these barriers by January 1, 2026.
Status: Held in Assembly Appropriations Committee

AB 2610 (Garcia) - Protected species: authorized take: Salton Sea Management Program: System Conservation Implementation Agreement.

Would have permitted the Department of Fish and Wildlife to authorize the take of fully protected species resulting from the implementation of a system conservation implementation agreement between the U.S. Bureau of Reclamation and the Imperial Irrigation District.
Status: Held in Senate Appropriations Committee

AB 2643 (Wood) - Cannabis cultivation: environmental remediation.

Requires the California Department of Fish and Wildlife (DFW) to conduct a study to create a framework for cannabis site restoration projects, requires DFW to submit a report on illicit cannabis cultivation, clarifies the definition of "controlled substance," and eliminates certain apportionments to the Timber Regulation and Forest Restoration Fund,

instead directing those moneys to the newly created Cannabis-Impacted Lands Restoration Fund.
Status: Chapter 839, Statutes of 2024

AB 2722 (Friedman) - California Endangered Species Act: wolverines.
Would have required the California Department of Fish and Wildlife, in any status assessment for wolverines prepared pursuant to existing law, to assess the feasibility of a population reintroduction or supplementation program with the goal of restoring a viable population of wolverines to the state.
Status: Held in Assembly Appropriations Committee

AB 3162 (Bennett) - Octopus: aquaculture: sale: prohibition.
Prohibits the aquaculture of any species of octopus for human consumption and prohibits the sale, possession, or transportation of an octopus that is known to be the result or product of aquaculture.
Status: Chapter 758, Statutes of 2024

AB 3220 (Papan) - Marine resources: Department of Fish and Wildlife: authority: mariculture.
Would have required the California Department of Fish and Wildlife to consider and, if appropriate, investigate whether and how to seek state certification authority for certain federal permits required for mariculture in state waters.
Status: Held in Senate Appropriations Committee

AB 3238 (Garcia) - Electrical infrastructure projects: endangered species: natural community conservation plans.
Would have provided exemptions from, and streamlining of, planning, environmental review, and environmental permitting processes (including those under the California Endangered Species Act) for the development of electrical infrastructure projects.
Status: Held in Senate Appropriations Committee

ACR 210 (Bennett) - Conservation: Marine Protected Areas.
Calls upon certain state agencies to prioritize the expansion of California's Marine Protected Area (MPA) Network to achieve the state's 30x30 marine conservation goals and makes numerous findings regarding the MPA Network.
Status: Chapter 210, Statutes of 2024

SB 147 (Ashby) - Fully protected species: California Endangered Species Act: authorized take.
Authorizes the Department of Fish and Wildlife to issue a permit that authorizes the take of a fully protected species resulting from impacts attributable to the implementation of specified projects if certain conditions are satisfied.
Status: Chapter 59, Statutes of 2023

SB 371 (Ochoa Bogh) - Undomesticated burros.

Authorizes certain nonprofit organizations to provide care to undomesticated burros, which includes relocation and medical services.

Status: Chapter 149, Statutes of 2023

SB 500 (McGuire) - Fish and wildlife.

Enacts or amends multiple provisions of law relating to commercial fishing.

Status: Chapter 876, Statutes of 2023

SB 579 (Umberg) - Fish: Annual Provisional Stocking Document.

Requires the California Department of Fish and Wildlife to make an updated Annual Provisional Stocking Document available on its website before January 1 of each year.

Status: Chapter 181, Statutes of 2023

SB 867 (Allen) - Drought, Flood, and Water Resilience, Wildfire and Forest Resilience, Coastal Resilience, Extreme Heat Mitigation, Biodiversity and Nature-Based Climate Solutions, Climate Smart Agriculture, Park Creation and Outdoor Access, and Clean Energy Bond Act of 2024.

Places a $10 billion Safe Drinking Water, Wildfire Prevention, Drought Preparedness, and Clean Air Bond Act of 2024 on the November 5, 2024 General Election ballot.

Status: Chapter 83, Statutes of 2024; approved by the voters

SB 1009 (Dahle) - Mount Shasta Fish Hatchery: lease.

Authorizes the director of the Department of General Services, with consent of the Department of Fish and Wildlife, to lease a portion of the Mt. Shasta Fish Hatchery to the Mt. Shasta Museum Association at no cost for continued long-term operation of a historical museum.

Status: Chapter 127, Statutes of 2024

SB 1163 (Dahle) - Wildlife-vehicle collisions: wildlife salvage permits.

Would have made various changes to existing authorization for the Department of Fish and Wildlife and the California Fish and Game Commission to implement wildlife-vehicle collision data collection and wildlife salvage pilot programs.

Status: Held in Assembly Appropriations Committee

SB 1226 (Cortese) - Hunting: navigable waters.

Clarifies that hunting by boat over private land that is temporarily flooded is not trespass if the floodwaters are navigable and that the right of the public to use navigable waters for hunting, fishing, or other public purpose is protected, consistent with the California Constitution.

Status: Chapter 186, Statutes of 2024

Flood Control

AB 277 (Rodriguez) - Extreme Weather Forecast and Threat Intelligence Integration Center.

Would have codified the State-Federal Flood Operations Center in the Department of Water Resources (DWR) and required DWR and the Office of Emergency Services to report to the Legislature on forecasting advancements that would improve flood response.
Status: Held in Senate Appropriations Committee

AB 305 (Villapudua) - California Flood Protection Bond Act of 2024.

Would have placed a $4.5 billion flood protection and dam safety improvement bond before the voters on the November 5, 2024, General Election ballot.
Status: Held in Senate Natural Resources and Water Committee

AB 345 (Wilson) - Habitat restoration: flood control: advance payments.

Authorizes the Department of Water Resources and the Central Valley Flood Protection Board to provide advance payments, as specified, to local agencies for projects that restore habitat for threatened and endangered species under state or federal law or improve flood protection.
Status: Chapter 647, Statutes of 2023

AB 830 (Soria) - Lake and streambed alteration agreements: exemptions.

Would have exempted the temporary operation of existing infrastructure or temporary pumps to divert flood stage flows, or near-flood stage flows, to groundwater recharge if certain conditions are met, from the requirements of lake and streambed alteration agreements.
Status: Held in Senate Appropriations Committee

AB 896 (Aguiar-Curry) - Flood control: City of Woodland: Lower Cache Creek.

Would have adopted and approved the Lower Cache Creek Flood Risk Management Project (Project) and authorized the state to fund up to 99% of the nonfederal costs of the Project.
Status: Held in Assembly Appropriations Committee

AB 923 (Bauer-Kahan) - Flood plain restoration projects: Central Valley: study.

Would have required the Department of Water Resources, in coordination with the Central Valley Flood Protection Board, to conduct broad stakeholder outreach, undertake a study, and report to the Legislature on barriers to, and ways to expedite and scale, the implementation of flood plain restoration projects that provide flood risk reduction and groundwater recharge benefits.
Status: Held in Senate Appropriations Committee

AB 2450 (Aguiar-Curry) - Flood control: City of Woodland: Lower Cache Creek.

Would have adopted and approved the Lower Cache Creek Project (Project) and provided that the Project and supplemental elements may qualify for a state cost share of up to 99%.

Status: Held in Assembly Appropriations Committee

AB 2517 (Vince Fong) - Water: water districts: irrigation districts: long-term maintenance agreements.

Would have required the Department of Water Resources to respond to long-term maintenance agreement requests from irrigation districts within 120 days and to prioritize requests on waterways that have existing short-term agreements.

Status: Held in Assembly Appropriations Committee

SB 586 (Eggman) - Flood management: deadlines.

Extends the date for Mossdale Tract to reach the urban level of flood protection from 2028 to 2040 and for the City of West Sacramento from 2030 to 2040.

Status: Chapter 10, Statutes of 2024

SB 638 (Eggman) - Climate Resiliency and Flood Protection Bond Act of 2024.

Would have placed a $6 billion flood protection and dam safety improvement bond before the voters on the November 5, 2024, General Election ballot.

Status: Held in Assembly Water, Parks and Wildlife Committee

Groundwater

AB 429 (Bennett) - Groundwater wells: permits.

Would have prohibited a local agency from approving permits for groundwater wells in a critically overdrafted basin until it obtains a written verification from the relevant groundwater sustainability agency determining that the well is consistent with sustainable groundwater management and determines that the well will not interfere with existing nearby wells. Only would have applied if one percent of domestic wells in the basin had gone dry.

Status: Held in Assembly Water, Parks and Wildlife Committee

AB 560 (Bennett) - Sustainable Groundwater Management Act: groundwater adjudication.

Would have required a court, before finalizing a groundwater adjudication, to refer the proposed adjudication to the State Water Resources Control Board (State Water Board) for an advisory determination as to whether the adjudication will impair the ability of a groundwater sustainability agency, the State Water Board, or the Department of Water Resources to achieve sustainable groundwater management.

Status: Held Senate Appropriations Committee

AB 779 (Wilson) - Groundwater: adjudication.

Makes various changes relating to the process for groundwater adjudication proceedings to increase transparency, including adding requirements that a court take into account the needs of disadvantaged communities and small farmers when entering a judgement and that groundwater pumpers in a basin subject to an adjudication continue to comply with any applicable groundwater sustainability plan.
Status: Chapter 665, Statutes of 2023

AB 828 (Connolly) - Sustainable groundwater management: managed wetlands.

Would have exempted groundwater use by managed wetlands and small community water systems serving disadvantaged communities from specified authorities of groundwater sustainability agencies (GSA) to regulate groundwater pumping and assess fees under the Sustainable Groundwater Management Act (SGMA).
Status: Vetoed by Governor

Governor's Veto Message:
“This bill excludes small community water systems serving disadvantaged communities and managed wetlands from [GSA]…extraction limits and fees.
Ensuring safe and reliable drinking water for disadvantaged communities remains a key priority for this Administration. In the last five years, we have distributed more than $1 billion in grants to disadvantaged communities to rectify failing drinking water systems. While I appreciate the author's intent to address the needs of small water systems serving these communities, excluding some groundwater extractors from GSAs does not align with the goals of the [SGMA]…to analyze groundwater basins comprehensively to ensure future long-term sustainability.

Groundwater accounts for 40 to 60 percent of our water supplies, and many communities, especially in the Central Valley, are groundwater-dependent. SGMA serves as a critical buffer to protect drinking water supplies against the impacts of drought and climate change. Successful implementation of SGMA is also integral to protecting state infrastructure from the effects of subsidence.

On September 16th, we marked the 10-year anniversary of the enactment of SGMA. While I am proud of all the milestones we have met, and the investments my Administration has made, I also recognize there is still much we need to accomplish. I believe we should continue to implement the SGMA framework as is without creating exceptions for certain groundwater extractors.

For these reasons, I cannot sign this bill.”

AB 830 (Soria) - Lake and streambed alteration agreements: exemptions.

Would have exempted the temporary operation of existing infrastructure or temporary pumps to divert flood stage flows, or near-flood stage flows, to groundwater recharge if certain conditions are met, from the requirements of lake and streambed alteration agreements.

Status: Held in Senate Appropriations Committee

AB 900 (Bennett) - Aquifer recharge.

Would have required the Department of Water Resources to complete a report outlining best practices for groundwater recharge and other specified information as well as guidelines for a streamlined granting process for recharge projects that adhere to best practices.

Status: Held in Assembly Appropriations Committee

AB 1563 (Bennett) - Groundwater sustainability agency: groundwater extraction permit: verification.

Would have prohibited a local agency from approving permits for groundwater wells in a critically over-drafted basin until it obtains a written verification from the relevant groundwater sustainability agency determining that the well is consistent with sustainable groundwater management and a report by a licensed professional stating that the well will not interfere with existing nearby wells.

Status: Held in Senate Local Government Committee

AB 2060 (Soria) - Lake and streambed alteration agreements: exemptions.

Would have exempted a temporary water right permit ("temporary urgency permit") to divert water for groundwater recharge from Lake and Streambed Alteration Agreement requirements if the water diversion commences before January 1, 2029.

Status: Held file on the Senate Floor

AB 2079 (Bennett) - Groundwater extraction: large-diameter, high-capacity water wells: permits.

Would have required greater inter-agency coordination and public notice regarding applications to drill water wells and prohibits a local agency from approving new "large-diameter, high-capacity" wells within one-quarter mile of domestic wells and in areas experiencing significant land subsidence.

Status: Died in Senate Natural Resources and Water Committee

AB 2799 (Vince Fong) - Sustainable groundwater management: small farms: fees.

Would have required groundwater sustainability agencies to consider the efforts of small farms to recharge groundwater when assessing fees on pumpers.

Status: Held in Senate Natural Resources and Water Committee

SB 651 (Grove) - Water storage and recharge: California Environmental Quality Act.

Streamlines judicial review for specified groundwater management projects that are challenged under the California Environmental Quality Act.

Status: Held in Assembly Natural Resources Committee

Miscellaneous

AB 66 (Mathis) - Natural Resources Agency: water storage projects: permit approval.

Would have required the departments, boards, and commissions within the Natural Resources Agency to take all reasonable steps to approve the necessary permits for water storage projects within 180 days and post status updates for each permit application on its website.

Status: Held in Assembly Appropriations Committee

AB 613 (Haney) - Historical resources: legacy businesses: registry.

Would have required the State Historical Resources Commission to establish and maintain a registry of legacy businesses.

Status: Held in Assembly Appropriations Committee

AB 720 (Addis) - California Rangeland, Grazing Land, and Grassland Protection Program: grants for local programs.

Would have expanded the California Rangeland, Grazing Land, and Grassland Protection Program administered by the Wildlife Conservation Board to include grants to enhance or restore California's private rangelands.

Status: Held in Senate Appropriations Committee

AB 1567 (Garcia) - Safe Drinking Water, Wildfire Prevention, Drought Preparation, Flood Protection, Extreme Heat Mitigation, and Workforce Development Bond Act of 2024.

Would have placed a $15,955,000,000 climate resilience general obligation bond before the voters on the March 5, 2024, Primary Election ballot.

Status: Held in Senate Natural Resources and Water Committee

AB 1692 (Dixon) - Ocean resources: California Ocean Science Trust: reports.

Would have made minor changes to the dissemination of the annual report generated by the Ocean Science Trust.

Status: Held in Assembly Water, Parks and Wildlife Committee

AB 1797 (Wood) - State crustacean.

Declares that the Dungeness crab (*Metacarcinus magister*) is the official state crustacean of California and makes findings and declarations regarding the ecological and social value of the Dungeness crab.

Status: Chapter 667, Statutes of 2024

AB 1850 (Pellerin) - State slug.

Declares that the banana slug (*Ariolimax*) is the official state slug of California and makes findings and declarations regarding the ecological value of the banana slug.
Status: Chapter 668, Statutes of 2024

AB 1998 (Mathis) - California Environmental Quality Act: Department of Fish and Wildlife: review of environmental documents: revenue and cost tracking and accounting.

Would have required the Department of Fish and Wildlife (DFW) to track and account for all revenues collected, and costs incurred, in carrying out its role as a responsible or trustee agency under the California Environmental Quality Act. DFW would have had to track and account for these revenues and costs separately.
Status: Held in Assembly Water, Parks and Wildlife Committee

AB 2060 (Soria) - Lake and streambed alteration agreements: exemptions.

Would have exempted a temporary water right permit ("temporary urgency permit") to divert water for groundwater recharge from Lake and Streambed Alteration Agreement requirements if the water diversion commences before January 1, 2029.
Status: Held on the Senate Floor

AB 2091 (Grayson) - California Environmental Quality Act: exemption: public access: nonmotorized recreation.

Establishes an exemption from the California Environmental Quality Act for a change in use to allow public access for nonmotorized recreation in areas acquired for open space or park purposes or for conversion of rail lines to trails by the Great Redwood Trail Agency.
Status: Chapter 377, Statutes of 2024

AB 2124 (Davies) - Department of Parks and Recreation: swimming lesson vouchers.

Would have required, upon appropriation, the Department of Parks and Recreation to administer the Swimming Lesson Voucher Program to increase water safety by offering vouchers for swimming lessons at no cost to low-income children under the age of four.
Status: Held in Assembly Appropriations Committee

AB 2214 (Bauer-Kahan) - Ocean Protection Council: microplastics.

Would have required the Ocean Protection Council (OPC) to lead an interagency coordination group to recommend statutory changes, adopt a workplan to implement recommendations from the 2022 Statewide Microplastics Strategy (Strategy), and examine the appropriateness of policies and approaches for reducing microplastic pollution that were developed by other states or countries.
Status: Vetoed by Governor

Governor's Veto Message:
"This bill requires [OPC] to lead an interagency coordination group to recommend

statutory changes and adopt a work plan to implement recommendations from the [Strategy].

In 2018, Governor Brown signed Senate Bill 1263, requiring the OPC to develop a [Strategy]. The resulting Strategy, developed by the OPC in coordination with state agencies and external partners, provides a comprehensive and coordinated approach to identify early actions California can take to address microplastic pollution and advance existing microplastic research.

To date, the OPC has invested $7 million in funding for plastic pollution projects, including $3 million in funding specifically for microplastics. Recently funded projects are focused on examining the efficacy of microplastic removal from wastewater treatment plants; the use of low-impact development projects such as rain gardens and infiltration trenches; identifying sources and pathways of microplastics to stormwater; understanding ecological sensitivity to microplastics; and standardizing microplastic monitoring methods.

As scientific understanding advances, the OPC, alongside state agency partners, will evaluate the findings and lessons learned to provide policy recommendations to the Legislature by December 2025, per existing law. I believe this bill and the requirement for agencies to build out work plans ahead of the publishing of policy recommendations is premature.

For these reasons, I cannot sign this bill."

AB 2285 (Rendon) - Natural resources: equitable outdoor access: 30x30 goal: urban nature-based projects.

Would have directed the Governor's office, state agencies, and the Legislature to aspire to recognize the coequal goals of the state's 30x30 goal and Outdoors for All initiative when distributing resources, and, to the extent practical, maximize investment in historically underserved urban communities consistent with those initiatives. This bill would have also required state funding agencies to allow, to the extent consistent with the funding source, the funding program’s authorizing statutes, and the state’s goals, for urban nature-based projects on degraded lands to be eligible and competitive for state funds.
Status: Held in Senate Appropriations Committee

AB 2409 (Papan) - Office of Planning and Research: permitting accountability transparency dashboard.

Would have required the Office of Planning and Research to create and maintain a publicly accessible permitting accountability website (dashboard) by January 1, 2026. The dashboard shall display specified information regarding permits for public water, flood, energy, and environmental infrastructure projects that cost $100 million or more.
Status: Held in Assembly Appropriations Committee

AB 2465 (Gipson) - Equity: socially disadvantaged groups and organizations: nonprofit organizations: grants.

Would have required specified state entities to prioritize socially disadvantaged groups under various grant programs, and includes descendants of enslaved persons in the United States in the definition of socially disadvantaged group.
Status: Held on Assembly Floor

AB 2504 (Dixon) - State seashell.

Declares that the shell of the black abalone (*Haliotis cracherodii*) is the official state seashell.
Status: Chapter 669, Statutes of 2024

AB 2643 (Wood) - Cannabis cultivation: environmental remediation.

Requires the California Department of Fish and Wildlife (DFW) to conduct a study to create a framework for cannabis site restoration projects, requires DFW to submit a report on illicit cannabis cultivation, clarifies the definition of "controlled substance," and eliminates certain apportionments to the Timber Regulation and Forest Restoration Fund, instead directing those moneys to the newly created Cannabis-Impacted Lands Restoration Fund.
Status: Chapter 839, Statutes of 2024

AB 3007 (Hoover) - California Environmental Quality Act: record of environmental documents: format.

Permits a county clerk and the Office of Planning and Research to maintain documents that make up the administrative record under the California Environmental Quality Act or in either electronic or paper, or both, format.
Status: Chapter 583, Statutes of 2024

AB 3023 (Papan) - Environmental protection: lands and coastal waters: conservation goals.

When referred to this committee, this bill would have required the California Natural Resources Agency (CNRA) to post on its internet website the criteria used to determine whether or not to approve plans submitted in pursuit of reaching the 30x30 goal. This bill was later amended out of this committee's jurisdiction into a bill that would have required the Wildfire and Forest Resilience Task Force to develop an interagency funding strategy to promote integrated, multiple benefit projects to achieve outcomes more aligned with an ecosystem-based approach, and requires CNRA to review and update relevant grant guidelines for specified programs to encourage multi-benefit projects.
Status: Vetoed by Governor

Governor's Veto Message:
"This bill would require creating an interagency funding strategy to "align ongoing planning and implementation" of state actions to deliver on our climate change and biodiversity goals, including wildfire and watershed restoration activities.

While I appreciate the author's intent to seek greater alignment between specific state programs, this bill duplicates existing efforts already well underway to achieve integrated outcomes on California's climate change and biodiversity goals. For example, nearly 45 state entities under my Administration are developing nature-based solutions to achieve the targets created as a result of AB 1757 (C. Garcia, 2022). This level of involvement and integration was possible due to years of interagency collaboration and process-building.

Furthermore, this bill would result in state General Fund impacts not included in the 2024 Budget Act, and could present legal challenges surrounding General Obligation bonds and how existing programs would manage inconsistencies with bond law. In partnership with the Legislature this year, my Administration has enacted a balanced budget that avoids deep program cuts to vital services and protected investments in education, health care, climate, public safety, housing, and social service programs that millions of Californians rely on. It is important to remain disciplined when considering bills with significant fiscal implications that are not included in the budget, such as this measure.

For these reasons, I cannot sign this bill."

AB 3227 (Alvarez) - California Environmental Quality Act: exemption: stormwater facilities: routine maintenance.

Establishes an exemption from the California Environmental Quality Act for routine maintenance of specific public stormwater facilities. This bill was amended out of this committee's jurisdiction during its first referral to Assembly Natural Resources Committee.
Status: Chapter 761, Statutes of 2024

AB 3238 (Garcia) - Electrical infrastructure projects: endangered species: natural community conservation plans.

Would have provided exemptions from, and streamlining of, planning, environmental review, and environmental permitting processes (including those under the California Endangered Species Act) for the development of electrical infrastructure projects.
Status: Held in Senate Appropriations Committee

ACA 2 (Alanis) - Water Resiliency Act of 2024.

Would have proposed amendments to the California Constitution to continuously appropriate 1.5% of the General Fund to the California Water Commission to finance specified water infrastructure projects. Would have permitted water projects that receive these funds to obtain expedited administrative review and streamlined judicial review of any challenges under the California Environmental Quality Act.
Status: Held in Assembly Water, Parks and Wildlife Committee

ACR 210 (Bennett) - Conservation: Marine Protected Areas.

Calls upon certain state agencies to prioritize the expansion of California’s Marine Protected Area (MPA) Network to achieve the state’s 30x30 marine conservation goals

and makes numerous findings regarding the MPA Network.
Status: Chapter 210, Statutes of 2024

SB 470 (Alvarado-Gil) - Water: Urban Water Community Drought Relief program: Small Community Drought Relief program: high fire hazard and very high fire hazard severity zones.

Would have codified the Urban Water Community Drought Relief program and the Small Community Drought Relief program at the Department of Water Resources and authorized these programs, upon appropriation, to fund projects that provide benefits in addition to drought relief, including projects that reduce the risk of wildfires for communities through water delivery system improvements for fire suppression purposes in high- and very high-fire hazard severity zones.
Status: Vetoed by Governor

Governor's Veto Message:
"This bill would codify two grant programs within the Department of Water Resources established by the Budget Act of 2021: the Urban Water Community Drought Relief Program and the Small Community Drought Relief Program. It also authorizes these programs to fund benefits in addition to drought relief, including projects that reduce the risk of wildfire.

I thank the author for the commitment to support under-resourced communities most at risk of wildfire, and the intent of this bill is in line with work currently underway within my Administration. The California Governor's Office of Emergency Services recently launched the Prepare California Initiative, a grant program focused on building community resilience amongst vulnerable individuals living in high hazard risk communities.

However, the two programs this bill seeks to expand have exhausted all funding appropriated in the 2021 Budget and as such, it is unnecessary to formally establish the programs in statute.

For these reasons, I cannot sign this bill."

SB 732 (Menjivar) - Bats.

Declares that the pallid bat (*Antrozous pallidus*) is the official state bat of California and makes findings and declarations regarding the numerous benefits that bats provide to society.
Status: Chapter 502, Statutes of 2023

SB 753 (Caballero) - Cannabis: water resources.

This bill was referred to this committee but later amendments removed provisions of this bill within the committee's jurisdiction.
Status: Chapter 504, Statutes of 2023

SB 1009 (Dahle) - Mount Shasta Fish Hatchery: lease.

Authorizes the director of the Department of General Services, with consent of the Department of Fish and Wildlife, to lease a portion of the Mt. Shasta Fish Hatchery to the Mt. Shasta Museum Association at no cost for continued long-term operation of a historical museum.

Status: Chapter 127, Statutes of 2024

SB 1324 (Limón) - California Ocean Science Trust: agreements.

Authorizes the California Natural Resources Agency, the California Environmental Protection Agency, or entities within those agencies to enter into a direct agreement with the California Ocean Science Trust for the delivery of peer reviews, technical guidance, or scientific reports and analyses.

Status: Chapter 470, Statutes of 2024

SB 1402 (Min) - 30x30 goal: state agencies: adoption, revision, or establishment of plans, policies, and regulations.

Would have required all state agencies, boards, offices, commissions, and conservancies to consider the 30x30 goal when adopting, revising, or establishing plans, policies, or regulations that directly affect the use of coastal waters or land, management of natural resources, or biodiversity conservation.

Status: Held in Assembly Appropriations Committee

SJR 10 (Dodd) - Berryessa Snow Mountain National Monument Expansion Act.

Would have urged the U.S. President and Congress to expand the Berryessa Snow Mountain National Monument to include the Walker Ridge (Molok Luyuk) Addition.

Status: Held Assembly Water, Parks and Wildlife Committee

SJR 16 (Padilla) - The Chuckwalla, Joshua Tree, and Kw'tsán National Monuments.

Urges the U.S. President to use the Antiquities Act of 1906 to establish the Chuckwalla National Monument, the Kw'tsán National Monument, and a National Park Service-managed Joshua Tree National Monument adjacent to Joshua Tree National Park.

Status: Chapter 208, Statutes of 2024

SJR 17 (Allen) - The Sáttítla National Monument.

Urges the U.S. President to use the Antiquities Act to establish the Sáttítla National Monument.

Status: Chapter 209, Statutes of 2024

Parks and Recreation

AB 308 (Alanis) - State parks: free entry and access: Gold Star Family members.

Would have required the Department of Parks and Recreation to issue a pass entitling eligible Gold Star Family members to free day used of any unit of the state park system that is operated by the state.

Status: Held in Assembly Appropriations Committee

AB 401 (Mathis) - State parks: park entrance fees: waivers: 4th grade children.

Would have required the Department of Parks and Recreation, beginning July 1, 2024, to waive day use entrance fees for any child in fourth grade with a valid federal "Every Kid Outdoors" pass.

Status: Held in Assembly Appropriations Committee

AB 411 (Bennett) - California Recreational Trails and Greenways Act.

Would have required the Department of Parks and Recreation to establish the California Recreational Trails and Greenways Program to award grants to create, improve, expand, and restore non-motorized recreational trails.

Status: Held in Assembly Appropriations Committee

AB 566 (Pellerin) - Department of Parks and Recreation: Big Basin Redwoods, Año Nuevo, and Butano State Parks and the Santa Cruz Mountains region.

Would have authorized the Department of Parks and Recreation to enter into an agreement with an eligible entity to permanently protect lands in, or for, the state park system and to acquire land on its own behalf.

Status: Held in Assembly Appropriations Committee

AB 612 (Berman) - State parks: Pedro Point.

Would have required the Department of Transportation to sell and transfer specified surplus state property it owns in the City of Pacifica to the Department of Parks and Recreation.

Status: Held in Assembly Appropriations Committee

AB 618 (Bauer-Kahan) - State parks: reservations: discounts.

Requires and authorizes changes to the Department of Parks and Recreation camping reservation system to deter late cancellations and no shows, and institutes a reservation drawing for up to five of the most popular camping and lodging sites.

Status: Chapter 536, Statutes of 2023

AB 833 (Luz Rivas) - State parks: Rio de Los Angeles State Park: expansion plan: Los Angeles River.

When heard by this committee, this bill would have required the Department of Parks and Recreation to develop a plan to expand the Rio de Los Angeles State Park on lands along the Los Angeles River and its tributaries. This bill was later amended out of this committee's jurisdiction into a bill that would have required the Department of Transportation to submit to the Legislature by 2030 a plan for adding caps to freeway segments that divide disadvantaged, underrepresented, and urban communities.
Status: Held in Senate Transportation Committee at the request of the author.

AB 966 (Davies) - Division of Boating and Waterways: report to the Legislature: shoreline erosion control and public beach programs.

Would have directed the Division of Boating and Waterways in the Department of Parks and Recreation, in cooperation with the State Coastal Conservancy, to prepare and submit a joint report to the Legislature no later than January 1, 2025, on shoreline erosion control and public beach restoration programs.
Status: Vetoed by Governor

Governor's Veto Message:
"This bill would require the Division of Boating and Waterways and the State Coastal Conservancy to submit a report to the Legislature about shoreline erosion control efforts.

The cost of this one-time report is substantial. In addition, the 2022 and 2023 Budgets provide a combined total of $930 million General Fund to the State Coastal Conservancy for coastal resilience projects. While this funding is not specifically dedicated to coastal erosion, projects funded through these appropriations will address the concerns this measure intends to identify.

For these reasons, I cannot sign this bill."

AB 1056 (Davies) - Department of Parks and Recreation: California Youth Water Safety State Grant.

Would have required the Department of Parks and Recreation to establish and administer the California Youth Water Safety State Grant to make funding available to nonprofit organizations, special districts, and a city or county parks and recreation department to provide free swimming lessons for low-income and at-risk youth.
Status: Held in Assembly Appropriations Committee

AB 1150 (Committee on Water, Parks, and Wildlife) - Department of Parks and Recreation: community access agreements: interpretive services and visitor services.

Authorizes the Department of Parks and Recreation through January 1, 2029, to enter into community access agreements with eligible entities to provide interpretive services and visitor services at units of the state parks system to underserved park users; adds

Native American tribes as entities eligible for competitive grants from the Recreational Trails Fund; updates references related to Golden Bear Pass eligibility; and decouples collection of vessel registration fees from zebra and quagga mussel infestation fees.
Status: Chapter 831, Statutes of 2023

AB 1212 (Hart) - Scenic bikeways and trails.

Would have required the Department of Parks and Recreation to establish a scenic bikeway network.
Status: Held in Assembly Appropriations Committee

AB 1240 (Berman) - State park system: annual reports.

Would have required the Department of Parks and Recreation to include the Legislature in its annual report about the state park system.
Status: Held in Assembly Water, Parks and Wildlife Committee

AB 1806 (Chen) - Department of Parks and Recreation: Orange County Coastkeeper Garden: grant contract: termination.

Would have required the Department of Parks and Recreation (State Parks) to terminate, upon mutual agreement, the grant contract between State Parks and the Orange County Coastkeeper.
Status: Held in Assembly Water, Parks and Wildlife Committee

AB 1937 (Berman) - State parks: Pedro Point.

Requires the Department of Transportation to sell and transfer certain surplus state property it owns in the City of Pacifica to the Department of Parks and Recreation for state park purposes.
Status: Chapter 365, Statutes of 2024

AB 2038 (Quirk-Silva) - State parks: outdoor equity programs.

Would have required the Department of Parks and Recreation to treat the use of a state park by an eligible entity providing outdoor equity programs to up to 30 participants in the same manner as the use of the state park by the general public.
Status: Vetoed by Governor

Governor's Veto Message:
"This bill would prohibit the California Department of Parks and Recreation from requiring special event permits, and associated fees, for outdoor recreation programming within the State Park System for groups of up to 30 people, as specified.

This bill is premature given the legislation I signed last year, Assembly Bill 1150 (Committee on Water, Parks and Wildlife, 2023), which expanded and enhanced access to the State Park System for underserved park users, including free and reduced-cost access through the use of "community access agreements" with nonprofit organizations.

For this reason, I cannot sign this bill."

AB 2091 (Grayson) - California Environmental Quality Act: exemption: public access: nonmotorized recreation.

Establishes an exemption from the California Environmental Quality Act for a change in use to allow public access for nonmotorized recreation in areas acquired for open space or park purposes or for conversion of rail lines to trails by the Great Redwood Trail Agency.
Status: Chapter 377, Statutes of 2024

AB 2103 (Pellerin) - Department of Parks and Recreation: Big Basin Redwoods, Año Nuevo, and Butano State Parks.

Would have authorized the Department of Parks and Recreation (State Parks), rather than through the State Public Works Board (SPWB), to acquire land or real property for Big Basin Redwoods, Año Nuevo, and Butano State Parks, and would have provided for additional requirements when doing so, until January 1, 2030.
Status: Vetoed by Governor

Governor's Veto Message:
"This bill would authorize [State Parks], until January 1, 2030, to purchase real property for Big Basin Redwoods, Año Nuevo, and Butano state parks, without [SPWB's] review. In addition, this bill would require [State Parks] to comply with new public hearing requirements for acquisitions related to those state park units.

While the intent of this bill is to streamline [State Parks'] acquisition process for park units impacted by the CZU Lightning Fire Complex, its public hearing requirements may slow the acquisition process and would significantly increase the [State Parks'] costs.

In partnership with the Legislature this year, my Administration has enacted a balanced budget that avoids deep program cuts to vital services and protected investments in education, health care, climate, public safety, housing, and social service programs that millions of Californians rely on. It is important to remain disciplined when considering bills with significant fiscal implications that are not included in the budget, such as this measure.

For this reason, I cannot sign this bill."

AB 2124 (Davies) - Department of Parks and Recreation: swimming lesson vouchers.

Would have required, upon appropriation, the Department of Parks and Recreation to administer the Swimming Lesson Voucher Program to increase water safety by offering vouchers for swimming lessons at no cost to low-income children under the age of four.
Status: Held in Assembly Appropriations Committee

AB 2285 (Rendon) - Natural resources: equitable outdoor access: 30x30 goal: urban nature-based projects.

Would have directed the Governor's office, state agencies, and the Legislature to aspire to recognize the coequal goals of the state's 30x30 goal and Outdoors for All initiative when distributing resources, and, to the extent practical, maximize investment in historically underserved urban communities consistent with those initiatives. This bill would have also required state funding agencies to allow, to the extent consistent with the funding source, the funding program's authorizing statutes, and the state's goals, for urban nature-based projects on degraded lands to be eligible and competitive for state funds.

Status: Held in Senate Appropriations Committee

AB 2440 (Reyes) - 30x30 goal: partnering state agencies: Department of Parks and Recreation.

Requires the California Natural Resources Agency to prioritize promoting and supporting partnering state agencies and departments, including, but not limited to, the Department of Parks and Recreation, in the acquisition and responsible stewardship of state land.

Status: Chapter 716, Statutes of 2024

AB 2713 (Hoover) - State parks: armed services: free access.

Would have required the Department of Parks and Recreation to grant free access to state parks to a veteran or active-duty or reserve military personnel.

Status: Held in Assembly Appropriations Committee

AB 3036 (Rendon) - Los Angeles River: river ranger program.

Would have required the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy and the Santa Monica Mountains Conservancy to collaborate with the Department of Parks and Recreations, the California Conservation Corps, and the State Lands Commission, to develop a permanent Los Angeles River ranger program.

Status: Held in Assembly Appropriations Committee

AB 3163 (Mathis) - State parks: armed services: fee waiver.

Expands the authority of the Departments Parks and Recreation (State Parks) to offer reduced fee or free day use of state parks operated by State Parks to veterans, active duty, or reserve military personnel to any additional days State Parks finds appropriate.

Status: Held in Assembly Appropriations Committee

AB 3182 (Lackey) - Land conservation: California Wildlife, Coastal, and Park Land Conservation Act: County of San Bernardino.

Would have expanded the allowable uses of lands acquired with Proposition 70 funding from open-space and agricultural preservation purposes to include park and recreational purposes, including playgrounds, recreational venues, sporting venues, amphitheaters, and preservation of historical resources, in San Bernardino County (County). Further, this bill would have allowed the County to use revenues from the sale or exchange of lands acquired with Proposition 70 funding for improvements to any lands, within a specified

area, that the County owns, has a conservation easement in or a deed restriction on, or leases from the federal government or a public entity for park, recreational, agricultural preservation, or open-space conservation purposes.
Status: Held in Senate Appropriations Committee

SB 256 (Dodd) - Parklands: City of Davis.

Authorizes the City of Davis (City) to convey a conservation easement, lease, or license for a habitat conservation project, the geologic storage of carbon dioxide, and specified agricultural activities on parcels acquired by the City with funding from Proposition 70.
Status: Chapter 305, Statutes of 2023

SB 632 (Caballero) - Vehicles: off-highway recreation: Red Rock Canyon State Park.

Authorizes the Department of Parks and Recreation, through January 1, 2030, to establish a pilot project to designate combined-use highways on roads in Red Rock Canyon State Park in order to link existing off-highway motor vehicle trails, trailheads, and recreational-use areas on federal Bureau of Land Management or United States Forest Service lands.
Status: Chapter 592, Statutes of 2024

SB 668 (Dodd) - State parks: operating agreements.

Indefinitely authorizes the Department of Parks and Recreation to enter into operating agreements with qualified nonprofit organizations for the development, improvement, restoration, care, maintenance, administration, or operation of a unit or units, or portion of a unit, of the state park system, as agreed to by the director.
Status: Chapter 183, Statutes of 2023

SB 708 (Jones) - Vehicles: off-highway motor vehicles: off-highway motorcycles: sanctioned event permit.

Creates a “sanctioned event permit” that allows a California resident, upon payment of a fee, to operate certain off-road motorcycles at sanctioned events, beginning January 1, 2026.
Status: Chapter 446, Statutes of 2024

SB 867 (Allen) - Drought, Flood, and Water Resilience, Wildfire and Forest Resilience, Coastal Resilience, Extreme Heat Mitigation, Biodiversity and Nature-Based Climate Solutions, Climate Smart Agriculture, Park Creation and Outdoor Access, and Clean Energy Bond Act of 2024.

Places the $10 billion Safe Drinking Water, Wildfire Prevention, Drought Preparedness, and Clean Air Bond Act of 2024 on the November 5, 2024 General Election ballot.
Status: Chapter 83, Statutes of 2024; approved by the voters

SB 1332 (Allen) - The Conservation Stewardship Endowment Fund.

Would have established the Conservation Stewardship Endowment Fund to generate funds for the maintenance and stewardship of lands owned and managed by the

Department of Parks and Recreation.
Status: Held in Assembly Appropriations Committee

Water

AB 30 (Ward) - Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program.

Reconfigures the existing Atmospheric Rivers Research, Mitigation, and Climate Forecasting Program within the Department of Water Resources.
Status: Chapter 134, Statutes of 2023

AB 62 (Mathis) - Statewide water storage: expansion.

Would have established a statewide goal to increase above- and below-ground water storage capacity by a total of 3.7 million acre-feet (MAF) by the year 2030 and a total of 4.0 MAF by the year 2040.
Status: Held in Assembly Appropriations Committee

AB 305 (Villapudua) - California Flood Protection Bond Act of 2024.

Would have placed a $4.5 billion flood protection and dam safety improvement bond before the voters on the November 5, 2024, General Election ballot.
Status: Held in Senate Natural Resources and Water Committee

AB 422 (Alanis) - Natural Resources Agency: statewide water storage: tracking.

Would have required the Natural Resource Agency, on or before June 1, 2024, to post on its website information tracking the progress to increase statewide water storage.
Status: Held in Assembly Water, Parks and Wildlife Committee

AB 460 (Bauer-Kahan) - State Water Resources Control Board: water rights and usage: interim relief: procedures.

Increases penalties for violations of cease and desist orders and curtailment orders issued by the State Water Resources Control Board (State Water Board) and requires the State Water Board to annually adjust all civil and administrative penalties based on inflation beginning January 1, 2026.
Status: Chapter 342, Statutes of 2024

AB 676 (Bennett) - Water: general state policy.

Would have clarified, for purposes of implementing state policy regarding the management of water resources, what constitutes “domestic purposes.”
Status: Vetoed by Governor

Governor's Veto Message:
“I am returning Assembly Bill 676 without my signature. Current law establishes, as state policy, the highest use of water shall be for domestic purposes. This bill would supplement that policy by specifying what constitutes domestic use, such as human consumption, household gardening and livestock care, and fire suppression.

While I appreciate the author's intent to clarify existing law, which has remained untouched since 1943, this bill has the potential to introduce unnecessary legal uncertainty. Courts have defined domestic use for nearly half a century, and codifying specific definitions now unnecessarily risks inadvertent omissions.

For these reasons, I cannot sign this bill."

AB 754 (Papan) - Water management planning: automatic conservation plan.

Would have required an urban or agricultural water agency that relies on a single reservoir for at least 50% of its water supply to include water shortage response actions in its urban water management plan or agricultural water management plan, as applicable, that are implemented when water storage falls below specified levels.
Status: Held in Senate Appropriations Committee

AB 755 (Papan) - Water: public entity: cost-of-service analysis.

Requires a public entity to conduct a "water usage demand analysis" before completing, or as part of, a cost-of-service analysis used to set fees and charges for water service pursuant to Proposition 218. Requires the water usage demand analysis to identify the costs of water service for the highest users incurred by the public entity and the average annual volume of water delivered to high water users.
Status: Chapter 542, Statutes of 2023

AB 1024 (Aguiar-Curry) - Water rights: small irrigation use: lake or streambed alteration agreements.

Would have exempted entities in specified Central Coast and Northern California counties that hold a registration for small domestic, small irrigation, or livestock stockpond water use from the requirement to enter into a lake or streambed alteration agreement with the Department of Fish and Wildlife.
Status: Held in Senate Appropriations Committee

AB 1072 (Wicks) - Water conservation and efficiency: low-income residential customers.

Would have required urban water suppliers and wholesalers to offer water conservation programs to low-income residents by January 1, 2025 and provides such programs may be offered through a residential water conservation and efficiency program so long as 40% of the funds are allocated to low-income customers and disadvantaged communities.
Status: Held in Assembly Appropriations Committee

AB 1205 (Bauer-Kahan) - Water rights: sale, transfer, or lease: agricultural lands.

When first heard by this committee, this bill would have declared that speculation or profiteering by an investment fund in the sale, transfer, or lease of any surface or groundwater right previously put to use on agricultural lands within the state shall be considered a waste or unreasonable use of water within the meaning Section 2 of Article

X of the California Constitution. This bill was amended in the Senate to address an issue outside of this committee's jurisdiction.
Status: Chapter 677, Statutes of 2024

AB 1272 (Wood) - State Water Resources Control Board: drought planning.

Would have required, upon appropriation, the State Water Resources Control Board, in consultation with the Department of Fish and Wildlife, to adopt principles and guidelines for the diversion and use of water in applicable coastal watersheds during times of water shortage.
Status: Vetoed by Governor

Governor's Veto Message:
"The bill would require the State Water Resources Control Board, in consultation with the Department of Fish and Wildlife, to adopt principles and guidelines for diversion and use of water in certain coastal watersheds during times of water shortage for drought preparedness and climate resiliency.

While I support efforts to protect coastal watersheds from the extreme dry conditions exacerbated by climate change, this bill creates significant, ongoing costs in the millions of dollars that should be considered in the annual budget process.

In partnership with the Legislature, we enacted a budget that closes a $46.8 billion deficit in 2024-25 and a projected deficit of $27.3 billion in 2025-26 through balanced solutions that avoided deep program cuts to vital services and protected investments in education, health care, climate, public safety, housing, and social service programs that millions of Californians rely on. It is important to remain disciplined when considering bills with significant fiscal implications that are not included in the budget, such as this measure.

For this reason, I cannot sign this bill."

AB 1337 (Wicks) - State Water Resources Control Board: water shortage enforcement.

Would have authorized the State Water Resources Control Board to issue a curtailment order for any diversion, regardless of basis of right, when water is not available under the diverter’s priority of right.
Status: Held in Senate Natural Resources and Water Committee

AB 1613 (Bains) - Sacramento-San Joaquin Delta: Salinity Intrusion in the Delta Act.

Would have required the Department of Water Resources to construct and maintain barriers in the Sacramento-San Joaquin Delta (Delta) at strategic locations to control salinity in the Delta.
Status: Held in Assembly Water, Parks and Wildlife Committee

AB 1631 (Schiavo) - Water resources: permit to appropriate: application procedure: mining use.

Would have required the State Water Resources Control Board (State Water Board) to issue a new notice of application and provide an opportunity for protest on any water right application for a mining operation that has been pending for more than 30 years.
Status: Vetoed by Governor

Governor's Veto Message:
“This bill requires the [State Water Board] to issue a notice for public participation for certain water right applications if it has not rendered a final determination within 30 years from the date the permit was filed. This would impact a single, current application for a project in the author's district that is long delayed.

While I appreciate the author's attempt to provide an opportunity to comment on the water right application in question, the State Water Board formally stated its intent to re-notice the application by the end of this year, rendering this bill unnecessary.

For this reason, I cannot sign this bill.”

AB 1648 (Bains) - Water: Colorado River conservation.

Would have prohibited the Metropolitan Water District of Southern California and the Los Angeles Department of Water and Power from importing water from other regions of California, including the Sacramento-San Joaquin Delta, in order to reduce their use of Colorado River water.
Status: Held in Assembly Water, Parks and Wildlife Committee

AB 2214 (Bauer-Kahan) - Ocean Protection Council: microplastics.

Would have required the Ocean Protection Council (OPC) to lead an interagency coordination group to recommend statutory changes, adopt a workplan to implement recommendations from the 2022 Statewide Microplastics Strategy (Strategy), and examine the appropriateness of policies and approaches for reducing microplastic pollution that were developed by other states or countries.
Status: Vetoed by Governor

Governor's Veto Message:
"This bill requires [OPC] to lead an interagency coordination group to recommend statutory changes and adopt a work plan to implement recommendations from the [Strategy].

In 2018, Governor Brown signed Senate Bill 1263, requiring the OPC to develop a [Strategy]. The resulting Strategy, developed by the OPC in coordination with state agencies and external partners, provides a comprehensive and coordinated approach to identify early actions California can take to address microplastic pollution and advance existing microplastic research.

To date, the OPC has invested $7 million in funding for plastic pollution projects, including $3 million in funding specifically for microplastics. Recently funded projects are focused on examining the efficacy of microplastic removal from wastewater treatment plants; the use of low-impact development projects such as rain gardens and infiltration trenches; identifying sources and pathways of microplastics to stormwater; understanding ecological sensitivity to microplastics; and standardizing microplastic monitoring methods.

As scientific understanding advances, the OPC, alongside state agency partners, will evaluate the findings and lessons learned to provide policy recommendations to the Legislature by December 2025, per existing law. I believe this bill and the requirement for agencies to build out work plans ahead of the publishing of policy recommendations is premature.

For these reasons, I cannot sign this bill."

AB 2610 (Garcia) - Protected species: authorized take: Salton Sea Management Program: System Conservation Implementation Agreement.

Would have permitted the Department of Fish and Wildlife to authorize the take of fully protected species resulting from the implementation of a system conservation implementation agreement between the U.S. Bureau of Reclamation and the Imperial Irrigation District.
Status: Held in Senate Appropriations Committee

AB 2614 (Ramos) - Water policy: California tribal communities.

Would have defined “tribal water uses” and designated them as a beneficial use of water. Would have required the State Water Resources Control Board and the Regional Water Quality Control Boards, when approving a project or regulatory program, to describe how that project or regulatory program would impact tribal water uses and to incorporate tribal uses of water into water quality control plans.
Status: Held in Assembly Appropriations Committee

AB 2875 (Friedman) - Wetlands: state policy.

Declares it is state policy to ensure no net loss, and long-term gain, in the quantity, quality, and permanence of wetlands acreage. Makes findings and declarations regarding the importance of wetlands and wetland policy.
Status: Chapter 579, Statutes of 2024

AB 2962 (Papan) - Wholesale Regional Water System Security and Reliability Act.

Extends the sunset of the “Wholesale Regional Water System Security and Reliability Act” from January 1, 2026 to January 1, 2036.
Status: Chapter 203, Statutes of 2024

ACA 2 (Alanis) - Water Resiliency Act of 2024.

Would have proposed amendments to the California Constitution to continuously appropriate 1.5% of the General Fund to the California Water Commission to finance specified water infrastructure projects. Would have permitted water projects that receive these funds to obtain expedited administrative review and streamlined judicial review of any challenges under the California Environmental Quality Act.
Status: Held in Assembly Water, Parks and Wildlife Committee

SB 231 (Hurtado) - Department of Water Resources: water supply forecasting.

Would have required the Department of Water Resources to update its water supply forecasting methodology and put in place a formal process to evaluate the accuracy of such methodology by December 31, 2025.
Status: Held in Assembly Appropriations Committee

SB 366 (Caballero) - The California Water Plan: long-term supply targets.

Would have revised and recasted requirements for the contents of updates to the California Water Plan; would have required the Department of Water Resources (DWR) to develop a long-term water supply planning target for 2050; and would have established an interim target of nine million acre-feet of additional water, water supply, or water storage capacity by 2040.
Status: Vetoed by Governor

Governor's Veto Message:
"I am returning Senate Bill 366 without my signature.

The bill would require [DWR], as part of the 2033 update, to revise the contents of the California Water Plan to, among other provisions, focus on developing a long-term water supply planning target for 2050 to identify and create plans for future water needs of various water sectors.

The California Water Plan (Plan), updated every five years, is the state's guidance document for sustainably and equitably managing, developing, and stewarding the state's water resources. My Administration recently released the 2023 Plan to lay out a statewide vision promoting climate resilience across regions, water sectors, and natural and built infrastructure. This Plan update includes clear goals, watershed-based climate resilience planning, and regional and interregional infrastructure modernization strategies.

While I appreciate the author's intent, this bill would create substantial ongoing costs for DWR, the State Water Resources Control Board, and other state agencies and departments to assist in the development of water supply planning targets. A revision to the Plan of this magnitude, that creates such significant costs, must be considered in the context of the annual budget.

In partnership with the Legislature this year, my Administration has enacted a balanced budget that avoids deep program cuts to vital services and protected investments in education, health care, climate, public safety, housing, and social service programs that millions of Californians rely on. It is important to remain disciplined when considering bills with significant fiscal implications that are not included in the budget, such as this measure.

For these reasons, I cannot sign this bill."

SB 389 (Allen) - State Water Resources Control Board: investigation of water right.

Authorizes the State Water Resources Control Board to issue an information order to ascertain whether any claimed water right is valid, including pre-1914 appropriative or riparian rights.
Status: Chapter 486, Statutes of 2023

SB 470 (Alvarado-Gil) - Water: Urban Water Community Drought Relief program: Small Community Drought Relief program: high fire hazard and very high fire hazard severity zones.

Would have codified the Urban Water Community Drought Relief program and the Small Community Drought Relief program at the Department of Water Resources and authorized these programs, upon appropriation, to fund projects that provide benefits in addition to drought relief, including projects that reduce the risk of wildfires for communities through water delivery system improvements for fire suppression purposes in high- and very high-fire hazard severity zones.
Status: Vetoed by Governor

Governor's Veto Message:
"This bill would codify two grant programs within the Department of Water Resources established by the Budget Act of 2021: the Urban Water Community Drought Relief Program and the Small Community Drought Relief Program. It also authorizes these programs to fund benefits in addition to drought relief, including projects that reduce the risk of wildfire.

I thank the author for the commitment to support under-resourced communities most at risk of wildfire, and the intent of this bill is in line with work currently underway within my Administration. The California Governor's Office of Emergency Services recently launched the Prepare California Initiative, a grant program focused on building community resilience amongst vulnerable individuals living in high hazard risk communities.

However, the two programs this bill seeks to expand have exhausted all funding appropriated in the 2021 Budget and as such, it is unnecessary to formally establish the programs in statute.

For these reasons, I cannot sign this bill."

SB 659 (Ashby) - California Water Supply Solutions Act of 2023.

Requires the Department of Water Resources, beginning in 2028, to include recommendations for developing additional groundwater recharge opportunities in updates to the California Water Plan.
Status: Chapter 624, Statutes of 2023

SB 756 (Laird) - Water: inspection: administrative procedure: notice: service.

Provides the State Water Resources Control Board (State Water Board) and the regional water resources control boards (regional water boards) with new authority as it relates to unlicensed cannabis cultivation and expands the method of notice of State Water Board and regional water board decisions.
Status: Chapter 158, Statutes of 2023

SB 836 (Dahle) - Landowner: water right holder: jointly used conduits: County of Siskiyou.

Permits a landowner or a water right holder, in the County of Siskiyou, to modify or replace segments of a conduit if the conduit either crosses the landowner's property or conveys water to which the water right holder has a right, the conduit is not under the authority of a public agency, and the modification does not impede the flow of water to a water right holder.
Status: Chapter 889, Statutes of 2023

SB 867 (Allen) - Drought, Flood, and Water Resilience, Wildfire and Forest Resilience, Coastal Resilience, Extreme Heat Mitigation, Biodiversity and Nature-Based Climate Solutions, Climate Smart Agriculture, Park Creation and Outdoor Access, and Clean Energy Bond Act of 2024.

Places the $10 billion Safe Drinking Water, Wildfire Prevention, Drought Preparedness, and Clean Air Bond Act of 2024 on the November 5, 2024 General Election ballot.
Status: Chapter 83, Statutes of 2024; approved by the voters

SB 1218 (Newman) - Water: emergency water supplies.

Would have declared that it is state policy to encourage the development of emergency water supplies to be used during times of drought or unplanned service or supply disruption.
Status: Held in Assembly Appropriations Committee

SB 1390 (Caballero) - Groundwater recharge: floodflows: diversion.

Would have made numerous changes to existing authority to temporarily divert floodflows for groundwater recharge without a water right or other permits. These changes would have included adding a local hazard mitigation plan to the list of plans that a local agency could rely upon to determine when there is an imminent risk of flooding and prohibiting diversions under this authority unless the Sacramento-San Joaquin Delta is in "excess

water conditions without restrictions."
Status: Died on Assembly Floor

Water Efficiency

AB 1572 (Friedman) - Potable water: nonfunctional turf.

Prohibits the use of potable water to irrigate nonfunctional turf on commercial, municipal, institutional (except for cemeteries), homeowners' association, common interest development, and community service organization properties. Begins a phase-in of this ban on specified property types beginning January 1, 2027.
Status: Chapter 849, Statutes of 2023

AB 1573 (Friedman) - Water conservation: landscape design: model ordinance.

Would have made changes to the required provisions in the Model Water Efficient Landscape Ordinance developed by the Department of Water Resources, including requiring the use of 10% native plants in nonresidential landscapes after January 1, 2029 and prohibiting the use of nonfunctional turf in new or renovated commercial and industrial areas.
Status: Held on Senate Floor

AB 2947 (Lackey) - Water: turfgrass conversion.

Would have required the Department of Water Resources to permit rebates for "turfgrass conversion" when allocating water conservation funds to local water agencies.
Status: Held in Assembly Appropriations Committee

AB 3044 (Alanis) - Urban retail water suppliers: urban water use objectives: report.

Would have delayed the deadline for the Department of Water Resources to report to the Legislature on urban water agencies' progress in achieving their urban water use objectives by one year, from January 1, 2028 to January 1, 2029.
Status: Held in Assembly Water, Parks and Wildlife Committee

AB 3121 (Hart) - Urban retail water suppliers: written notice: conservation order: dates.

When first heard by this committee, this bill would have delayed by two years the dates on which the State Water Resources Control Board may begin issuing orders to enforce the "Making Conservation A Way of Life" statute. The author amended this bill in the Senate to address an issue outside this committee's jurisdiction.
Status: Held in Senate Energy, Utilities and Communications Committee

SB 1110 (Ashby) - Water reports: urban retail water suppliers: informational order: conservation order.

Would have permitted the State Water Resources Control Board to adopt an enforcement policy to enforce the urban water use objective and other statutes; delays enforcement of

urban water use objective by two years; consolidates reporting on urban water use; and allows reporting to be on a calendar or fiscal year basis.
Status: Held in Assembly Appropriations Committee

SB 1330 (Archuleta) - Urban retail water supplier: water use.

Would have delegated the State Water Resources Control Board's authority to enforce the urban water use objective, deleted obsolete reporting requirements, required the Department of Water Resources to study efficiency performance of certain classes of landscapes, required the Legislative Analyst's Office to complete another report on the implementation of the urban water use objective by January 10, 2029, and made other changes to the urban water use objective statute.
Status: Held in Assembly Appropriations Committee

Informational and Oversight Hearings

2023-2024

February 1, 2023 – California's Preparedness for and Response to Extreme Atmospheric River Incidents

Joint Hearing with Assembly Emergency Management Committee

February 28, 2023 – Adapting Water Rights to our 21st Century Climate

May 2, 2023 – Update on the Status of the Colorado River and Potential Impacts on California

June 6, 2023 – Administration's Policy Package: water resources infrastructure

February 21, 2024 – Water We Doing with Groundwater: Evaluating Sustainable Groundwater Management Act (SGMA) Implementation

Joint Hearing with Assembly Budget Sub Committee No. 4

August 13, 2024 – Leveraging State Parks for a Climate Resilient Future

Joint Hearing with Assembly Select Committee on State Parks

September 17, 2024 – Groundwater Recharge

Joint Hearing with Assembly Agriculture Committee

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Assembly
California Legislature

ASSEMBLY COMMITTEE ON
EMERGENCY MANAGEMENT
FREDDIE RODRIGUEZ, CHAIR
ASSEMBLYMEMBER, FIFTY-THIRD DISTRICT

California's Preparedness for and Response to Extreme Atmospheric River Incidents

Wednesday, February 1, 2023 -- 10:30am, Room 437 of the Capitol

Opening Remarks:

Assemblymember Freddie Rodriguez, Chair of the Emergency Management Committee
Assemblymember Rebecca Bauer-Kahan, Chair of the Water, Parks, and Wildlife Committee
Assemblymember Eduardo Garcia, Chair of the Utilities and Energy Committee

Panel 1: Predicting and Forecasting the Impact of Atmospheric River Incidents (30 minutes)

Dr. Daniel Swain, Climate Scientist, UCLA Institute of the Environment & Sustainability
Dr. Marty Ralph, Researcher, UC San Diego, Scripps Institution of Oceanography
Michael Anderson, Department of Water Resources, State Climatologist

Panel 2: Preparing, alerting and protecting at risk and vulnerable populations during extreme weather incidents (60 minutes)

Mary Jo Flynn-Nevins, Director, Sacramento County OES
Kelly Hubbard, Director, Santa Barbara County OES
David Reid, Director OES, Santa Cruz County Office of Response, Recovery and Resilience
Kelsey Scanlon, Emergency Services Planner, Monterey County OES
Ryan Buras, Deputy Director or Recovery Operations, California Office of Emergency Services
John Paasch, Deputy Director for Security and Emergency Management, California Department of Water Resources
Major General Matthew P. Beevers, Acting, The Adjutant General, California Military Department

Panel 3: Protecting lifeline infrastructure during floods and high winds (30 minutes)

Jane Dolan, Board President, Central Valley Flood Protection Board
Tracey Vardas, Director of Emergency Planning & Response (EP&R) Strategy & Execution, PG&E
Maria Veloso Koenig, Director of Distribution Planning and Operations, SMUD

COMMITTEES ON EMERGENCY MANAGEMENT, UTILITIES & ENERGY, AND WATER, PARKS, & WILDLIFE

RODRIGUEZ, GARCIA, AND BAUER-KAHAN, CHAIRS

JOINT INFORMATIONAL HEARING

Wednesday, February 1, 2023
State Capitol, Room 437

California's Preparedness and Response to Extreme Atmospheric River Incidents

January 2023 Storms in Review. California began 2023 with as many as nine major storm events in around three weeks. These storms brought 8–15 inches of rain in the valleys, 20–30 inches of rain in the foothills, and 10–15 feet of snow in the Sierra. While this precipitation did provide much-needed drought relief, it was accompanied by intense floods and winds reaching up to 90 mph that caused over $1 billion in damage and the tragic loss of at least 22 lives. The phenomenon responsible for exacerbating the impact of these storms: atmospheric rivers. Atmospheric rivers are long corridors that transport concentrated water vapor through the air from the tropics to California; these events can be either hazardous or beneficial depending on their intensity. When atmospheric river-fed storms approach land and encounter high elevation mountain ranges, such as the Sierra Nevada, moist air rises and cools producing copious amounts of precipitation. Some of these atmospheric rivers can carry 7.5–15 times the average flow out of the Mississippi River.

Based on forecasts of the high winds, excessive rainfall, and the potential for flooding, local operational areas (counties) began proclaiming local emergencies prior to the damaging New Year's Eve storm. On January 4, 2023 the Governor requested and secured an Emergency Declaration for direct Federal Assistance from the Federal Emergency Management Association. As the series of atmospheric rivers continued to cause floods, extended power outages, and displace thousands of residents, a majority of California's counties proclaimed local emergencies and ultimately the Governor requested an Expedited Major Disaster Declaration on January 12, 2023. President Biden approved the Major Disaster Declaration on January 14, 2023.

Policy considerations for the Legislature.

Is California and our mutual aid systems prepared for a mega-flood scenario?

How can California improve local forecasts during atmospheric river incidents?

How resilient are California's lifeline systems to extreme weather?

How equitable was California's response to this incident?

Were there lessons learned or areas of improvement for our alert and warnings systems, evacuations, and sheltering operations?

How should California invest hazard mitigation funds to make our communities more resilient?

Utility Response and the Protection of Critical Infrastructure

Utilities provide essential services such as electricity, water, gas, and telecommunications. These services are vital for maintaining public health and safety, as well as enabling economic stability and comfort. Without these services, basic human needs such as lighting, heating, water, and communication would be largely unavailable.

Flood and windstorm events can compromise utility infrastructure from trees and other debris falling into powerlines, damaging equipment, and interrupting service. Downed powerlines that remain energized pose electrocution hazards, either on their own or when in contact with standing water. Rising water levels can also submerge gas meters or pilot lights, creating hazardous situations for customers after the water has receded. Flooding, landslides, and road closure can slow utility service workers' access to infrastructure, while active lightning or high winds can make it too dangerous for crews to work, slowing down restoration efforts.

During the recent atmospheric rivers, utilities faced enormous challenges to keep power flowing. As shown in Box 1, during the storms the two largest utilities in Northern California, Pacific Gas and Electric Company (PG&E) and the Sacramento Municipal Utility District (SMUD), faced customer outages in the hundreds of thousands to millions. For a time, over half of SMUD customers were in the dark. This degree of widespread outage is unmatched in SMUD history.

During normal outage events, utilities respond to restoration requests as they occur. However, during major storms where hundreds of thousands of customers are without power, utilities often must prioritize restoration efforts. For SMUD during these storms, that prioritization followed:

Box 1: Storm Impact on Utilities

PG&E

- ~5.6 million electric accounts (serving ~16 million people across 70,000 square miles).
- 2.8 million restorations during the storms (some customers experience multiple outages).
- 2.3 million poles territory-wide.
- 1,818 poles and 4,430 powerlines were damaged during storm.
- Majority of outages during non-emergencies are restored within 24 hours.
- During the storm, 80% of customers were restored within 12 hours, more than 90% within 24 hours.
- PG&E had more than 7,200 dedicated personnel responding to the storm including contractors and mutual aid from southern California, Oregon, Idaho, Utah, Wyoming, New Mexico, Colorado, Washington, Wisconsin and Canada.

SMUD

- ~645,000 accounts (serving ~1.5 million people)
- ~599,000 customer outages throughout the storms
- 425 poles and ~1,800 powerlines down during the storm
- More than 100 crews working around-the-clock to restore power. Mutual aid from around the state, including those from Roseville Electric, Turlock Irrigation District, Modesto Irrigation District, Western Area Power Administration, City of Riverside, Los Angeles Water & Power, Redding Electric Utility, Clark County Public Utilities District and Lodi Electric. It was the largest mobilization of restoration crews that SMUD ever deployed.

1. Public safety hazards (downed power lines and poles).
2. Hospitals and critical flood control pumps.
3. Areas with large numbers of customers out of power.
4. Scattered, smaller outages.

Another challenge with restoration efforts from such widespread outages is having enough dedicated personnel and equipment to respond to the event. Both PG&E and SMUD called upon mutual aid support from around the state, the country, and internationally. PG&E pre-staged power poles, powerlines, transformers, and other electric equipment at yards throughout their service territory in preparation for the storm. In addition, the California Utilities Emergency Association (CUEA) is an organization, chartered in 1952, to help utilities during emergencies.[1] Representing nearly 100 members across all utility sectors, CUEA helps its member's access mutual aid resources throughout the state.

Utilities also offer a number of customer support programs during unplanned outages. These can vary by utility, but generally include direct payments to customers who have been without power for a specified period of time, partnerships with food banks to ensure food replacement is available to those in need, targeted outreach to medically vulnerable customers, and specific resource offerings like portable batteries, small generators, fuel cards, or even lodging for those dependent on electricity for medical and life sustaining needs. During the recent storms, PG&E even negotiated discounted hotel rates for customers experiencing extended outages. They also provided nearly 6,300 go bags with water, snacks, a battery charger, and blankets at warming centers in nine counties in coordination with local government and emergency services partners.

These utility efforts actions arise, in part, from legislative and regulatory action. In 2012, the Legislature adopted requirements for the electrical corporations and regulated water utilities' disaster and emergency preparedness plans, including the following elements: use of weather reports to pre-position personnel and equipment before severe weather events; improve communications; and methods to control and mitigate an emergency or disaster and its aftereffects.[2] This legislation was created in response to the December 2011 windstorms in the San Gabriel Valley that knocked out power to more than 400,000 customers, some of them for more than a week. Following those storms, numerous public officials, including first responders, recommended to the California Public Utilities Commission (CPUC) that electric utilities consult with local agencies to better prepare for disasters.

Following this and subsequent legislation, as well as lessons learned from utility preparedness and response efforts during the 2017-2019 wildfire seasons, the CPUC adopted updated disaster and emergency preparedness plans for the electrical and water utilities in 2021.[3] These plans required both electric and water utilities to adopt California's Standardized Emergency Management System (SEMS) to improve communication among governmental agencies, tribal governments, the public, and the utilities.

Flooding in California. California has experienced destructive flood events throughout its history. Before January 2023, the last major, widespread flooding event was 1997 (the New Year's Day floods, when 120,000 people were evacuated and 23,000 homes and businesses flooded). More recently, more local flood disasters include the Oroville Spillway in 2017 and the Russian River floods in 2019. Even before this year's floods, every county in California has been declared a federal disaster area at least once for a flooding event over the last 30 years.[4]

[1] https://www.cueainc.com/
[2] AB 1650, Portantino, Chapter 472, Statutes of 2012
[3] D. 21-05-019; R. 15-06-009; issued 5/21/2021
[4] Taylor, M. (2017) Managing Floods in California. An LAO Report. https://lao.ca.gov/Publications/Detail/3571

Estimates suggest more than 7.3 million people and structures valued at nearly $600 billion statewide are located in areas that have at least a 1-in-500 probability of flooding in any given year.[5] In the Central Valley, 1.3 million people, $17 billion in agriculture economic activity, and $223 billion in homes, businesses, and structures are in flood risk areas. Factoring in future development, climate change, and potential losses to key infrastructure, those figures could climb much higher. Current projections indicate that peak flood flows will increase up to five times by 2072 in the Central Valley compared to past records.[6] Despite their damaging potential, in some cases floods can have positive effects including replenishing groundwater basins, creating habitat for fish and wildlife, and improving water quality by flushing out contaminants.

Flood Management Infrastructure and Responsibilities. Local, federal, and state agencies have developed a variety of physical structures to regulate flood flows including levees, channels, and weirs to convey and control floodwaters as well as dams, reservoirs, and bypasses to collect or store water. Physical structures are sometimes paired with nonstructural approaches – like limiting development in floodplains – for flood management. Flood infrastructure across California includes more than 20,000 miles of levees and channels and more than 1,500 dams and reservoirs. Most of these facilities are owned and managed by local governments, reflecting the history of how the facilities were developed and aligning primary responsibility for the projects with their beneficiaries. A recent report estimated that flood management responsibilities are spread across over 1,300 local agencies across the state.[4]

Over 1,600 miles of levees, four dams, five major weirs, and seven bypasses are overseen by the state and are considered part of the State Plan of Flood Control system (SPFC), a system of flood protection infrastructure along the Sacramento and San Joaquin Rivers and their main tributaries. The Central Valley Flood Protection Board (CVFPB) oversees SPFC facilities and levees (often called project levees) on behalf of the state. For most segments of SPFC levees, the state has developed formal agreements with local governments to handle regular operations and maintenance responsibilities. The Department of Water Resources (DWR) maintains approximately 300 miles of SPFC levee segments not covered by such agreements.[4]

With the exception of around 20 dams and reservoirs operated by the U.S. Army Corps of Engineers (USACE) or the Bureau of Reclamation, the federal government generally does not directly operate or maintain flood control facilities in California.[7] The USACE does inspect federally constructed levees for compliance with federal standards, while the Federal Emergency Management Agency (FEMA) operates the National Flood Insurance Program, which includes mapping flood risk and establishing floodplain management standards.

State Actions on Flood Control. In response to Hurricane Katrina striking New Orleans in 2005, serious flooding in Northern California in 2006, and California's responsibility to pay $464 million in damages after the Linda Levee failure in 1986 (*Paterno v. State of California*), the Legislature took a series of actions in 2006–2007 which included approving two general obligation bonds and a package of six flood protection bills. This included state and local planning requirements, higher flood protection standards, local development requirements, and updated flood risk mapping goals.

As part of the legislation, the CVFPB was required to adopt an integrated flood management plan, the Central Valley Flood Protection Plan (Flood Plan), for the Sacramento-San Joaquin River Flood Management System by July 2012. On June 29, 2012, the CVFPB unanimously

[5] The 2021-22 Budget: Department of Water Resources https://lao.ca.gov/Publications/Detail/4321
[6] Central Valley Flood Protection Plan Update (2022) http://cvfpb.ca.gov/cvfpp/
[7] https://www.spk.usace.army.mil/Missions/Civil-Works/Dam-Safety-Program/

adopted the Flood Plan, which the CVFPB states, "provides conceptual guidance to reduce the risk of flooding for about one million people and $70 billion in infrastructure, homes, and businesses with a goal of providing 200-year (a 1-in-200 chance of flooding in any year) protection to urban areas, and reducing flood risks to small communities and rural agricultural lands." The CVFPB's adoption of the Flood Plan triggered the requirement that cities and counties incorporate data and analysis from the Flood Plan into their general plans by 2014 and update their zoning ordinances by 2015 to prohibit development on property within a flood hazard zone unless the required levels of flood protection are met.

The CVFPB Flood Plan is updated every five years. The first update in 2017 included recommendations on investments and policies to support comprehensive flood risk management actions locally, regionally, and system-wide. The second (and most recent) update to the Flood Plan (November 2022) highlighted themes of flood system climate resilience, accountability and adaption through performing tracking, and strategic alignment with other State water management planning efforts. Renewed effort is now focused on developing new partnerships to support underserved communities. Since 2007, approximately 361 miles of urban and 120 miles of non-urban SPFC levees have been repaired, rehabilitated, or improved, providing public safety and economic outcomes. In addition, multi-benefit and restoration projects completed between 2016 and 2021 resulted in a net gain in floodplain inundation and restored riparian habitats, and modified one priority fish passage barrier. Investment in flood management as outlined in the Flood Plan is estimated to cost $25–30 billion over the next 30 years.

ARkStorm Scenario. In 2010, the United State Geological Survey (USGS) led a multidisciplinary team of leading earth scientists, engineers, and social scientists to create the ARKStorm Scenario: a detailed and realistic depiction of how a severe winter storm could affect the state. The ARkStorm Scenario shows that atmospheric rivers represent a nearly existential threat to California's people, economy, and culture. It is well established that climate change is raising the ocean temperatures that power atmospheric rivers, making an event like the ARkStorm more realistic, the threat more grave, and the likely losses greater.

The 2010 ARkStorm is patterned after the 1861–62 historical events but uses modern modeling methods and data from large storms in 1969 and 1986. The ARkStorm draws heat and moisture from the tropical Pacific, forming a series of atmospheric rivers that approach the ferocity of hurricanes and then slam into the U.S. West Coast over several weeks.[8]

In contrast to U.S. East and Gulf Coast hurricanes, only recently have scientific and technological advances documented the ferocity and strength of possible future West Coast storms. ARkStorm is intended to elevate the visibility of the very real threats to human life, property, and ecosystems posed by extreme storms on the U.S. West Coast. This enhanced visibility will help increase the preparedness of the emergency management community and the public to such storms. The ARkStorm analysis suggested that such an event would likely produce widespread, catastrophic flooding and subsequently lead to the displacement of millions of people, the long-term closure of critical transportation corridors, and ultimately up to nearly $1 trillion in overall economic losses (2022 dollars).[9]

A new ARkStorm scenario (ARkStorm 2.0) has recently been analyzed to reflect climate change data and advances in modeling to investigate the impact of a 30-day storm in a future climate (2071–2080), called ARkFuture. This new modeling shows that climate change will increase the severity of storms bringing more intense moisture transport and more overall precipitation, along with higher elevation freezing levels and decreased snow-to-rain ratios that together yield runoff

[8] Porter, K., *et al.* (2010) Overview of the ARkStorm Scenario. USGS
[9] Huang, X. and Swain, D. L. (2022) Climate Change is Increasing the Risk of a California Megaflood. *Science Advances*

that is much higher than that during historical events. Additionally, projected increases in hourly rainfall rates during individual storm events have high potential to increase the severity of geophysical hazards such as flash flooding and debris flows. This is especially true in the vicinity of large or high-intensity wildfire burn areas, which are themselves increasing due to climate change and yielding large increases in associated compound hazards.

The plausibility of the ARkStorm scenarios has been demonstrated over the last several years, including during winter-spring 2017, when a drought-busting and record-breaking series of 68 atmospheric-river storms reached the West Coast.[10] Neither the 2017 and 2023 storms approached the severity of the megaflood modeled by ARkStorm: a flood 200 miles long and 12 to 20 miles wide that would effectively be an inland sea in the Central Valley. However, the cascading consequences associated with the atmospheric rivers, floods, wildfire fuel production, and fire and debris-flows, aligned closely with the ARkStorm scenario.

Northern California Catastrophic Flood Response Plan (NCCFRP). The NCCFRP is the latest and fourth catastrophic plan for California and provides a framework outlining how local, state, and federal governments will respond and coordinate in anticipation of and following a catastrophic flood event, with emphasis on impacts to the Sacramento-San Joaquin Delta. This framework has structured objectives that enable a phased response approach to meet the needs of the affected communities. The plan focuses on establishing response organizations with the readiness to act in support of affected communities.

This plan was developed in accordance with the Sacramento-San Joaquin Delta Emergency Preparedness Act of 2008. That act required the California Office of Emergency Services (Cal OES) to develop an emergency preparedness and response strategy for the Delta Region to include the development of a catastrophic flood plan. Cal OES developed this plan in coordination with DWR, numerous state agencies, FEMA, and other federal agencies, and expanded the planning to the following ten counties: Butte, Colusa, Contra Costa, Glenn, Sacramento, San Joaquin, Solano, Sutter, Yolo, and Yuba.

CALIFORNIA's EMERGENCY MANGEMENT SYSTEM

California's Standardized Emergency Management System (SEMS). In order to respond to frequent and multiple disasters occurring anytime and anywhere in the state, it is important that emergency response agencies operate within a clear and consistent organizational structure. SEMS is the cornerstone of California's emergency response system and the fundamental structure for the response phase of emergency management. The system unifies all elements of California's emergency management community into a single integrated system and standardizes key elements. Elemental to SEMS are:

1) Incident Command System (ICS) - A field-level emergency response system based on management by objectives;

2) Multi/ Inter-agency coordination - Affected agencies working together to coordinate allocations of resources and emergency response activities;

3) Mutual aid - A system for obtaining additional emergency resources from non-affected jurisdictions; and

4) Operational Area Concept - County and its sub-divisions to coordinate damage information, resource requests and emergency response.

[10] ARkStorm and the 2017 Relentless Storm Season
https://ui.adsabs.harvard.edu/abs/2018AGUFMNH23A..06C/abstract

Emergency Management Mutual Aid (EMMA) System: The purpose of EMMA system is to provide emergency management personnel and technical specialists to support the disaster operations of affected jurisdictions during an emergency. One of the primary objectives is to provide emergency management personnel and technical specialists from unaffected areas to support local jurisdictions, Operational Areas (OAs), and regional emergency operations during emergencies.

California Emergency Services Act. The California Emergency Services Act (CESA) was enacted in 1970, and established OES within the Governor's Office. Under the CESA, OES is charged with coordinating statewide emergency preparedness; post emergency recovery and mitigation efforts; and the development, review, approval, and integration of emergency plans.

The CESA gives the Governor authority to proclaim a state of emergency in an area affected or likely to be affected when: a) conditions of disaster or extreme peril exist; b) the Governor is requested to do so upon request from a designated local government official; or c) the Governor finds that local authority is inadequate to cope with the emergency. Local governments may also issue local emergency proclamations, which is a prerequisite for requesting the Governor's Proclamation of a State of Emergency.

State of Emergency. The CESA defines a "state of emergency" as the duly proclaimed existence of conditions of disaster or of extreme peril to the safety of persons and property within the state caused by conditions such as air pollution, fire, flood, storm, epidemic, riot, drought, cyberterrorism, sudden and severe energy shortage, plant or animal infestation or disease, the Governor's warning of an earthquake or volcanic prediction, or an earthquake, or other conditions, other than conditions resulting from a labor controversy or conditions causing a "state of war emergency," which, by reason of their magnitude, are or are likely to be beyond the control of the services, personnel, equipment, and facilities of any single county, city and county, or city and require the combined forces of a mutual aid region or regions to combat, or with respect to regulated energy utilities, a sudden and severe energy shortage requires extraordinary measures beyond the authority vested in the California Public Utilities Commission (CPUC).

The California Disaster Assistance Act (CDAA). The CDAA was first enacted in 1974, was later modified to establish the Disaster Response Emergency Operations Account (DREOA) as a subaccount of the Special Fund for Economic Uncertainties (SFEU). (The SFEU is the state's discretionary budget reserve of the General Fund.) CDAA authorizes the Department of Finance (DOF) to transfer funds from the SFEU to DREOA and allocate funds from DREOA to state departments for emergency response and recovery costs. CDAA specifies that funds are allocated from DREOA upon notification of the Joint Legislative Budget Committee (JLBC) by DOF.

Federal Disaster Declaration Types. There are two types of disaster declarations provided for in the Stafford Act: emergency declarations and major disaster declarations. Both declaration types authorize the President to provide supplemental federal disaster assistance. However, the events related to the two different types of declaration and scope and amount of assistance differ.

Emergency Declarations. The President can declare an emergency for any occasion or instance when the President determines federal assistance is needed. Emergency declarations supplement State and local or Indian tribal government efforts in providing emergency services, such as the protection of lives, property, public health, and safety, or to lessen or avert the threat of a catastrophe in any part of the United States. The total amount of assistance provided for in a single emergency may not exceed $5 million. The President shall report to Congress if this amount is exceeded.

Assistance Available Under Emergency Declarations

Public Assistance (PA) – Only Categories A (debris removal) and B (emergency protective measures) may be authorized under an emergency declaration. Categories C-G (permanent work) are not available under an emergency declaration. Emergency declarations often include only Category B and will typically be limited to DFA, absent damage assessments showing significant need for financial assistance. This assistance is generally provided on a 75% federal, 25% non-federal cost sharing basis.

Individual Assistance (IA) – The Individuals and Households Program (IHP) is the only form of IA that may be authorized under an emergency declaration. Authorization of IHP under an emergency is rare. Housing Assistance under IHP is provided at a 100% federal share, while Other Needs Assistance under IHP requires a 25% non-federal cost share.

The Hazard Mitigation Grant Program (HMGP) - is not available for emergency declarations.

Pre-Disaster Emergency Declarations

A Governor or Tribal Chief Executive may request an emergency declaration in advance or anticipation of the imminent impact of an incident that threatens such destruction as could result in a major disaster. Such requests must meet all of the statutory and regulatory requirements for an emergency declaration request. Requests must demonstrate the existence of critical emergency protective measure needs prior to impact are beyond the capability of the State and affected local governments or Indian tribal government and identify specific unmet emergency needs that can be met through DFA. Such DFA may include, but is not limited to, personnel, equipment, supplies, and evacuation assistance. Pre-positioning of assets generally does not require a declaration. Assistance made available under a pre-disaster emergency declaration will typically be Category B (emergency protective measures), limited to DFA.

Major Disaster Declarations

The President can declare a major disaster for any natural event, including any hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought, or, regardless of cause, fire, flood, or explosion, that the President determines has caused damage of such severity that it is beyond the combined capabilities of state and local governments to respond. A major disaster declaration provides a wide range of federal assistance programs for individuals and public infrastructure, including funds for both emergency and permanent work.

Assistance Available Under Major Disaster Declarations

Not all programs, however, are activated for every disaster. The determination of which programs are authorized is based on the types of assistance specified in the Governor or Tribal Chief Executive's request and the needs identified during the joint PDA and subsequent PDAs. FEMA disaster assistance programs are as follows:

FEMA's Individual Assistance Program

When a disaster occurs, the Federal Emergency Management Agency (FEMA) may assist individuals with their recovery through the Individual Assistance (IA) program if the President authorizes such assistance pursuant to a declaration of emergency or major disaster under the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

Individual Assistance Programs

FEMA may provide the following forms of Individual Assistance: The Crisis Counseling Assistance and Training Program (CCP) provides grant funding to local, state, territory, and tribal governments, which may contract with local mental health service providers, for CCP services.

The CCP assists individuals and communities through community- based outreach and the provision of psycho-educational services following an emergency or major disaster.

Disaster Case Management (DCM) partners case managers with disaster survivors to develop and implement disaster recovery plans that address the survivor's unmet needs following a major disaster.

Disaster Legal Services (DLS) are provided for free to low-income individuals to assist them with securing benefits or making claims arising from a major disaster.

Disaster Unemployment Assistance (DUA) provides unemployment benefits and re-employment assistance to individuals who are ineligible for regular unemployment insurance, and were previously employed or self-employed, and rendered jobless or whose employment was interrupted, as a direct result of a major disaster.

The Individuals and Households Program (IHP) provides financial and/or direct assistance for housing, as well as financial assistance for other needs (referred to as Other Needs Assistance (ONA)), to eligible individuals and households who have uninsured or under-insured necessary expenses and serious needs resulting from an emergency or major disaster, which cannot be met through other means or forms of assistance.

The federal government provides 100% of the funding for CCP, DUA, DLS, DCM, and IHP-Housing Assistance. IHP-ONA, however, is subject to a statutorily set 75% federal and 25% nonfederal cost share, borne by the state/territory/tribe.

Public Assistance Programs

Assistance to State, Tribal, and local governments and certain private nonprofit organizations for emergency work and the repair or replacement of disaster-damaged facilities, which may include the following Categories:

A - Debris removal
B - Emergency protective measures
C – Roads and bridges
D – Water control facilities
E – Buildings and equipment
F – Utilities
G – Parks, recreational and other facilities

Hazard Mitigation Assistance

Assistance to State, Tribal, and local governments and certain private nonprofit organizations for actions taken to prevent or reduce long term risk to life and property from natural hazards.

Current Assistance Available for this Federal Major Disaster Declaration

	Individual Assistance	Public Assistance	Hazard Mitigation Assistance
Counties Designated	Calaveras, Merced, Monterey, Sacramento, San Luis Obispo, Santa Barbara, San Joaquin, San Mateo and Santa Cruz counties	Merced, Monterey, Sacramento, San Luis Obispo, Santa Barbara and Santa Cruz counties	All 58 counties
What it means…	Assistance to individuals and households to repair or replace damaged property. Housing assistance available only for primary residence. Other Needs Assistance (ONA) may include transportation, childcare and medical and dental expenses. FEMA works with the U.S. Small Business Administration (SBA) to offer low-interest disaster loans to businesses (including private non-profit organizations), homeowners, and renters with physical damage.	Assistance to state and local governments and certain private non-profit organizations for emergency work and debris removal.	Assistance to state and local governments and certain private non-profit organizations for actions taken to prevent or reduce long term risk to life and property from natural hazards.

According to the California Office of Emergency Services (Cal OES), "the state of California is committed to maximizing state and federal aid to support the communities and individuals who have been adversely impacted by the winter storms. The California Governor's Office of Emergency Services (Cal OES) understands that "all disasters are local" and that because the atmospheric river affected different parts of our state differently, not all areas may be eligible (or need) the same level support or programs to rebuild and recover. Eligibility for federal programs will be based on the unique damage and extent of impacts incurred locally."

KEY STATE, FEDERAL, AND LOCAL ENTITIES IN CALIFORNIA WITH FLOOD MANAGEMENT FUNCTIONS

California Central Valley Flood Control Association (CCVFCA) – The CCVFCA represents many local flood control partners. The CCVFCA was established in 1926 to promote the common interests of its membership in maintaining effective flood control systems in California's Central Valley for the protection of life, property and the environment. Membership in the CCVFCA is limited to public agencies such as reclamation, flood control, levee maintenance, drainage and other special districts, and local government agencies.

California Office of Emergency Services (Cal OES) – Cal OES is responsible for the coordination of overall state agency response to major disasters. The office is responsible for assuring the state's readiness to respond to and recover from all hazards – natural, manmade, and war-caused emergencies and disasters – and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts. In that role, Cal OES is a critical partner in preparing for flood and in coordinating state and local flood response efforts.

California Water Commission (CWC) – The CWC provides a public forum for discussing water issues, advises the Director of the Department of Water Resources on matters within the Department's jurisdiction, approves rules and regulations, and monitors and reports on the construction and operation of the State Water Project. The *Water Quality, Supply, and Infrastructure Improvement Act* (Proposition 1), approved by voters in 2014, gave the CWC responsibilities regarding the distribution of public funds for the public benefits of water storage projects. The CWC presents its views to the U.S. Congress appropriations committees on funding for flood control or reclamation projects being planned or constructed in California by the United States Army Corps of Engineers or the Bureau of Reclamation.

Central Valley Flood Protection Board (CVFPB) – The CVFPB is responsible for planning, managing and protecting the State Plan of Flood Control. These are the flood control features (levees, floodways, etc.) for which the State government has statutory responsibilities, also called project levees. Levees that are private or belong to local agencies are called non-project levees. The CVFPB helps plan new flood control features, maintains existing features, and enforces against incompatible projects and activities in the flood way or on (or in) flood control structures. This can include things such as pipes through levees or backyard swimming pools that encroach into State-held easements next to levees.

Delta Protection Commission (DPC) – The DPC promotes the protection of life and property through the maintenance and improvement of Delta levees, and by facilitating coordinated emergency preparedness and response. This includes long-term planning for ongoing, cumulative levee improvements to address new issues as they arise over time. As directed by SB 27 (Simitian, 2008), the DPC continues to work to facilitate an inter-agency unified command system and response strategy for the Delta region, as well as on implementation of an all-hazard emergency response exercise in the Delta.

Delta Stewardship Council (DSC) – The Sacramento-San Joaquin River Delta is an expansive inland river delta and estuary in Northern California. Much of the water supply for central and southern California is derived from here via pumps located at the southern end of the Delta, which deliver water for irrigating about 3 million acres in the San Joaquin Valley and municipal water supply for about 25 million people in southern California. The Sacramento-San Joaquin Delta Reform Act of 2009 (SB X7-1, Simitian, 2009), among other actions, created the DSC and tasked it with coming up with a long-term plan for the Delta (the Delta Plan) that balances water supply and ecosystem restoration while respecting the Delta's intrinsic value as a place. The Act also required the DSC, in consultation with the CVFPB, to recommend priorities in the Delta Plan for state investments in both project and non-project Delta levees. In response, the DSC launched the Delta Levees Investment Strategy.

Department of Water Resources (DWR) – The DWR manages California's water resources, systems, and infrastructure. With regard to floods, the DWR plans for and improves the flood management system; maintains levees; provides emergency preparedness and response; and forecasts river levels based on weather conditions. The DWR administers bond dollars for both Integrated Regional Water Management Projects, some of which can have storm water or flood components, as well as flood subventions funds.

Federal Emergency Management Agency (FEMA) – FEMA's primary purpose is to coordinate the response to a disaster that has occurred in the United States and that overwhelms the resources of local and state authorities. In addition, FEMA provides state and local governments with experts in specialized fields and funding for rebuilding efforts. FEMA provides funds for training of response personnel throughout the United States and its territories as part of the agency's preparedness effort.

United States Army Corps of Engineers (USACE) – The USACE is the State's federal partner for project levees. The USACE's roles include funding, building projects, fighting floods, and helping rebuild after floods. Under the Flood Control and Coastal Emergencies Act [Public Law 84-99 (PL 84-99)], the Chief of the USACE, acting for the Secretary of the Army, is authorized to undertake activities including disaster preparedness, advance measures, emergency operations (flood response and post flood response), rehabilitation of flood control works threatened or destroyed by flood, protection or repair of federally authorized shore protective works threatened or damaged by coastal storm, and provisions of emergency water due to drought or contaminated source. PL 84-99 also sets certain construction and maintenance requirements for flood control structures, with consequences for states and local agencies for failing to meet these standards.

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AGENDA

9:30 AM, February 28, 2023, State Capitol, Room 444

INFORMATIONAL HEARING

Adapting Water Rights to our 21st Century Climate

Opening Remarks

Assemblymember Rebecca Bauer-Kahan, Chair, Assembly Water, Parks, and Wildlife Committee

21st century climate, 19th century system

Ellen Hanak, Vice President and Director of Water Policy and Senior Fellow, Public Policy Institute of California
Brian Gray, Senior Fellow, Public Policy Institute of California

How do we modernize water rights administration?

Erik Ekdahl, Deputy Director, Division of Water Rights, State Water Resources Control Board
Yvonne West, Director, Office of Enforcement, State Water Resources Control Board

Examples of challenges to water rights administration

Council Member Arron "Troy" Hockaday, Karuk Tribe
Elizabeth Salomone, District Manager, Mendocino County Russian River Flood Control & Water Conservation Improvement District
Felicia Marcus, William C. Landereth Visiting Fellow, Stanford University, Water in the West Program

Proposals for modernizing water rights administration

Richard Frank, Professor of Environmental Practice and Director of California Environmental Law and Policy Center, UC Davis School of Law
Jennifer Harder, Professor, McGeorge School of Law
David Guy, President, Northern California Water Association
Russell McGlothlin, Water Resources Attorney, O'Melveny

Public Comment

COMMITTEE ON WATER, PARKS, AND WILDLIFE

BAUER-KAHAN, Chair

INFORMATIONAL HEARING

Tuesday, February 28, 2023
9:30 am – State Capitol, Room 444

Adapting Water Rights to our 21st Century Climate

The origins of the legal framework for California's water rights system date to the 19th century when California first became a state and the predominant economic activity was gold mining. This legal framework protects private rights to water and encourages water right holders to put water to "beneficial use."[1] Later, as the state developed in the 20th century, an enormous system of water infrastructure was built to capture water and store it for later use, including during times of scarcity and for conveyance to arid parts of the state.

While in many ways this legal framework served the societal needs of that era and, arguably those of the 20th century, reasonably well, there are signs that this original system is not meeting today's challenges arising from California's dramatically larger population and the impacts of global climate change. Recent droughts have harmed communities, the economy (especially agriculture), and the environment. In response, water regulators and water managers have taken unprecedented actions including curtailing water rights, issuing temporary urgency change petitions for the management of the State Water Project and federal Central Valley Project, restricting water use in urban and suburban communities, and trucking water to communities that have lost access to water.

In response, some, including Governor Newsom, have called for "modernization" of the water rights system. Through this informational hearing, the Committee will explore the challenges facing California's water rights system today and some perspectives on what should, and should not, be changed to address them.

California's climate and climate change

California's predominantly Mediterranean climate has always posed challenges for water management in the state. This climate is characterized by hot, dry summers and wet, moderately cool winters. Annual precipitation varies greatly across the state with the majority of precipitation falling north of Sacramento. Year-to-year variability in precipitation is another hallmark of California's climate with swings between prolonged wet and dry periods (Figure 1).

[1] "Beneficial use" refers broadly to uses of water that benefit society and the environment and includes uses for domestic, irrigation, power generation, municipal, industrial, fish and wildlife preservation and enhancement, recreational, and water quality purposes, among others.

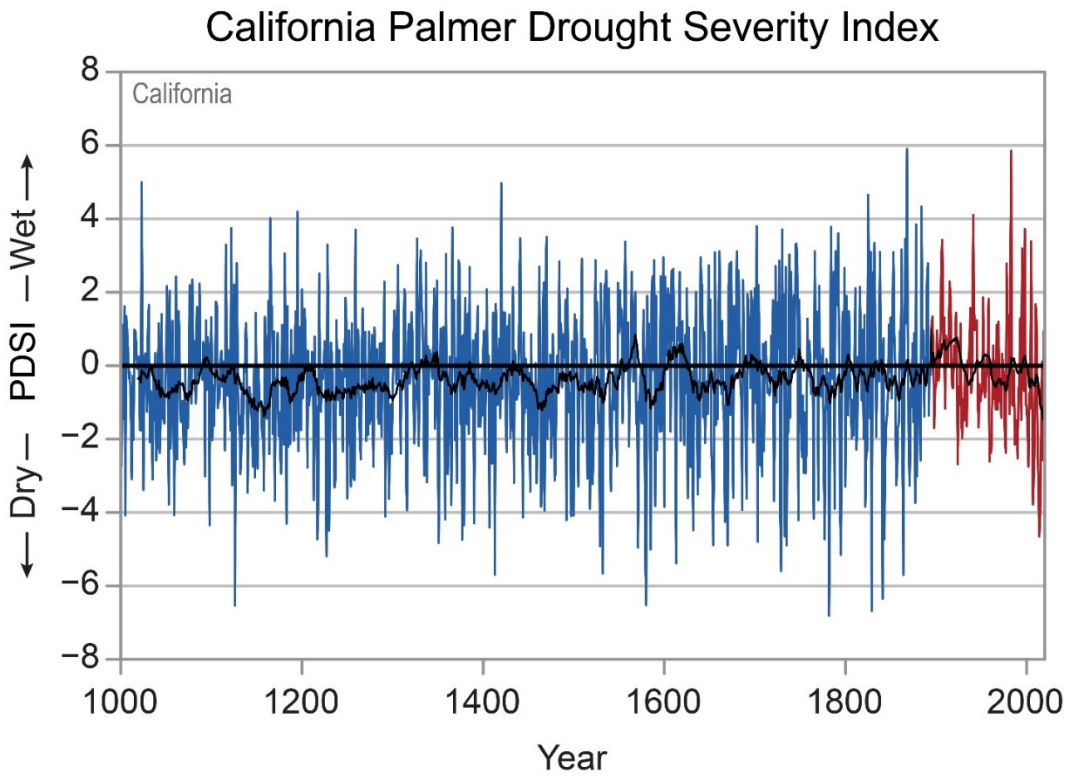

Figure 1. Time series of the Palmer Drought Severity Index for California from the year 1000 to 2020. Values for 1895–2020 (red) are based on measured temperatures and precipitation. Values prior to 1895 (blue) are estimated from indirect measures such as tree rings. The fluctuating black line is a running 20-year average. The extended record indicates prolonged wet and dry periods. In the modern era, the wet period of the 1900's and the recent dry period of the 2000's are clearly evident. Sources: CISESS and NOAA NCEI. Data: nClimDiv and NADAv2.

Today, evidence overwhelmingly reveals that the modern California climate is already different than the climate of a century ago when California's water law first developed. Since the beginning of the 21st century, average temperatures have risen almost 3°F in California with the hottest six years on record occurring since 2014 (2014, 2015, 2016, 2017, 2018, and 2020).[2] Likewise, California has experienced its two most severe dry periods on record since 2000 (2012–16 and 2020–present) and researchers now report that the state has, in fact, been experiencing a "megadrought" since the turn of the century. Indeed, this "megadrought" appears to be the worst such drought since the year 800 and its severity is due, in large part, to climate change.[3] Climate change is undeniable and models indicate it will drive temperatures higher in the future (Figure 2).

[2] Rebekah Frankson, Laura E. Stevens, and Kenneth E. Kunkel *et al*, "California State Climate Summary 2022," NOAA Technical Report NESDIS 150-CA, (2022): 6, https://statesummaries.ncics.org/chapter/ca/.
[3] A. Park Williams, Edward Cook, and Jason Smerdon *et al*, "Large contribution from anthropogenic warming to an emerging North American megadrought," *Science* 368, 6488 (2020): 314-318, DOI: 10.1126/science.aaz9600.

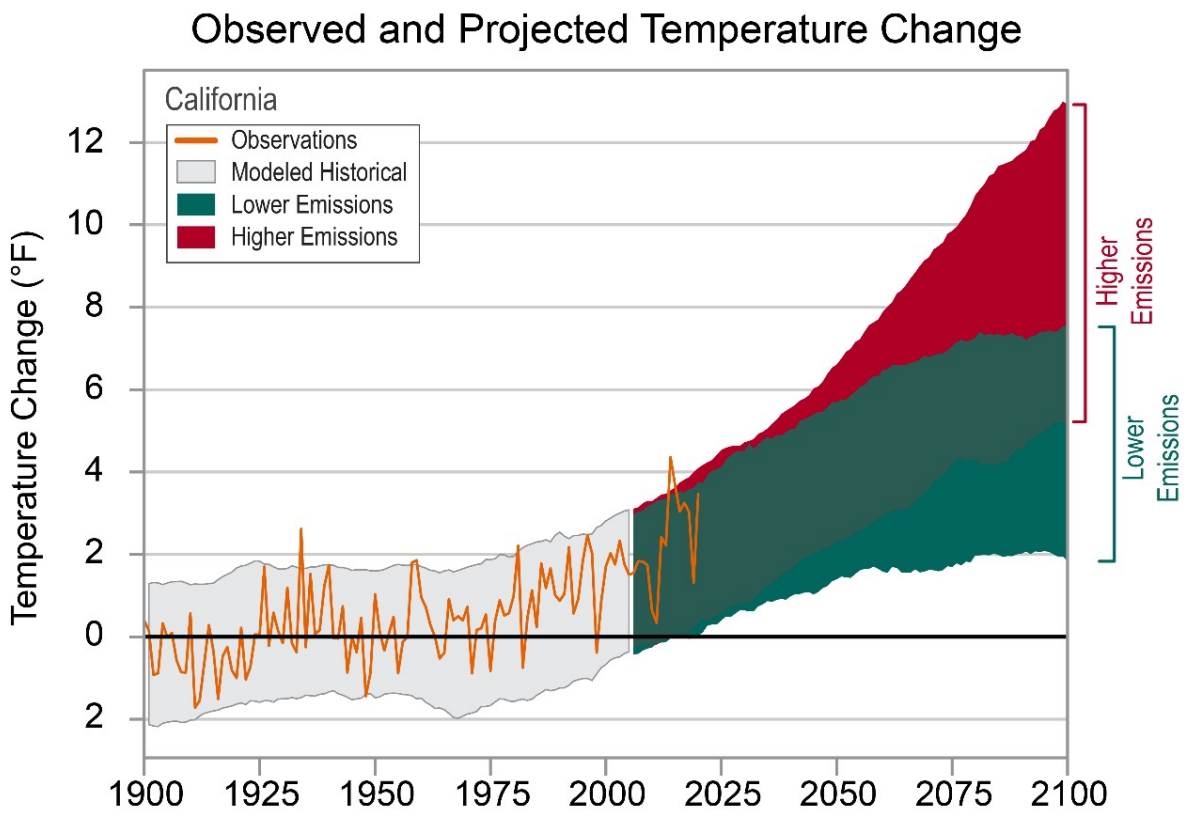

Figure 2

Along with "megadrought," concepts like low-to-no-snow future,[4] "aridification," and "megaflood"[5] have entered the lexicon of California water management. It is increasingly clear that climate change will stress water resources and its management like no other time in recorded history.

Development of California's water rights system

Some scholars have dubbed California's legal framework for surface water rights the "California doctrine"[6] and it is unique among all other states in that it recognizes both riparian and appropriative rights. The coexistence of the two types of surface water rights dates to the very beginning of California's statehood and was affirmed by the California Supreme Court in the 1886 landmark case *Lux v. Haggin* that recognized the legitimacy of both types of rights but determined "that riparian rights have priority over appropriative rights in most instances."[7]

[4] Erica Siirila Woodburn, Alan Rhoades, and Benjamin Hatchett *et al*, "A low-to-no snow future and its impacts on water resources in the Western United States," *Nature Reviews Earth & Environment*, 2 (2021): 800—819, https://www.nature.com/articles/s43017-021-00219-y.

[5] Xingying Huang and Daniel Swain, "Climate change is increasing the risk of a California megaflood," Science Advances, 8, 31 (2022): eabq0995, https://www.science.org/doi/10.1126/sciadv.abq0995.

[6] Donald Worster, *Rivers of Empire*, (New York: Oxford University Press, 1985), 107.

[7] Arthur Littleworth and Eric Garner, *California Water Law,* 3rd Edition, (Point Arena: Solano Press Books, 2019), 41.

Riparian rights are attached to land that is contiguous to a river, stream, or other natural water course and permit a landowner to put the water to beneficial use on their land. Riparian rights derive from English common law which the California Legislature adopted in 1850.[8] Appropriative rights, in contrast, are not tied to land ownership and do not require the holder to use the water on land adjacent to the body of water. Appropriative rights "arose in mining camps on public lands where no one could own the land and thus no one could get a riparian right."[9]

The doctrine of prior appropriation (also known as "first in time, first in right") applies to appropriative rights and is a seniority system that still applies today. Under prior appropriation, a junior water right holder (*i.e.*, one that claimed a right a date after a senior water right claimant) will have their right curtailed, or cut back, in times of shortage before the next claimant has their right curtailed. Like riparian rights, appropriative rights were recognized shortly after California became a state: first in the 1855 California Supreme Court case *Irwin v. Phillips* and later by an act of the Legislature in 1872.[10]

The fundamental principle in California water law is the "reasonable use doctrine" that is enshrined in Article X, Section 2 of the California Constitution. This provision was amended into the Constitution in 1928 to clarify that "the right to water or to the use or flow of water in or from any natural stream or watercourse in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served […]." This amendment was made in response to the 1926 California Supreme Court ruling in *Herminghaus v. Southern California Edison* that found that a riparian user (Herminghaus) had no obligation to use water reasonably in relation to an appropriative right holder (Southern California Edison) so long as the use by the riparian was "beneficial."[11] "Beneficial use" refers broadly to uses that benefit humans and the environment and include domestic use, irrigation, power generation, municipal use, industrial, fish and wildlife preservation and enhancement, recreational, and water quality, among others.

In 1913, the Legislature passed the Water Commission Act that established today's framework for obtaining a permit and license for the appropriation of surface water resources. Under the Water Commission Act, the Water Commission (the predecessor to the State Water Resources Control Board) had sole jurisdiction to issue a right to use unappropriated surface waters. The Act recognized that water rights obtained prior to its passage were still valid; this established another important distinction in appropriative surface water rights: pre-1914 rights and those obtained thereafter. There is limited information regarding pre-1914 surface water rights as pre-1914 rights holders did not obtain a permit or license from the State Water Board, and until recently, did not report volume of use to the State Water Board.[12]

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[8] Ibid., 40.
[9] Ibid., 50.
[10] Ibid., 51.
[11] Ibid., 42.
[12] Theodore Grantham and Joshua Viers, "100 years of California's water rights system: patterns, trends and uncertainty," *Environmental Research Letters*, 9 (2014): 3, https://iopscience.iop.org/article/10.1088/1748-9326/9/8/084012.

Groundwater is a critical source of supply that meets more than 35 percent of water demand in an average year and in excess of 50 percent of demand during drought years. There are three types of groundwater rights: overlying, appropriative, and prescriptive. The most common of these is the overlying right that entitles "an owner of land overlying groundwater to drill a well and pump groundwater for use of that land, within the basin or watershed."[13] Overlying groundwater rights are analogous to riparian rights and no permit is required to obtain them; they attach to the land and are transferred with the land if ownership changes.[14] The Sustainable Groundwater Management Act (SGMA) of 2014 put in place a statewide framework for groundwater management for the first time, but also stipulated that it did not alter surface or groundwater rights.[15]

Tribal water rights and federal reserved rights

Another important type of water right are federal reserved rights. The United States Supreme Court first recognized these rights in the 1908 case *Winters v. United States* finding that when the federal government reserves land for tribes, it implicitly reserves sufficient water on that land to accomplish the purposes of the reservation. Due to subsequent rulings, federal reserved rights apply to all lands held by the federal government and to both surface and groundwater; however, in many cases federal reserved rights are not quantified. The realization of these rights for tribes requires adjudication by a court or a settlement authorized by Congressional action. Despite having 110 tribes in California, only a handful of settlements have developed.

California's Water Supply Strategy - Adapting to a Hotter, Drier Future

In August 2022, Governor Newsom released this strategy to address a projected 10 percent decrease in water supply (6 million to 9 million acre-feet of water per year) by 2040 due to climate change. To address this shortfall, the strategy sets targets and outlines actions for increased water recycling, desalination, stormwater capture, and water conservation as well as an expansion of surface and underground storage by 4 million acre-feet. Achieving the targets laid out in the strategy would "close the evaporative gap."

One of the actions outlined in the strategy relevant to the topic of this hearing is to "modernize water rights administration for equity, access, flexibility, and transparency." Most of the implementation steps described under this action involve improving data on water rights and associated water use. The Governor has followed up in this area by proposing $31.5 million in his 2023-24 Budget proposal to complete the State Water Board's "Updating Water Rights Data for California Project" (UPWARD). Some of the other implementation steps hint at further reforms, but it is not clear if the Administration intends to pursue any of these concepts at this time.

[13] Arthur Littleworth and Eric Garner, *California Water Law,* 3rd Edition, (Point Arena: Solano Press Books, 2019),
78.
[14] Ibid., 79.
[15] Water Code § 10720.5.

Previous reform discussions and recent recommendations

Following the 1976–77 drought (at the time the second worst on record), Governor Jerry Brown created a commission to review California's water rights law. The commission released a final report in 1978 that outlined a number of reform recommendations pertaining to both surface and groundwater rights. No immediate action was taken on the commission's recommendations. Given this lack of action, calls for reform seem to have quieted over the next two decades, though this does not mean the issues identified by the 1978 Commission report were resolved. Writing in 2000, the historian Norris Hundley was critical of California's body of water law, describing it as a "badly fragmented water management system that, along with the patchwork of laws, has emerged from the cauldron of legislative and court battles over a century and a half."[16] Since the year 2000, in no small part due to the unprecedented water conditions that California has faced, a number of reports have noted challenges with California's water laws and offered recommendations for reform.

In preparation for this hearing, the Committee reviewed a number of these reports including the following:

- *Governor's Commission to Review California Water Rights Law: Final Report*, Wright, D. R., *et al.* (1978)
- *The Uncertain Future of Water Rights in California: Reflections on the Governor's Commission Report*, Brian Gray (2005)
- *Managing for Change: Modernizing California's Water Governance*, Little Hoover Commission (2010)
- *Allocating California's Water: Directions for Reform*, Public Policy Institute of California (2015)
- *Tapping Water Markets in California: 6 Policy Reforms*, Watson, R. (2016)
- *Water Rights Drought Effort Review*, State Water Resources Control Board (2021)
- *Updating California Water Laws to Address Drought and Climate Change*, Lee, C., Harder, J., Frank, R. et al (2022)
- Governor's Report: California's Water Supply Strategy (2022)
- *Recommendations: Updating Water Rights Data in California*, Water Foundation (2022)

Authors of these reports believe that California's water laws need to be reassessed to address today's challenges; safeguard the health, safety, and livelihoods of California's 40 million residents; support its economy; and protect California's ecosystems. Water crises, like drought and flood, further highlight aspects of California's water rights and governance that could perform better to promote equity, access, flexibility, and transparency.

Proposed recommendations in the reviewed reports roughly fall into four categories: streamlining the oversight of water rights, improving accuracy and transparency of information,

[16] Norris Hundley, *The Great Thirst*, Revised Edition, (Berkeley: University of California Press, 2001), 527.

addressing environmental water needs, and increasing flexibility in preparation for an uncertain water future.

Streamlining oversight. The disjointed system of water rights (*i.e.,* riparian, pre-1914 appropriative, post-1914 appropriative) and the separate management of hydrologically-connected ground and surface water, quickly complicate water rights oversight in California. Recommendations to streamline management include bringing all surface water users under the State Water Board's permitting system, establishing more equitable fees across water rights holders, and restructuring current governance by clarifying the roles of different water agencies and bringing them under a single water authority.[17] Many proposals also suggest streamlining the administrative processes of water transfers and permits by reducing review periods and shifting responsibilities for reporting environmental impacts to the objecting parties. To close gaps in State Water Board authority, proposed reforms suggest giving the State Water Board the ability to issue orders to stop water usage in the time between a notice and hearing for misused water (*i.e.,* interim or injunctive relief orders) and investigate whether water rights claimants or diverters have verifiable water rights. These additional responsibilities and labor would need to be accompanied by sufficient funding. To streamline water dispute adjudication, some suggest appointing regional water law experts to navigate the complicated system, similar to the water courts systems in Montana, Colorado, and Idaho.

Improving accuracy and transparency of information. Meaningful water oversight is a historical challenge because of the lack of timely and useful data. Proponents of water rights modernization agree that high-quality, real-time tracking of water diversions and agile regulation and enforcement (*e.g.,* curtailments, cease-and-desist orders) are critical for water rights administration and environmental protection. This approach requires additional instrumentation, funding, and human resources to be effective, but will facilitate better understanding of the tradeoffs in water allocation decisions as California goes forward into an uncertain water future. Tracking the possession and quantity of the current water rights in California is challenging as these data are not consolidated on a single, well maintained electronic management system; as a result, an unknown number of water rights are uncounted. Currently, the State Water Board has invested $30 million to digitize existing paper records and rebuild the California's water right data management system, including pilot projects to track diversions and tools to implement the water right priority system.[18] In addition to this technical data, some proposals suggest compensating non-profit, non-governmental organizations, and tribes for their reasonable and necessary expenses in proceedings before the State Water Board where their expertise contribute significantly to the State Water Board's decision.

[17] Little Hoover Commission, *Managing for Change: Modernizing California's Water Governance* (2010).
[18] Governor's Report, *California's Water Supply Strategy, Adapting to a Hotter, Drier Future* (2022).

Addressing environmental water needs. Several of the reports reviewed recommend that environmental water allocations be protected. Increasing environmental allocations may be achieved by streamlining the review process for environmental water trades and short-term transfers that have the goal of preserving or enhancing wetlands habitat, fish and wildlife resources, or recreation. Some suggest that conducting comprehensive environmental reviews for a specific geographic area, hydrological zone, or conveyance system instead of individual reviews for each trade would expedite water transfers.

Increasing flexibility under changing conditions. Minimal steps have been taken to update the law in the face of increasing variability of water driven by climate change. Most reports agree that part of the solution is to facilitate both water sharing and water storage to safeguard against drought. However, current California law does not encourage water storage investments if the party storing the water cannot identify a specific end use, so several reforms have suggested explicitly including underground storage (aquifer recharge) as a beneficial use. An additional recommendation includes providing greater specificity for determining water availability in the issuance and administration of water right permits and licenses, which would include consulting climate change experts in water planning decisions.[19]

The common thread in these proposals is to increase coherence, transparency, and flexibility, while protecting water right-holders and public values. These changes are intended to reduce uncertainty, lower administrative costs, and enable more nimble water management. Water rights reform has been suggested before, although it has been largely ignored because of a lack of political will, public support, or sense of urgency (*i.e.,* no current water crisis).[20] The reports reviewed by this Committee largely agree that targeted, incremental changes will be less disruptive, more legally defensible, and easier to implement than a major overhaul of the state's complex water rights system.

[19] The passage of SB 1205 (Allen) in 2022 is anticipated to address this concern.
[20] Harrison Dunning, *Water Allocation in California: Legal Rights and Reform Needs*, Institute of Governmental Studies (1982).

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AGENDA

9:00 AM, Tuesday, May 2, 2023
State Capitol, Room 444

INFORMATIONAL HEARING

Update on the Status of the Colorado River and Potential Impacts on California

Opening Remarks

Assemblymember Rebecca Bauer-Kahan, Chair, Assembly Water, Parks, and Wildlife Committee

Changing hydrology of the Colorado River Basin

Dr. John (Jack) C. Schmidt, Janet Quinney Lawson Chair in Colorado River Studies, Department of Watershed Sciences, Quinney College of Natural Resources, Utah State University

Approaches to address shortage on the Colorado River

Wade Crowfoot, Secretary, California Natural Resources Agency

JB Hamby, Chairman, Colorado River Board of California; State of California Colorado River Commissioner; and Vice President, Imperial Irrigation District Board of Directors

Chris Harris, Executive Director, Colorado River Board of California

How Southern California is preparing for climate impacts to water supplies

Silvia Paz, Executive Director, Alianza Coachella Valley

Tina Shields, Water Department Manager, Imperial Irrigation District

Adel Hagekhalil, General Manager and Chief Executive Officer, Metropolitan Water District of Southern California

Sandra Kerl, General Manager, San Diego County Water Authority

Public Comment

COMMITTEE ON WATER, PARKS, AND WILDLIFE

BAUER-KAHAN, Chair

INFORMATIONAL HEARING

Tuesday, May 2, 2023

9:00 am – State Capitol, Room 444

Update on the Status of the Colorado River and Potential Impacts on California

The Colorado River is a critical resource in the West. The 1,440-mile-long Colorado River passes through parts of seven U.S. states – Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming, two Mexican states (Baja California and Sonora), and many Native American tribal lands, which depend on it for water supply, hydropower, recreation, fish and wildlife habitat, and other benefits. The river is used to irrigate 5.5 million acres of agricultural land and to provide municipal and industrial water supplies to 40 million people.

Water from the Colorado River is regulated by dams and stored in reservoirs. Two major dams along the Colorado River are the Glen Canyon Dam and the Hoover Dam. Lake Powell, the reservoir associated with the Glen Canyon Dam, has a storage capacity of 25.16 million acre- feet (MAF).[1] Lake Mead, the reservoir associated with the Hoover Dam, has an operational storage capacity of 26.12 MAF.[2] Including smaller dams and reservoirs, the Colorado River system is able to store approximately 60 MAF.[3]

When one factors in the Colorado River Basin's longest drought on record (1999-present), projected population growth, and climate change modeling that suggests longer dry periods, conflict over the allocation of Colorado River flows is only likely to increase absent new actions to address the imbalance of supply and demand.

Colorado River background

The Colorado River is managed and operated under numerous compacts, federal laws, court decisions and decrees, contracts, and regulatory guidelines collectively known as the "Law of the River."[4] This collection of documents apportions the water and regulates the use and management of the Colorado River among the seven basin states and Mexico. The Colorado River Compact, signed in 1922, is the cornerstone of the "Law of the River" and

[1] U.S. Geologic Survey. (2022). Lake Powell's storage capacity updated for first time since 1986. Accessed April 24, 2023, at www.usgs.gov/news/national-news-release/lake-powells-storage-capacity-updated-first-time-1986.

[2] National Park Service. (2022). Storage capacity of Lake Mead. Accessed April 24, 2023, at www.nps.gov/lake/learn/nature/storage-capacity-of-lake-mead.htm.

[3] National Research Council. (2007). Colorado River Basin Water Management: Evaluating and Adjusting to Hydroclimatic Variability. Washington, DC: The National Academies Press. Accessed April 24, 2023, at https://doi.org/10.17226/11857.

[4] U.S. Bureau of Reclamation. (2015). Law of the river. Accessed April 24, 2023, at www.usbr.gov/lc/region/pao/lawofrvr.html.

divided the river into two basins: the Upper Basin (Colorado, New Mexico, Utah, and Wyoming) and the Lower Basin (Arizona, California and Nevada) (Figure 1). Each basin was allocated 7.5 MAF of the river's water on a 10-year average basis.[5]

Figure 1. Colorado River Basin map showing Upper Basin and Lower Basin states. (Source: https://www.usbr.gov/lc/region/programs/crbstudy.html)

Mexico was not a signatory to the Colorado River Compact; however, the Mexican Water Treaty of 1944 (1944 Treaty) committed the U.S. to deliver 1.5 MAF of water to Mexico on an annual basis, plus an additional 200,000 acre-feet (AF) under surplus conditions. The 1944 Treaty is overseen by the International Boundary and Water Commission (IBWC).

There are 30 federally recognized tribes in the Colorado River Basin and none were party to the Colorado River Compact. Twenty two of these tribes have recognized rights to use 3.2 MAF of Colorado River system water annually, or approximately 22% to 26% of the basin's average annual water supply. In addition, 12 of the tribes have unresolved water rights claims, which will likely increase the overall volume of tribal water rights in the basin when

[5] Colorado River Compact. (1922). Accessed April 24, 2023, at www.usbr.gov/lc/region/pao/pdfiles/crcompct.pdf.

[6] University of Montana Center for Natural Resources and Environmental Policy. (2021). Policy Brief #4: The Status of Tribal Water Rights in the Colorado River Basin. Accessed April 24, 2023, at www.naturalresourcespolicy.org/publications/policy-brief- 4-final-4.9.21-.pdf.

resolved. Under the Upper Colorado River Basin Compact and the U.S. Supreme Court's decree in *Arizona v.California*, all tribal water uses are accounted for within the apportionment of the states where the water use occurs and are generally senior to most state-based water rights.[6] With many of the oldest water rights in the basin, the tribes are in a position to play a significant role in balancing water demand and supply and otherwise shaping the future of the region.

Hydrology

Precipitation and runoff in the basin are highly variable. Water conditions on the river depend largely on snowmelt in the basin's northern areas. When the Colorado River Basin states drafted the Colorado River Compact in 1922, the basin had a population of approximately 5.8 million and the negotiators apportioned the Colorado River's water based on the assumption that the annual average flow was 16.4 MAF at Lee Ferry, Arizona.[7] However, the period 1905- 1922, which was used to estimate water production allocated under the Colorado River Compact, had the highest long-term annual flow volume at Lee Ferry in the 20th century.[8]

Long-term data (1906-2018) show that natural flows in the Colorado River Basin average about 14.8 MAF annually. Flows have dipped significantly during the current drought (2000-present) with natural flows from 2000 to 2018 averaging approximately 12.4 MAF per year.[9] Recent research shows that the 22-year period from 2000 to 2021 is the driest period in at least 1200 years.[10]

Today, the Colorado River Basin provides water for approximately 40 million people. From 1971 to 2002, total consumptive use and losses grew from 13 MAF to over 16 MAF annually. These levels dropped after the 2003 approval of the Quantitative Settlement Agreement (QSA) (see QSA section below) and have ranged from 14 to 15.5 MAF since that time, in part due to decreasing consumptive use in the Lower Basin. Even with decreasing consumptive use, the downward trend in natural flows has caused a significant drawdown of basin storage levels.[11]

California and the Colorado River

Specific allocations for each basin state were not established under the Colorado River

[7] National Research Council. (2007).

[8] Congressional Research Service. (2020). Management of the Colorado River: Water Allocations, Drought, and the Federal Role. Accessed April 24, 2023, at https://crsreports.congress.gov/product/pdf/R/R45546/13.

[9] U.S. Bureau of Reclamation. (2022a). Colorado River Basin Natural Flow and Salt Data-Current Natural Flow Data 1906-2016. Accessed April 24, 2023, at www.usbr.gov/lc/region/g4000/NaturalFlow/current.html.

[10] Williams, A.P., Cook, B.I., and Smerdon, J.E. (2022). Rapid intensification of the emerging southwestern North American megadrought in 2020–2021. Nature Climate Change, Vol 12, 232-234. Accessed April 24, 2023, at ww.nature.com/articles/s41558-022-01290-z.epdf.

[11] Congressional Research Service. (2020).

Compact. The Lower Basin states were given their annual allocations in 1928 as part of the Boulder Canyon Project Act, which also authorized construction of Hoover Dam.[12] The annual allotments in the Upper Basin were established by the Upper Colorado River Basin Compact of 1948.[13]

Under the "Law of the River," California has senior rights compared to other Colorado River Lower Basin states, and California's Colorado River apportionment is 4.4 MAF annually, plus half of any surplus. In 1931, California water agencies entered into the "Seven-Party Agreement" that divided California's apportionment amongst Palo Verde Irrigation District (PVID), Imperial Irrigation District (IID), Coachella Valley Water District (CVWD), Metropolitan Water District of Southern California (MWD), the City of Los Angeles, the City of San Diego, and the County of San Diego (Table 1).

Table 1. Seven Party Agreement details showing division of California's 4.4 MAF per year[14]

Priority level	**Use**	**Water amount**
Priority 1	PVID (based on irrigation of 104,500 acres)	Not to exceed 3.85 MAF per year
Priority 2	Reclamation's Yuma Project lands in California (not to exceed 25,000 irrigated acres)	
Priority 3	IID and lands served by the All American Canal[a]; and PVID for use in the Lower Palo Verde Mesa (16,000 irrigated acres)	
Priority 4	MWD	550,000 AF per year
Priority 5	MWD and San Diego	550,000 AF per year and 112,000 AF per year[b]
Priority 6	IID and lands served by the All American Canal[a]; and PVID for use in the Lower Palo Verde Mesa (16,000 irrigated acres)	Not to exceed 300,000 AF per year
Total of Priorities 1 through 6 is 5.362 MAF per year		
Priority 7	All remaining water available for use in California, for agricultural use in California's Colorado River Basin.	

[a] As modified by State Water Board Revised Order WRO 2002-0013, IID effectively has a right to 3.1 MAF annually.[15]

[b] Transferred to MWD.

[12] Boulder Canyon Project Act. (1928). Accessed April 24, 2023, at www.usbr.gov/lc/region/pao/pdfiles/bcpact.pdf.

[13] Upper Colorado River Basin Compact. (1948). Accessed April 24, 2023, at www.usbr.gov/lc/region/pao/pdfiles/ucbsnact.pdf.

[14] Department of Water Resources. (1998). Bulletin 160-98: California Water Plan, Chapter 9. Accessed April 26, 2023, at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=8789.

[15] State Water Resources Control Board. (2002). Order WRO 2002 – 0013. Accessed April 24, 2023, at www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/orders/2002/wro2002-13.pdf.

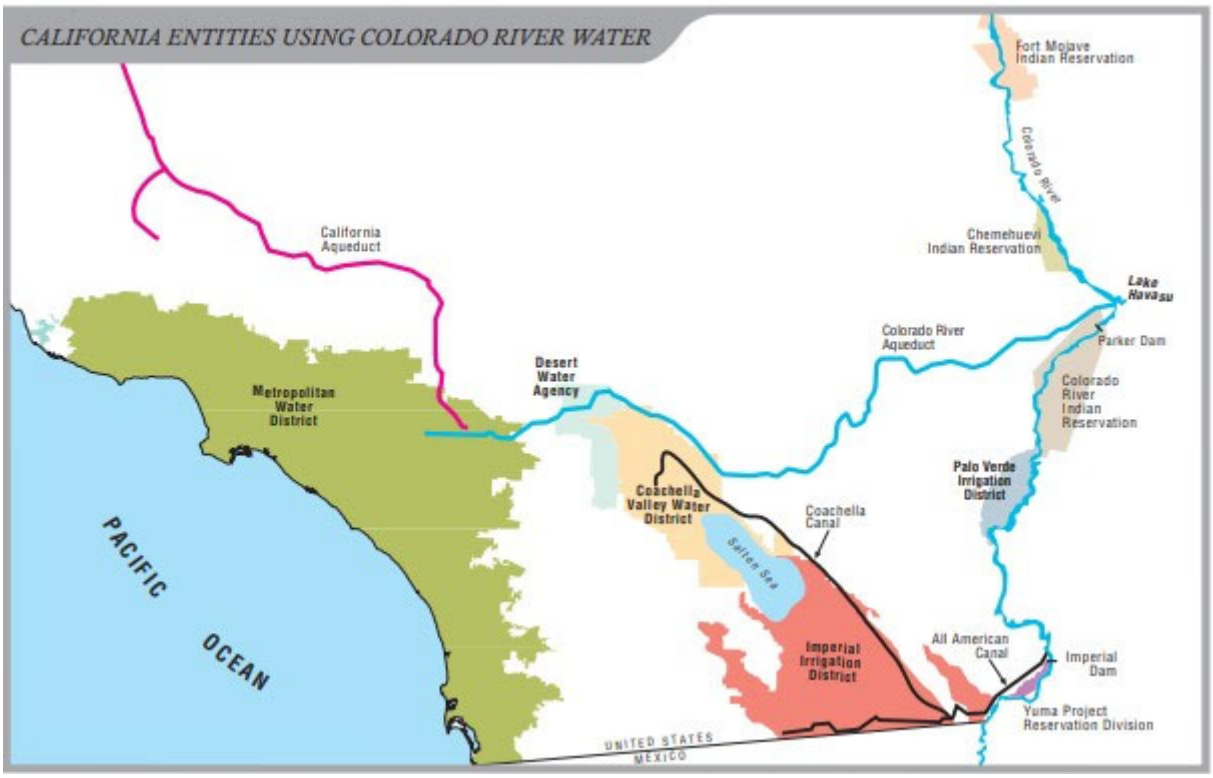

Figure 2. Map showing California entities using Colorado River water.
(Source: https://www.mwdh2o.com/member-agencies/)

Quantification Settlement Agreement (QSA)

The QSA is a historic water agreement signed in 2003 that limits California's Colorado River water usage to 4.4 MAF annually. The QSA came in response to California consistently using available surplus water above its annual Colorado River entitlement of 4.4 MAF. Additionally, the water needs of the six other Colorado River Basin states had grown, making the river's shared use increasingly crucial. Key elements of the QSA include water conservation measures, environmental mitigation obligations, regulatory provisions, and funding agreements. The QSA includes water transfers from IID to the San Diego County Water Authority (SDCWA) and CVWD of up to 300,000 AF per year for at least 35 years.[16] By transferring water out of the Imperial Valley, the QSA reduces the amount of water available for agricultural use in the area. In turn, this reduces the amount of water flowing into the Salton Sea – further increasing salinity and causing the sea's shoreline to recede (see Salton Sea section below). Any additional reductions in Colorado River usage in the Imperial Valley will result in additional impacts to the Salton Sea.

[16] Imperial Irrigation District. (n.d.). QSA – Water Transfer. Accessed April 24, 2023, at www.iid.com/water/library/qsa-water- transfer.

The Salton Sea

The Salton Sea is California's largest lake and was once famous for its sport fishery and recreational uses. It is located in southern Riverside County and northern Imperial County in southeastern California. The sea is approximately 35 miles long and up to 15 miles wide with approximately 320 square miles of water surface and 105 miles of shoreline.
The modern Salton Sea was created in 1905 as a result of flood flows from the Colorado River. Since then, approximately 90% of the freshwater inflow to the Salton Sea is agricultural runoff from the Imperial Valley, preventing the sea from drying up as had occurred in the past. As the Salton Sea has no outlets, salts and nutrients concentrate in it. Currently, the Salton Sea has a salinity level that is approximately 60% higher than the ocean. Increasing levels of salinity have significantly reduced the presence of fish in the sea. In addition, as the sea has become increasingly nutrient polluted (eutrophication), the occurrences of fish die-offs and unpleasant odors have made the area a much less attractive destination for recreation.

The surface elevation of the Salton Sea has steadily declined since the implementation of the QSA. When the water transfer began in 2003, IID was required to put mitigation flows into the sea for 15 years. Mitigation flows into the sea stopped as of January 1, 2018. A decrease of over ten feet in elevation from 2003 to 2023 has resulted in a net exposure of 27 square miles of dry lake bed – known as "playa."[17]

In many areas, the playa consists of fine sediments that were deposited at the bottom of the sea over many years. Due to the high winds and arid climate around the sea, the wind picks up significant amounts of fine dust, increasing the amount of particulate matter in the air and contributing to poor air quality in the Imperial and Coachella Valleys. Particulate matter is especially dangerous to children and the elderly. Over time, particulate matter can become trapped in the lungs, causing asthma attacks, bronchitis, lung diseases, and can exacerbate existing heart conditions. While not solely attributable to the playa, Imperial County has one of the highest rates of asthma-related emergency room visits for children in California.[18]

In order to facilitate the signing of the QSA, the state agreed to assume most of the financial responsibility for mitigating negative environmental impacts and for Salton Sea restoration efforts. The QSA limits the funding for mitigation related to the water conservation and transfer activities, as well as Salton Sea restoration, for certain QSA parties (IID, SDCWA, and CVWD) to $163 million in 2003 dollars, adjusted for inflation. The Legislature enacted several bills in 2003 to implement the QSA.[19]

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[17] Pacific Institute. (2023). Current Information on the Salton Sea. Accessed April 24, 2023, at https://pacinst.org/current- information-salton-sea/.

[18] Farzan, S.F., Razafy, M., Eckel, S.P., Olmedo, L., Bejarano, E., and Johnston, J.E. (2019). Assessment of Respiratory Health Symptoms and Asthma in Children near a Drying Saline Lake. International journal of environmental research and public health 16(20), 3828. Accessed April 24, 2023, at https://doi.org/10.3390/ijerph16203828.

[19] SB 277 (Ducheny), Chapter 611, Statutes of 2003; SB 317 (Kuehl), Chapter 612, Statutes of 2003; SB 654 (Machado), Chapter 613, Statutes of 2003.

These legislative measures spell out the financial responsibility assumed by the state, consistent with the QSA, and also establishes a number of broad goals for the restoration effort.

California has committed more than $500 million for restoration and mitigation projects since the QSA, with the majority of funding being appropriated in the last five years.[20] Under a recent agreement, the U.S. Department of the Interior will provide an additional $250 million.[21]

Mexico and the Colorado River

The Colorado's natural terminus is the Gulf of California in Mexico, but because of dams and diversion facilities throughout the Colorado River Basin, natural flow rarely reaches the Gulf. Water diverted at Morelos Dam near the California-Baja California land boundary is primarily used to irrigate Mexicali Valley farmland and supply the cities of Mexicali, Tecate, and Tijuana.

In 2007, Mexico and the U.S. agreed to a formal process managed by the IBWC to discuss issues of mutual concern to both nations related to the Colorado River. The discussions resulted in a series of Minutes (agreements) to the 1944 Treaty designed to increase cooperation between the two countries on management of the river.

Among the agreements, Minute 319 partially resolved the question of when Mexico will take a shortage in its Colorado River supplies.[22] Mexico agreed to take a lesser amount of water during times of drought in exchange for establishment of the Intentionally Created Mexican Apportionment, which allows Mexico to store water in Lake Mead during times of surplus or when, because of infrastructure problems, it cannot use its entire annual allocation. Minute319 also solidified ongoing water supply and environmental restoration work in the Mexican Delta. In 2014, the gates of Morelos Dam were lifted to allow a pulse flow of water into the final stretch of the Colorado River for eight weeks.

A continuation of Minute 319 called Minute 323 was finalized in September 2017.[23] The agreement provides a continuous flow of water to the Colorado River Delta and expands the restored habitat area from 1,700 to 4,300 acres.

[20] California Natural Resources Agency. (2022). Annual Report on the Salton Sea Management Program – 2021. Accessed April24, 2023, at https://saltonsea.ca.gov/wp-content/uploads/2022/02/2022-Annual-Report_English_Feb-24-2022_Final.pdf.

[21] Various parties. (2022). Commitment to Support Salton Sea Management Related to Water Conservation in the Lower Colorado River Basin. Accessed April 24, 2023, at www.usbr.gov/lc/region/saltnsea/pdf_files/Salton_Sea_Agreement_signed_12.9.22.pdf.

[22] International Boundary and Water Commission. (2012). Minute 319 Fact Sheet. Accessed April 24, 2023, at www.ibwc.gov/Files/Minutes/Min319_Env_Fact_Sheet.pdf.

[23] International Boundary and Water Commission. (2017). Minute 323. Accessed April 24, 2023, at https://www.ibwc.gov/Files/Minutes/Min323.pdf.

Mexico is allowed to continue storing water in Lake Mead and both the U.S. and Mexican governments agreed to provide funding and other resources for research projects along the border and throughout the region. In 2021, a May to October release of 35,000 AF of water occurred to help create environmental benefits for plants, birds and wildlife.[24]

Minute 323 requires that the U.S. contribute $31.5 million to conservation projects in Mexico focused on improving infrastructure. These projects are expected to save about 200,000 AF of water each year. The funding comes from the U.S. government, as well as MWD, IID, Southern Nevada Water Authority, and Central Arizona Water Conservation District. In return, these water agencies will receive a portion of the conserved water. In addition to funding for conservation projects, the U.S. government and nongovernmental agencies will fund $18 million for habitat restoration and monitoring.[25] Minute 323 expires in 2026 at the same time as the 2007 Interim Guidelines and the 2019 Drought Contingency Plan (see below sections).

Interim Guidelines (2007)

The Secretary of the Interior issued a Record of Decision in December 2007 outlining Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (Interim Guidelines) that are in place through 2026.[26] The key components of the guidelines are:

1) A shortage strategy for Lake Mead and the Lower Division states;

2) Coordinated operations of Lake Powell and Lake Mead through a full range of operations;

3) A mechanism for the creation and delivery of conserved system and non-system water in Lake Mead (Intentionally Created Surplus); and

4) The modification and extension of the existing Interim Surplus Guidelines.[27]

The shortage strategy in the Interim Guidelines spells out the Lake Mead levels at which the Secretary of Interior will deem the Lower Basin to be in a "shortage condition" thereby reducing the amount of water available for consumptive use (see Figure 3).

[24] Water Education Foundation. (n.d.). Colorado River water and Mexico. Accessed April 24, 2023, at https://www.watereducation.org/aquapedia/mexico-and-colorado-river-water.

[25] Ibid.

[26] U.S. Department of the Interior. (2007). Record of Decision - Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead. Accessed April24, 2023, at www.usbr.gov/lc/region/programs/strategies/RecordofDecision.pdf.

[27] Ibid.

Drought contingency plans (2019)

As drought across the Colorado River Basin worsened after 2007, the risk of Lake Mead levels reaching critically low elevations became more real. With the realization that the Interim Guidelines were inadequate in light of the drought and projected future hydrology, the U.S. Bureau of Reclamation (Reclamation) and the basin states developed operational tools that would reduce the risk of Lake Mead and Lake Powell reaching critically low elevations (1,020' and 3,490'/3,525', respectively). In 2019, the Upper Basin and Lower Basin Drought Contingency Plans (DCPs) were signed.

The Upper Basin DCP is designed to reduce the risk of reaching critical elevations at Lake Powell and to help assure continued compliance with the 1922 Colorado River Compact. The Drought Response Operations Agreement (DROA) is one element of the Upper Basin DCP. The DROA identifies a process to temporarily move water stored in the Colorado River Storage Project Initial Units above Lake Powell – Aspinall, Flaming Gorge, and Navajo – to Lake Powell when it is projected to approach elevation 3,525', which was identified in the DROA as the target elevation. This elevation provides a 35-foot buffer above the minimum power pool of 3,490', which is the quantity of water needed to generate power out of the dam. Maintaining an elevation above 3,525' allows for compliance with interstate water compact obligations, maintains the ability to generate hydropower at Glen Canyon Dam, and minimizes adverse effects to resources and infrastructure in the Upper Basin.[28]

The Lower Basin DCP requires additional water savings contributions by Lower Basin States; allows for additional flexibility for water storage and recovery to incentivize conservation; includes efforts to create or conserve 100,000 AF of system water annually; and triggers the Binational Water Scarcity Contingency Plan with Mexico (see Figure 3).[29] Under the various agreements that outline shortage reductions, California does not take reductions until a Tier 2b declaration.

[28] U.S. Bureau of Reclamation. (2023a). Colorado River Basin Drought Contingency Plans. Accessed April 24, 2023, at www.usbr.gov/dcp/.

[29] U.S. Bureau of Reclamation. (2022b). "Colorado River System Status Update: Overview of the Lower Basin DC Pand "500 Plus" Plan." Presentation to the IBWC Colorado River Citizens Forum. Accessed April 24, 2023, at https://ibwc.gov/Files/CF_CO_DBunk_CFUpdate.pdf.

Shortage Reductions and Water Savings Contributions
Under the 2007 Interim Guidelines, Minute 323, Lower Basin Drought Contingency Plan (DCP)*,
and Binational Water Scarcity Contingency Plan
(Volumes in thousand acre-feet)

	Lake Mead Elevations (in feet)	2007 Interim Guidelines Shortage Reductions (U.S.)		Minute 323 Delivery Reductions (Mexico)	Total Combined Shortage Reductions (U.S. and Mexico)	DCP Water Savings Contributions (U.S.)			Binational Water Scarcity Contingency Plan Water Savings (Mexico)	Combined Volumes of Shortage Reductions and Water Savings Contributions by Lower Basin State and by Country (U.S. and Mexico)					Total Combined Volumes (U.S. and Mexico)
		AZ	NV	Mexico	*Lower Basin States + Mexico*	AZ	NV	CA	Mexico	*AZ Total*	*NV Total*	*CA Total*	*Lower Basin States Total*	*Mexico Total*	*Lower Basin States + Mexico*
	1,090 - >1,075	0	0	0	*0*	192	8	0	41	192	8	0	*200*	*41*	*241*
Tier 1 →	1,075 - >1050	320	13	50	*383*	192	8	0	30	512	21	0	*533*	*80*	*613*
Tier 2a →	1,050 - >1,045	400	17	70	*487*	192	8	0	34	592	25	0	*617*	*104*	*721*
Tier 2b	1,045 - >1,040	400	17	70	*487*	240	10	200	76	640	27	200	*867*	*146*	*1,013*
	1,040 - >1,035	400	17	70	*487*	240	10	250	84	640	27	250	*917*	*154*	*1,071*
	1,035 - >1,030	400	17	70	*487*	240	10	300	92	640	27	300	*967*	*162*	*1,129*
	1,030 – 1,025	400	17	70	*487*	240	10	350	101	640	27	350	*1,017*	*171*	*1,188*
Tier 3 →	<1,025	480	20	125	*625*	240	10	350	150	720	30	350	*1,100*	*275*	*1,375*

*Under the Lower Basin DCP, the United States will take affirmative actions to create or conserve 100,000 acre-feet or more of Colorado River system water on an annual basis to contribute to conservation of water supplies in Lake Mead and other Colorado River reservoirs in the Lower Basin. All actions taken by the United States shall be subject to applicable federal law, including availability of appropriations.

7

Figure 3: Chart showing shortage reductions and water savings contributions under the 2007 Interim Guidelines, Minute 323, Lower Basin DCP, and Binational Water Scarcity Contingency Plan. (Source: https://ibwc.gov/Files/CF_CO_DBunk_CFUpdate.pdf)

Recent updates

On August 16, 2021, Reclamation declared the first-ever official water shortage on the Colorado River by declaring a Tier 1 shortage.[30] This triggered the largest mandatory water cuts in the Colorado River Basin as of that date. On August 16, 2022, Reclamation declared the first-ever Tier 2a Shortage Condition under the Lower Basin DCP for Lake Mead.[31]

As of April 24, 2023, Lake Mead was at 29% capacity at an elevation of 1,047.09'.[32] Water elevation of 950', or eight percent of capacity, is the minimum power pool needed to generate power at Hoover Dam. Water elevations between 950' to 895' are considered "inactive pool" because water can be released from the dam downstream but does not generate hydropower. A water elevation of 895' is considered "dead pool," which is when downstream releases from Hoover Dam are no longer possible. Recent 24-month projections

[30] Goodland, M. (2021). Bureau of Reclamation declares first-ever shortage on the Colorado River basin, triggering water reductions. Colorado Politics. Accessed April 24, 2023, at www.coloradopolitics.com/news/bureau-of-reclamation- declares-first-ever-shortage-on-the-colorado-river-basin-triggering-water-reductions/article_c4d53aae-fed6-11eb-99ab-572607ec7d67.html.

[31] U.S. Department of the Interior. (2022). Interior Department Announces Actions to Protect Colorado River System. Accessed April 24, 2023, at www.doi.gov/pressreleases/interior-department-announces-actions-protect-colorado-river-system-sets-2023

[32] U.S. Bureau of Reclamation. (2023b). Lower Colorado River water supply report, 4/24/2023. Accessed April 24, 2023, at www.usbr.gov/lc/region/g4000/weekly.pdf.

show that Lake Mead is likely to remain in shortage conditions, either Level 1 or Level 2, between now and March 2025.

As of April 24, 2023, Lake Powell was at 24% capacity at an elevation of 3,525.31'.[33] Elevation 3,370' is known as "dead pool" and is the point at which no "excess" water can be passed through the dam – only the volume of water that enters the reservoir will be able to be delivered downstream. Due to recent inflows and anticipated snowmelt, projections show that Lake Powell is likely to have increasing water elevations and is unlikely to drop below minimum power pool (elevation 3,490') between now and March 2025.[34]

Next steps

In June 2022, the Reclamation Commissioner testified before the U.S. Senate Committee on Energy and Natural Resources and called on water users across the basin to take actions to prevent the reservoirs from falling to critically low elevations. The basin states had until Monday, August 15, 2022, to reach an agreement to save two to four MAF of water in 2023, or Reclamation would take action to preserve the system. An agreement was not reached, and the Level 2a Shortage Condition was declared on August 16, 2022.

In November 2022, the Secretary of the Interior directed Reclamation to prepare a Supplemental Environmental Impact Statement (SEIS) to the final Environmental Impact Statement (EIS) completed for the 2007 Interim Guidelines in order to modify operating guidelines for Glen Canyon Dam and Hoover Dam to address the historic drought and low runoff conditions in the Colorado River Basin.[35] The need for the revised operating guidelines is based on the potential that continued low runoff conditions in the basin could lead to critically low reservoir conditions at Lake Powell and Lake Mead that impact both water delivery and hydropower operations in 2023 and 2024.[36]

Reclamation set a new deadline of January 31, 2023, for the basin states to contribute a plan to address anticipated shortages that could be analyzed as an alternative under the SEIS. The four Upper Basin states, plus Arizona and Nevada, submitted a plan on January 30, 2023.[37] The six- state plan calls for incorporating system losses (e.g., evaporation) into allocations.

[33] Ibid.

[34] U.S. Bureau of Reclamation. (2023c). 24-Month Study Projections. Accessed April 24, 2023, at www.usbr.gov/lc/region/g4000/riverops/24ms-projections.html.

[35] Federal Register. (2022). Notice of Intent To Prepare a Supplemental Environmental Impact Statement for December 2007 Record of Decision. Accessed April 24, 2023, at www.federalregister.gov/d/2022-25004.

[36] U.S. Bureau of Reclamation. (2022c). Annual Operating Plan for Colorado River Reservoirs 2023. Accessed April 24, 2023, at www.usbr.gov/uc/water/rsvrs/ops/aop/AOP23_draft.pdf.

[37] Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming. (2023). Six State Modeling Alternative. Accessed April 24, 2023, at www.snwa.com/assets/pdf/seis-letter.pdf.

Though a tenth of Colorado River water is eventually lost due to evaporation and leaks in infrastructure as it travels to the Lower Basin, system water losses have not traditionally been factored into state water allotments. Under the six-state proposal, California would stand to lose as much as a third of the water it gets from the Colorado River (more than 1 MAF per year) if reservoir levels continue to drop. Arizona and Nevada's reductions would be far less since they are upstream and less affected by system losses than California.

California submitted a separate plan for consideration on January 31, 2023.[38] California's proposed framework seeks to protect Lake Mead elevation of 1,000' and Lake Powell elevation of 3,500' by modifying some parameters governing reservoir operations, maximizing the impact of existing plans and voluntary conservation actions, and increasing cutbacks if Lake Mead elevations decline. It also seeks to protect baseline water needs of communities across the West by prioritizing water supplies for human health and safety. California's plan includes reductions in California use of up to 400,000 AF per year, with IID taking on 250,000 AF of that total.

Reclamation released the draft SEIS on April 11, 2023.[39] The draft SEIS analyzes a no action alternative, as well as the following two alternatives:

Action Alternative 1: Action Alternative 1 models potential operational changes to both Glen Canyon Dam and Hoover Dam. This alternative includes modeling for reduced releases from Glen Canyon Dam, as well as an analysis of the effects of additional Lower Colorado River Basin shortages based predominately on the priority of water rights.

Action Alternative 1 models progressively larger additional shortages as Lake Mead's elevation declines, and larger additional shortages in 2025 and 2026, as compared with 2024. The total shortage contributions in 2024, including those under existing agreements, are limited to 2.083 MAF because this is the maximum volume analyzed in the 2007 Interim Guidelines final EIS.

Action Alternative 2: Action Alternative 2 is similar to Action Alternative 1 in how it models potential operational changes to both Glen Canyon Dam and Hoover Dam. However, Action Alternative 2 distributes reductions in the same percentage across all Lower Basin water users under shortage conditions.

[38] Colorado River Board of California. (2023). California SEIS submittal package. Accessed April 24, 2023, at www.mwdh2o.com/media/sc4f2txf/california-seis-submittal-package_01312023.pdf.

[39] U.S. Bureau of Reclamation. (2023d). Supplemental Environmental Impact Statement for Near-term Colorado River Operations. Accessed April 24, 2023, at www.usbr.gov/ColoradoRiverBasin/SEIS.html.

Alternative 2 has progressively larger additional delivery shortages as Lake Mead's elevation declines and models larger Lower Basin shortages in 2025 and 2026 as

While both the 2007 Interim Guidelines and the 2019 DCP encompass shortages and contributions that reflect the priority system, the incremental, additional shortages identified in Action Alternative 2 for the remainder of the interim period would be distributed in the same percentage across all Lower Basin water users. Action compared with 2024. The total shortage contributions in 2024, including those under existing agreements, are also limited to 2.083 MAF.

The draft SEIS is available for public comment for 45 calendar days and the final SEIS is anticipated to be available with a Record of Decision in summer 2023. A seven-state consensus- based solution is still possible.

Management after 2026

Population growth within the basin is projected to increase to between 49.3 million (slow growth scenario) and 76.5 million (rapid growth scenario) by 2060. Demand for consumptive uses is projected to range between 18.1 MAF and about 20.4 MAF by 2060 depending on population growth.[40] As noted above, the 2007 Interim Guidelines and 2019 DCPs expire at the end of 2026. Reclamation's final decision under the SEIS later this year will likely be instructive for negotiations around new operating rules that will be in place after 2026.

Efforts in Southern California to reduce demand and diversify supplies

Southern California relies on a variety of water sources, including imports from the Colorado River, Owens Valley, and Northern California through the State Water Project (SWP); desalination; recycled water; and local surface water and groundwater. In recent years, Southern California water agencies have increased their efforts to diversify water supplies and implement conservation measures due to increased variability in supplies imported from the Colorado River and through the SWP.

Many of these agencies have identified potable reuse of recycled water as the next major source of local water supply, while continuing water-use efficiency efforts throughout the region.

IID is the fourth largest irrigation district in the U.S., delivering water to 500,000 acres of farmland. As detailed previously, IID has the largest share of Colorado River water at 3.1 MAF per year. Over 95% of water delivered in the IID service area goes to support agriculture. Since the implementation of the QSA, IID has been conserving water to meet the conservation schedules within the QSA, reaching 314,000 AF of conserved water in 2016.

[40] U.S. Bureau of Reclamation. (2012). Colorado River Basin Water Supply and Demand Study. Accessed April 24, 2023, at www.usbr.gov/watersmart/bsp/docs/finalreport/ColoradoRiver/CRBS_Executive_Summary_FINAL.pdf.

This is in addition to 105,000 AF generated annually by a conservation program funded by MWD and 67,700 AF conserved by the All-American Canal Lining Project. When all QSA conservation measures are at full implementation, IID will conserve about 15% (over 487,000 AF) of its consumptive use entitlement each year. Water conservation efforts include temporary land fallowing, and both system and on-farm conservation efforts that steadily ramp up annually until leveling off in 2026.[41]

MWD serves 26 public water agencies – cities, municipal water districts and one county water authority – that then deliver supplies directly or indirectly to 19 million people in its 5,200 square mile service area, which includes portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. About 25% of MWD's water typically comes from the Colorado River and another 30% originates in the Northern Sierra and is imported through the SWP. The remaining 45% comes from a mix of what are considered local supplies, which includes the City of Los Angeles' eastern Sierra deliveries as well as recycling, desalination, and groundwater supplies.[42]

Pure Water Southern California is a potential water recycling program that would reuse water currently sent to the ocean. A partnership between MWD and the Los Angeles County Sanitation Districts, the program will purify wastewater to produce up to 150 million gallons (460 AF) per day. The project is currently in environmental planning and is anticipated to begin operation in 2032.

SDCWA delivers wholesale water supply to 24 retail water agencies, including cities, special districts, and a military base, that serve about 3.3 million people in San Diego County. Historically, SDCWA depended almost exclusively on water supplies imported by MWD from the Colorado River and Northern California. That changed in 2003 with the QSA, which started the largest farm-to-urban water conservation-and-transfer agreement in the nation, which now accounts for about half of San Diego County's water supply.

In late 2015, the Claude "Bud" Lewis Carlsbad Desalination Plant was completed. The Carlsbad plant is the largest seawater desalination plant in the U.S. and now accounts for about 10% of San Diego County's water supply.

[41] Imperial Irrigation District. (2021). Water conservation. Accessed April 24, 2023, at www.iid.com/water/water-conservation.

[42] Metropolitan Water District of Southern California. (n.d.). Securing our imported supplies. Accessed April 24, 2023, at www.mwdh2o.com/securing-our-imported-supplies/.

In Orange County, the Groundwater Replenishment System (GWRS) has been operational since January 2008. The GWRS is a water purification project that can produce up to 100 million gallons (around 300 AF) per day of water from highly treated wastewater. This is enough water to meet the needs of nearly 850,000 residents in north and central Orange County. After its final expansion is complete in 2023, production will increase to up to 130 million gallons of water (nearly 400 AF) per day. After treatment, the water is used to replenish the Orange County Groundwater Basin, which has an annual yield of nearly 300,000 AF. GWRS water now accounts for 30% of the replenishment of the groundwater basin, which historically had been replenished by the Santa Ana River. Orange County imports about 15% of its water supply from the SWP and the Colorado River.

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COMMITTEE SECRETARY
KATARINA MALY

AGENDA

9:30 AM, June 6, 2023, 1020 O Street, Room 1100

INFORMATIONAL HEARING

The Administration's Infrastructure Policy Package

Opening Remarks

Assemblymember Rebecca Bauer-Kahan, Chair, Assembly Water, Parks, and Wildlife Committee

General Remarks on the Infrastructure Policy Package

Wade Crowfoot, Secretary, California Natural Resources Agency
Gayle Miller, Senior Counselor on Infrastructure and Clean Energy Finance

Proposal 1 – Delta Reform Act Streamlining

Jessica Pearson, Executive Officer, Delta Stewardship Council
Karen Lange, representing Delta Counties Coalition
Barbara Barrigan-Parrilla, Restore the Delta

Proposal 2 – Accelerating Environmental Mitigation

Michael McKeever, Chief Deputy Director, Caltrans
Barbara Barrigan-Parrilla, Restore the Delta

Proposal 3 – Progressive design-build authority for Department of Water Resources

Ted Craddock, Department of Water Resources

Proposal 4 – Fully Protected Species Reclassification

Chuck Bonham, Director, Department of Fish and Wildlife
Mike Lynes, Audubon California
Kim Delfino, Earth Advocacy on behalf of Defenders of Wildlife

Public Comment

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Governor Newsom unveiled a broad set of policy proposals on May 19, 2023, to streamline clean energy, water, and transportation infrastructure projects. This "infrastructure package" includes the following 10 policy proposals:

- Administrative Records Review (Language) *(updated: 05/19/2023)*
- CEQA Judicial Streamlining (Language) *(updated: 05/19/2023)*
- Green Financing Programs for Federal IRA Funding (Language) *(updated: 05/19/2023)*
- Accelerating Environmental Mitigation (Language) *(updated: 05/19/2023)*
- National Environmental Policy Act (NEPA) Delegation Authority (Language) *(updated:05/19/2023)*
- Direct Contracting (Public-Private Partnership Authority 1-15 Wildlife Crossings) (Language) *(updated: 05/19/2023)*
- Job Order Contracting (Language) *(updated: 05/19/2023)*
- Progressive Design Build Authority for Caltrans and DWR (Language) *(updated:05/19/2023)*
- Fully Protected Species Reclassification (Language) *(updated: 05/19/2023)*
- Delta Reform Act Streamlining (Language) *(updated: 05/19/2023)*

This package was made public along with the issuance of Executive Order N-8-23, which calls for the convening of an Infrastructure Strike Team to identify streamlining opportunities. Governor Newsom intends to "facilitate and streamline project approval and completion to maximize California's share of federal infrastructure dollars and expedite the implementation of projects that meet the state's ambitious economic, climate, and social goals."

Appropriate process for significant policy changes? The Governor has expressed a desire that the Legislature include these streamlining proposals – released after the May Revision – as "trailer bills" in the 2023-24 State Budget. As a whole, this package of bills represents significant policy changes in various areas, including transportation, wildlife, water, and natural resource laws. Considering these proposals late in the Budget process, especially after sub- committees have concluded their work, significantly limits transparency and public input. Hastily considering these proposals increases the potential for creating unintended consequences while limiting the Legislature's ability to evaluate whether the proposals will actually lead to the positive impacts envisioned by this administration.

The Transportation Committee, Water, Parks, and Wildlife Committee, Natural Resources Committee, and Judiciary Committee will be holding informational hearings to gather information and hear initial stakeholder input on these infrastructure proposals on June 5th, 6th and 7th. While these informational hearings are important first conversations, a more thorough policy process is likely needed, especially for the more expansive proposals.

Urgency? While accelerating the development and construction of critical infrastructure is a laudable and shared goal, each of these proposals should be evaluated for whether it is necessary to take legislative action in June as part of the Budget or if it is even necessary to

undertake a truncated legislative process to consider these proposals through the remainder of this legislative year. These proposals relate to streamlining environmental review for certain projects, expediting public contracting processes, and changing quorum rules for one state agency. Should aspects of these proposals be found to have merit and be passed by the Legislature, there will likely be minimal impact on project implementation timelines, whether these measures are passed in June or August, or even January of next year.

The Legislature may wish to evaluate each of these proposals to understand whether there are sufficient benefits for evaluating these policies during a very truncated timeline, given the potential for unintended consequences.

"Water-related project." While not within this Committee's jurisdiction, the Administration's proposal for judicial streamlining under the California Environmental Quality Act (CEQA) applies to "water-related projects." These projects are defined as the Sacramento-San Joaquin Delta Conveyance Project (Delta Conveyance Project), water storage projects funded by the Water Storage Investment Program under Proposition 1, recycled water projects, water desalination projects, and water canal or conveyance projects (e.g., California Aqueduct that is part of State Water Project). The Natural Resources and Judiciary Committees will be reviewing the CEQA streamlining proposal on Wednesday, June 7, 2023; however, it is important context for the purposes of today's hearing to consider how the entirety of the Administration's infrastructure policy package will impact the state's water system (see next comment).

Delta water conveyance. The Administration has identified the design and implementation of this project in both its Water Resilience Portfolio (2021) and Water Supply Strategy (August 2022). Several proposals in the infrastructure policy package will result in streamlined processes for this project, including those relating to CEQA, consistency determinations with the Delta Plan, use of "progressive design-build" procurement authority, fully protected species reclassification, and administrative records review. The Committee may wish to consider how the infrastructure policy package impacts this specific project and may limit public input on this controversial project when reviewing this infrastructure policy package.

Administration infrastructure policy proposal: Delta Reform Act streamlining

Summary: Streamlines review and appeal procedures for actions taken by the Delta Stewardship Council (Council) and sets a 60-day statute of limitations on challenges to Council actions. Specifically, this proposal:

1) Establishes a 60-day statute of limitations on challenges to adoption of, or amendments to, the Delta Plan and to adoption of the Council's appeal procedures.

2) Establishes a 60-day statute of limitations on challenges to the Council's determination on an appeal.

3) Clarifies that the Council may authorize one of its members or another designee to hear an appeal and that a final action on an appeal may be taken by a majority of those councilmembers present at a meeting (rather than a majority of the Council).

4) Provides that once a quorum is established at a Council meeting, a majority of the councilmembers present may take action.

5) Extends time for the Council to consider an appeal on one of its determinations from 60 days to 90 days.

6) Provides that the provisions of the Delta Plan are severable and that if one provision is invalidated, the other provisions stand.

Purpose: According to the Administration's fact sheet regarding this proposal, it will "streamline certain review processes so Delta Plan projects can be planned, permitted, and built faster while protecting the environment." The Administration asserts these changes are necessary to advance the goals of the Water Resilience Portfolio and the Governor's August 2022 Water Supply Strategy. Both of these strategies include implementation of the Delta Conveyance Project.

Background: In 2009, the Legislature enacted the Sacramento-San Joaquin Delta Reform Act (Delta Reform Act of 2009) to improve conditions in, and achieve the state's co-equal goals for, the Delta: (1) to provide a reliable water supply and (2) to protect, restore, and enhance the Delta ecosystem. Among other provisions, the Delta Reform Act of 2009 established the Council and charged it with developing, adopting, and beginning implementation of a "Delta Plan" by January 1, 2012 that will lead to the achievement of the co-equal goals.

The Council consists of seven voting members, four appointed by the Governor, one appointed by the Senate Rules Committee, one appointed by the Speaker of the Assembly, and the final member being the Chair of the Delta Protection Commission. A quorum of the Council is four (i.e., a majority of the voting members of the Council).

Certain actions by state and local agencies ("covered actions") must be consistent with the Delta Plan. To determine consistency, a state or local agency must submit a written certification to the Council. "Covered action" refers broadly to programs or projects implemented by a state or local agency within the Delta that has an impact on achieving the co-equal goals. Various actions by state and local agencies are excluded from the definition of "covered action," including: regulatory actions, routine maintenance of water and transportation infrastructure, and most actions in the Delta secondary zone (see Figure 1). Delta conveyance is a "coveredaction" and DWR and the Delta Conveyance Design and

Construction Authority will need to submit a consistency determination to the Council before implementing that project.

A consistency certification submitted to the Council by a state or local agency is deemed valid unless it is appealed. Under the Delta Reform Act of 2009, any person that believes a "covered action" is inconsistent with the Delta Plan may file an appeal with the Council. The appeal must contain detailed information as to why the action is inconsistent and must be filed within 30 days of the submittal of a consistency certification. The Council must hold a hearing on the appeal within 60 days of receiving a lawful appeal and make a decision on the merits of the appeal within 60 days of the hearing. This proposal would give the Council an additional 30 days (90 days instead of current 60 days) to reach a decision on the merits of an appeal.

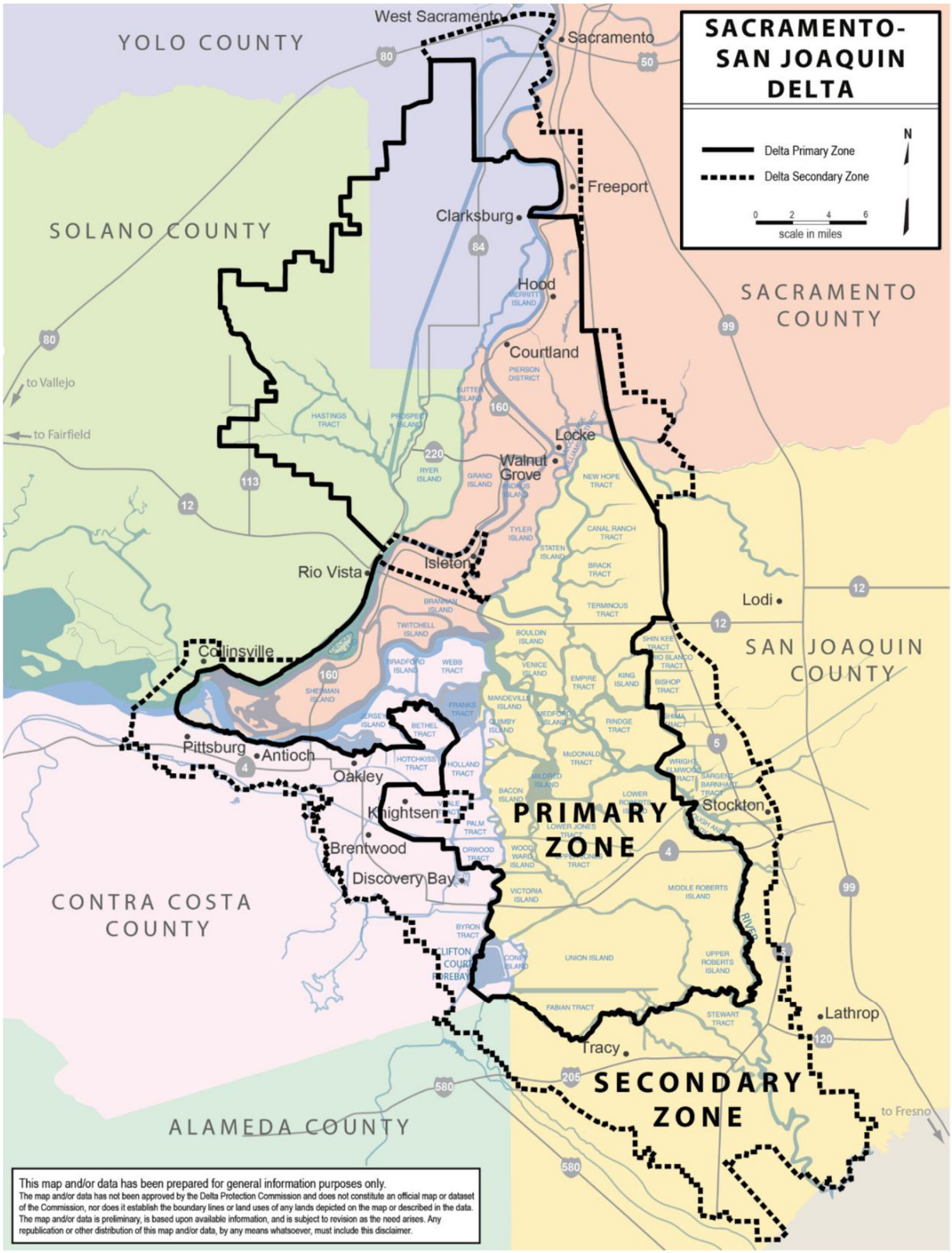
Policy considerations:

- *Implications of these changes for consideration of Delta Conveyance Project?* Given the controversy surrounding the Delta Conveyance Project, it is certain that stakeholders will appeal any consistency determination submitted by the Delta Conveyance Design and Construction Authority or DWR. The Committee may wish to consider whether 60 days is sufficient time to challenge a determination on an appeal by the Council and whether a majority of the voting members of the Council should be present for a determination on an appeal relating to Delta Conveyance.

- *Should a quorum of the entire Council be necessary to make a final determination on an appeal?* Building on the previous question, this proposal's changes regarding quorum requirements may have some merit for routine administrative decisions made by the Council, but it is concerning that this proposal also changes the quorum requirement for appeals. Under this proposal, a majority of those councilmembers *present* at a hearing may issue a final decision on an appeal rather than a quorum of the full Council regardless of how many are present.

- *Urgency and process?* Regardless of the merit of the provisions of this proposal, it is not clear why this must be done as part of the budget process. It appears that submission of a consistency determination on the Delta Conveyance project is not imminent as a final Environmental Impact Report for the project is anticipated in late 2023 and these changes are unrelated to budget appropriations.

Figure 1. Map of Sacramento-San Joaquin Delta.



Administration infrastructure policy proposal: Accelerating environmental mitigation

Summary: This policy proposal provides the California Department of Transportation (Caltrans) with the authority to acquire, maintain, and transfer environmental mitigation properties and to provide for the long-term maintenance of such properties. Specifically, this proposal:

1) Provides Caltrans with clear authority to acquire and transfer environmental mitigation properties necessary to mitigate impacts from the construction or operation of the state highway system.
2) Establishes a presumption that funding identified in the State Highway System Management Plan is adequate for the long-term maintenance of wildlife corridors established by Caltrans to mitigate impacts to species protected under the California Endangered Species Act (CESA).
3) Permits Caltrans to establish an endowment, or provide funding to another entity to establish an endowment, for the long-term maintenance of environmental mitigation properties Caltrans must acquire to meet its environmental mitigation requirements.
4) Permits Caltrans to acquire, or use an alternative method (e.g., sole-source contracting) to acquire mitigation credits from a mitigation bank or similar entity to meet its environmental mitigation requirements.
5) Permits Caltrans to enter into an agreement with other public agencies, nonprofit organizations, or foundations to hold and manage an endowment to ensure funding for the long-term maintenance of environmental mitigation properties

Purpose: According to the Administration's fact sheet regarding this proposal, it will "streamline the implementation of environmental mitigation measures for the efficient delivery of (Caltrans') projects." The Administration asserts this proposal is necessary to overcome delays associated with meeting environmental mitigation requirements for transportation projects that, in turn, can increase costs and delay construction of these projects.

Background: To address environmental impacts, transportation projects must comply with applicable environmental laws and regulations; examples include CESA, the federal Clean Water Act, and the California Coastal Act, among others. Compliance with these laws and regulations often results in the need for environmental mitigation properties which is an additional cost.

The Legislature passed AB 1282 (Mullin), Chapter 643, Statutes of 2017, to establish the Transportation Permitting Task Force (Task Force) to address statewide transportation permitting challenges. The Task Force issued a final report (AB 1282 Report) with a range of recommendations in June 2020. The Administration claims that this proposal "would implement several recommendations of the [AB 1282 Report]." None of the specific provisions in this proposal are found in the AB 1282 Report but some of its broader recommendations do overlap with this policy proposal, including:

- Recommendation 4.7 – Clarify financial assurance agreements.
- Recommendation 6.2 – Establish crediting framework for projects that result in fish passage and wildlife connectivity and other environmental improvements.

- Recommendation 6.3 – Update mitigation bank policies and practices to accommodate advance mitigation purchases.

Policy considerations:

- *Sufficient funding for long-term stewardship of environmental mitigation properties?* A major challenge with environmental mitigation properties is providing sufficient funding for their long-term maintenance so that such properties continue to provide habitat for impacted species and/or offset other environmental impacts associated with a project over time. Mitigation is theoretically supposed to ensure ongoing environmental performance "in perpetuity." In some cases, regulatory agencies require that an endowment be established to provide funding for this long-term maintenance. This proposal establishes a presumption that funding in the State Highway System Management Plan is adequate to maintain certain mitigation features but the Administration has provided no information to demonstrate that this is, indeed, the case. This could be problematic if funding available does not match the need.

- *Backlog at DFW Conservation and Mitigation Banking program?* Some organizations have expressed frustration at the length of time to receive DFW reviews of conservation banks. In turn, this can hold up the permits for projects as there are no conservation bank credits available. This proposal could place additional strain on the Conservation and Mitigation Banking program and it is unclear if additional staff at DFW will be requested.

- *Urgency and process?* While there may be some merit to some of the provisions of this proposal, it is not clear why this must be done as part of the budget process. The AB 1282 Report was finalized three years ago and if there were such urgency to implementing its recommendations, why did the Administration wait until now to unveil this proposal? Likewise, the nexus of this policy proposal with the budget is negligible.

Administration infrastructure policy proposal: Progressive design build authority for the Department of Water Resources (DWR)

Summary: This policy proposal authorizes DWR to use "progressive design-build" to procure up to eight public works projects that have an estimated cost of $25 million or more through January 1, 2031. Specifically, this proposal:

1) Authorizes DWR to use "progressive design-build" to procure up to eight public works projects that have an estimated cost of $25 million or more.
2) Requires DWR to follow a prescribed process in using the "progressive design-build" procurement method for public works projects including: the issuance of a request for qualifications (RFQ), a process to review submitted RFQs, and a public announcement of the awarding of a "progressive design-build" contract.
3) Requires DWR to evaluate statements of qualifications submitted in response to an RFQ and negotiate contract terms with the entity that provides the best value to the public.
4) Requires an entity receiving a "progressive design-build" contract to provide payment and performance bonds as specified by the director of DWR.
5) Requires DWR to follow a process for entering into a design-build contract and negotiating a guaranteed maximum price for the project.
6) Authorizes DWR to terminate a contract with an entity to complete a design-build project and, instead, solicit proposals from other firms to complete the project.
7) Requires DWR to submit a report to the Legislature on its use of the "progressive design-build" procurement method by January 1, 2030.
8) Sunsets DWR's authority to use "progressive design-build" on January 1, 2031.

Purpose: According to the Administration's fact sheet regarding this proposal, the authority to use "progressive design-build" will avoid the traditional, more cumbersome "design-bid-build" process and lead to potential cost savings and shorter delivery schedules.

Background: State agencies are generally required to use the "design-bid-build" process when constructing public works projects. Under the "design-bid-build" process, a state agency fully completes the design of a project prior to awarding a construction contract and must award that contract to the "lowest responsible bidder." This process is intended to ensure that the project is built for the lowest possible cost. There are exceptions to this requirement and the California Department of Transportation, the Department of General Services, the Military Department, the California Department of Corrections and Rehabilitation, and DWR may use "design-build" or Construction Manager/General Contractor (CM/GC) to construct specified public works projects. These procurement methods are intended to be quicker and more cost-effective methods.

Progressive design-build is a variant of traditional design-build contracting. While there is some variation, the progressive design-build model generally includes two phases. In the first phase, the awarding authority uses a best-value process to select a contractor that completes preliminary plans and preconstruction services necessary to provide a cost estimate and final design proposal. The project then "progresses" to the second phase, where the awarding authority and the contractor to a final design, project cost ("guaranteed max price"), and schedule. If they cannot agree, there is an "off-ramp" between the two phases where the awarding authority can pursue

other options, but still benefit from having the first phase work complete. This is different from traditional design-build, where the public agency contracts with a single entity to design and construct a project at a set price before design work begins, and without a similar off-ramp.

SB 626 (Dodd), Chapter 247, Statutes of 2021, granted DWR authority to use "design-build" and CM/GC procurement methods for up to seven public works projects per method through January 1, 2033. SB 626 required DWR to require contractors to use a skilled and trained workforce and enter into a project labor agreement with a contractor when using "design-build." SB 626 also explicitly excluded the use of these procurement methods for through Sacramento-San Joaquin Delta water conveyance facilities.

Policy considerations:

- *Should "progressive design-build" be used for through-Delta water conveyance?* Unlike SB 626, this proposal does not prohibit DWR from using the "progressive design-build" procurement method for Delta conveyance. Given that the Delta Conveyance Design and Construction Authority (a Joint Powers Authority between public water agencies that receive water through the State Water Project) entered into a Joint Exercise of Powers Agreement with DWR in 2018, this proposal would enable "progressive design-build" procurement authority to be used for Delta conveyance.
- *Should labor provisions be included?* The proposal lacks language seen in SB 626 (Dodd) and other previously enacted legislation related to design-build and progressive design-build, specifically language pertaining to requirements for project labor agreements and a skilled and trained workforce.
- *Urgency and process?* Regardless of the merit of the provisions of this proposal, it is not clear why this must be done as part of the budget process. DWR already has expedited procurement authority (per SB 626) and the Delta conveyance project is still undergoing environmental review.

Administration infrastructure policy proposal: Fully Protected Species Reclassification

Summary: Eliminates "fully protected" species protections under California law and requires seven currently fully protected species that are not also listed under the California Endangered Species Act (CESA) to be deemed "threatened" under CESA. Specifically, this proposal:

1) Repeals the four existing statutes designating species as "fully protected" under California law.
2) Requires the following currently "fully protected" species to be listed as "threatened" under CESA:
    a) Golden eagle (*Aquila chrysaetos*);
    b) Trumpeter swan (*Cygnus buccinator*);
    c) White-tailed kite (*Elanus leucurus*);
    d) Northern elephant seal (*Mirounga angustirostris*);
    e) Ring-tailed cat (genus *Bassariscus*);
    f) Pacific right whale (*Eubalaena sieboldi*), and
    g) Southern sea otter (*Enhydra lutris nereis*).
3) Makes no changes to the existing CESA status of 27 other "fully protected" species.
4) Specifies that three "fully protected" species that were previously delisted under CESA will have no listing status but retain the protections afforded to species generally under the Fish and Game Code (FGC).
5) Makes conforming changes throughout the FGC.

Purpose: According to the Administration's fact sheet regarding this proposal, changing the status of all existing fully protected species to an appropriate CESA listing status will facilitate responsible development by allowing DFW to authorize incidental take and benefit these species by ensuring that all such authorized take is subject to the requirement to minimize and fully mitigate all impacts of the taking.

Background: In the 1960s, California began its efforts to identify and protect animals that were rare or at risk of extinction within the state. These efforts resulted in lists of 37 fully protected species that may not be taken or possessed, with limited exceptions – for example, for scientific research or, in the case of fully protected birds, for the relocation of birds to protect livestock.

Since the creation of the fully protected species lists, Congress and the Legislature enacted the federal Endangered Species Act (ESA) and CESA, respectively. Of the 37 species currently designated as fully protected, eight are also listed as threatened and 19 are also listed as endangered under CESA. Three species were delisted from CESA by the Fish and Game Commission based on scientific findings that the protections afforded by listing were no longer necessary due to species recovery or extinction. Those three species are currently still fully protected species.

Table 1. Fully protected birds (FGC § 3511)

	Species	**CESA Status**	**ESA Status**	**Notes**
1	American peregrine falcon (*Falco peregrinus anatum*)	Delisted - recovered (2009)	Delisted - recovered (1999)	
2	Brown pelican (*Pelecanus occidentalis californicus*)	Delisted – recovered (2009)	Delisted – recovered (2009)	
3	California black rail (*Laterallus jamaicensis coturniculus*)	Threatened (1971)	none	
4	California clapper rail (*Rallus longirostris obsoletus*)	Endangered (1971)	Endangered (1970)	Now known as California Ridgeway's rail (*Rallus obsoletus obsoletus*)
5	California condor (*Gymnogyps californianus*)	Endangered (1971)	Endangered (1967)	
6	California least tern (*Sterna albifrons browni*)	Endangered (1971)	Endangered (1970)	
7	**Golden eagle (*Aquila chrysaetos*)**	**none**	**none**	
8	Greater sandhill crane (*Grus canadensis tabida)*	Threatened	none	
9	Light-footed clapper rail (*Rallus longirostris levipes*)	Endangered (1971)	Endangered (1970)	Now known as light-footed Ridgway's rail (*Rallus obsoletus levipes*)
10	Southern bald eagle (*Haliaeetus leucocephalus leucocephalus*)	Endangered (1980)	Delisted – recovered (2007)	

11	**Trumpeter swan (*Cygnus buccinator*)**	**none**	**none**	
12	**White-tailed kite (*Elanus leucurus*)**	**none**	**none**	
13	Yuma clapper rail (*Rallus longirostris yumanensis*)	Threatened (1978)	Endangered (1967)	Now known as Yuma Ridgway's rail (*Rallus obsoletus yumanensis*)

Table 2. Fully protected mammals (FGC § 4700)

	Species	**CESA Status**	**ESA Status**	**Notes**
1	Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*)	Endangered (1971)	Endangered (1970)	
2a/ 2b	Bighorn sheep (*Ovis canadensis*): *Ovis canadensis* *nelsoni* (Peninsular DPS) *Ovis canadensis* *sierrae/californiana*	 Threatened (1971) Endangered (1999)	 Endangered (1998) Endangered (2000)	Allows for sport hunting of Nelson bighorn sheep (subspecies *Ovis canadensis nelsoni*) under FGC § 4902 (b)
3	**Northern elephant seal (*Mirounga angustirostris*)**	**none**	**none**	
4	Guadalupe fur seal (*Arctocephalus townsendi*)	Threatened (1971)	Threatened (1986)	
5	**Ring-tailed cat (genus *Bassariscus*)**	**none**	**none**	

6	**Pacific right whale (*Eubalaena sieboldi*)**	**none**	**none**	North Pacific right whale (*Eubalaena japonica*) listed as Federally endangered
7	Salt-marsh harvest mouse (*Reithrodontomys raviventris*)	Endangered (1971)	Endangered (1970)	
8	**Southern sea otter (*Enhydra lutris nereis*)**	**none**	**Threatened (1977)**	
9	Wolverine (*Gulo luscus*)	Threatened (1971)	none	

Table 3. Fully protected reptiles and amphibians (FGC § 5050)

	Species	**CESA Status**	**ESA Status**	**Notes**
1	Blunt-nosed leopard lizard (*Gambelia sila*)	Endangered (1971)	Endangered (1967)	
2	San Francisco garter snake (*Thamnophis sirtalis tetrataenia*)	Endangered (1971)	Endangered (1967)	
3	Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*)	Endangered (1971)	Endangered (1967)	
4	Limestone salamander (*Hydromantes brunus*)	Threatened (1971)	none	
5	Black toad (*Bufo boreas exsul*)	Threatened (1971)	none	Scientific name now *Anaxyrus exsul*

Table 4. Fully protected fish (FGC § 5515)

	Species	**CESA Status**	**ESA Status**	**Notes**
1	Colorado River squawfish (*Ptychocheilus lucius*)	Endangered (1971)	Endangered (1967)	Now known as Colorado pikeminnow
2	Thicktail chub (*Gila crassicauda*)	Delisted – extinct (1980)	none	
3	Mohave chub (*Gila mohavensis*)	Endangered (1971)	Endangered (1970)	Listed as *Siphteles mohavensis* (ESA) and *Gila bicolor mohavensis* (CESA)
4	Lost River sucker (*Deltistes luxatus* and *Catostomus luxatus*)	Endangered (1974)	Endangered (1988)	
5	Modoc sucker (*Catostomus microps*)	Endangered (1980)	Delisted – recovered (2016)	
6	Shortnose sucker (*Chasmistes brevirostris*)	Endangered (1974)	Endangered (1988)	
7	Humpback sucker (*Xyrauchen texanus*)	Endangered (1974)	Endangered (1991)	Now known as razorback sucker
8	Owens pupfish (*Cyprinodon radiosus*)	Endangered (1971)	Endangered (1967)	
9	Unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*)	Endangered (1971)	Endangered (1970)	
10	Rough sculpin (*Cottus asperrimus*)	Threatened (1974)	none	

Fully protected species and CESA- or ESA-listed species differ in a couple of key ways. First, the endangered species lists are intended to be maintained according to the best available scientific information, whereas the fully protected species lists were codified by the Legislature and have not been updated. The scientific status of most of the fully protected species are not known. DFW is planning five-year reviews of CESA-listed species, with reviews completed for nine species to date, including two fully protected species (Owens pupfish, California bighorn sheep).

Second, the Department of Fish and Wildlife (DFW) may issue various take authorizations for species listed under CESA, including but not limited to, incidental take permits pursuant to FGC § 2081(b), consistency determinations pursuant to FGC § 2080.1, Voluntary Local Programs pursuant to FGC § 2086, and Safe Harbor Agreements pursuant to FGC § 2089.2. Take authorizations allow entities to undertake otherwise lawful projects that could result in the take of listed species. Permittees must implement species-specific minimization and avoidance measures and mitigate the project's impacts. The authority for general take authorizations does not exist for California's fully protected species. Take of fully protected species may only be allowed under approved natural community conservation plans or through legislative authorization [for example, SB 1231 (Monning), Chapter 237, Statutes of 2020; AB 2640 (Wood), Chapter 586, Statutes of 2018].

Policy considerations: The Committee may want to consider the following while evaluating this proposal:

1) Should the Legislature reject this proposal and retain the fully protected species lists in order to provide a higher level of protection to these species?
2) Why are the seven species proposed to be listed as threatened under CESA, as opposed to endangered?
3) If fully protected status is removed, should all formerly fully protected species be held to a higher mitigation standard than what is currently required under CESA?
4) If fully protected status is removed, should there be a required amount of time before any formerly fully protected species can be considered for delisting from CESA?
5) Should the Legislature similarly require listing under CESA all species that are ESA listed but not currently listed on CESA?
6) What is the urgency of this proposal? Regardless of the merit of the provisions of this proposal, it is not clear why this must be done as part of the budget process.

AGENDA

Joint Hearing
Assembly Subcommittee No. 4
on Climate Crisis, Resources, Energy, and Transportation
AND
Assembly Water, Parks, and Wildlife Committee

Assemblymembers Steve Bennett & Diane Papan, Chairs

Wednesday, February 21, 2024
9:00 A.M. – State Capitol, Room 444

Oversight Hearing

Water We Doing with Groundwater:
Evaluating Sustainable Groundwater Management Act (SGMA) Implementation

I. Welcoming Remarks and Introductions

II. Panel 1: Departments

- Sonja Petek, Principal Fiscal and Policy Analyst, Legislative Analyst's Office
- Paul Gosselin, Deputy Director, Sustainable Groundwater Management Office, Department of Water Resources
- James Nachbaur, Director, Office of Research, Planning, and Performance, State Water Resources Control Board
- Tina Leahy, Attorney, Office of the Chief Counsel, State Water Resources Control Board

III. Panel 2: Groundwater Sustainability Agency Stakeholders

- Jennifer Harder, Professor, McGeorge School of Law
- Jeff Pratt, Executive Officer, Fox Canyon Groundwater Management Agency

IV. Public Comment

ASSEMBLY BUDGET SUBCOMMITTEE No. 4
AND
WATER, PARKS, AND WILDLIFE COMMITTEE

BENNETT, PAPAN Chairs

JOINT INFORMATIONAL HEARING

Wednesday, February 21, 2024
9:00 am – State Capitol, Room 444

Water We doing with groundwater? Evaluating Sustainable Groundwater Management Act (SGMA) implementation

The Sustainable Groundwater Management Act (SGMA)

Enacted nearly 10 years ago, SGMA's purpose is to reverse the adverse impacts caused by groundwater overdraft and to protect this important resource for future use by California's economy, communities, and ecosystems. An over-arching principle of SGMA is local control; the stated legislative intent is "to manage groundwater basins through the actions of local government agencies to the greatest extent feasible, while minimizing state intervention to only when necessary to ensure that local agencies manage groundwater in a sustainable manner" [Water Code, Section 10720.1(i)]. Thus, SGMA requires local agencies in groundwater basins designated as medium- or high-priority by DWR to form a groundwater sustainability agency (GSA) and develop a groundwater sustainability plan (GSP) to achieve sustainable groundwater management within a 20-year time frame (see Attachment A: "Statewide Map of Current SGMA Basin Prioritization"). SGMA permits multiple GSAs and GSPs in a basin so long as the GSAs enter into a "coordination agreement" so that GSPs are consistent and the basin is jointly managed.

GSAs achieve "sustainable management" by avoiding six "undesirable results:" 1) chronic lowering of groundwater levels; 2) reduction of groundwater storage; 3) seawater intrusion; 4) degraded water quality; 5) land subsidence; and 6) depletions of interconnected surface waters. "Undesirable results" must also be "significant and unreasonable" in order to violate the standard of sustainable management.

The Department of Water Resources (DWR) conducts an initial review of a GSP and determines whether a GSP is "approved," "incomplete," or "inadequate." Approved basins may implement their plans, subject to periodic state review; incomplete basins have six months to correct deficiencies identified by DWR; and inadequate basins are referred to the State Water Resources Control Board (State Water Board) for possible designation as a "probationary" basin subject to interim state management (or "state intervention"). Even after the initial review, DWR has an

ongoing role as DWR must review GSPs at least every five years to assess progress towards achieving sustainable management (Water Code § 10733.8).

"State intervention" when local agencies stumble is another guiding principle of the law and the State Water Board takes the lead in carrying out this aspect of SGMA. After a basin is referred to the State Water Board, it can designate basin as "probationary" following a public hearing at which it finds a GSP is inadequate or is not being implemented adequately (Water Code § 10735.2). If a basin is designated as "probationary," the basin has 180 days to correct deficiencies identified by the State Water Board. If the basin does not address deficiencies in the allotted time, the State Water Board may develop its own interim plan for the basin and manage the basin on an interim basis.

A Budget for Water

There is no question that SGMA is a significant undertaking that will require an ongoing commitment of resources for more than two decades (and likely beyond). This takes the form of technical support, local assistance, and, in some cases, state management of a basin. According to the LAO's 2023-24 overview of the DWR budget, the state has provided more than $800 million since 2014-15 for SGMA implementation activities. This includes:

- ***State Operations.*** DWR has received $314 million ($84 million from Proposition 68 bond funds and $229 million from the General Fund) to support state management of the SGMA program.

- ***Local Planning Grants.*** The state has provided $93 million in Proposition 1 bond funds for planning grants, which supported local agencies as they formed GSAs and developed their GSPs.

- ***Local Implementation Grants.*** The state has provided $430 million ($134 million from Proposition 68 bond funds and $296 million from the General Fund) for local implementation grants. Examples of grant-funded activities include developing ways to inject surface water into aquifers, expanding conveyance infrastructure to increase recharge, installing monitoring wells, and developing or upgrading infrastructure to increase the use of recycled water.

Figure 6

Sustainable Groundwater Management Act Resource History

(In Millions)

	2014-15 Through 2021-22			2022-23		
	Proposition 1	Proposition 68	General Fund	Proposition 68	General Fund	Totals
State operations	—	$68	$203	$16	$27	$314
Planning grants	$93	—	—	—	—	93
Implementation grants	—	134	180	—	116	430
Totals	**$93**	**$202**	**$383**	**$16**	**$143**	**$837**

In addition, the Legislature has provided the State Water Board with resources for SGMA implementation. Initially, the 2014-15 budget provided $1.9 million ongoing General Fund to support 10 positions. Since then, they have grown to 40 positions, 18 of which are supported by ongoing General Fund, and 22 are funded via non-ongoing General Fund.

The 2023-24 budget made some adjustments to SGMA investments including the following changes. First, it reduced funding by $60 million that was planned for 2023-24 SGMA local assistance grants. Second, it added $14 million General Fund to DWR for 11 new ongoing positions. This investment backfilled expiring bond funds to continue supporting 29 existing positions. The 2023-24 budget also allocated $4.8 million General Fund in 2023-24 and 2024-25 to the Water Board for 19 positions. According to the State Water Board, the cost of these positions may be covered by fees (starting in 2025-26) on groundwater extractors in unmanaged areas; however, the Legislature should request follow-up information on the likelihood of this happening.

As SGMA implementation progresses, the State Water Board will play an intervening role if revised GSPs are determined inadequate. To recover programmatic costs, the State Water Board adopted fees associated with extraction reporting required in areas out of compliance with SGMA (see below).

Fee Category	Fee Amount	Fee schedule Parties Fee Applies To
Base filing fee	$300 per well	All extractors required to report
Unmanaged area[a] rate if extraction is metered	$10 per acre-foot extracted	Extractors in unmanaged areas
Unmanaged area rate if extraction is unmetered	$25 per acre-foot extracted	Extractors in unmanaged areas
Rate for basins in probation	$40 per acre-foot extracted	Extractors in probationary basins
Rate for basins subject to an interim plan	$55 per acre-foot extracted	Extractors in probationary basins where the State Water Board determines an interim plan is required
De minimis fee	$100 per well	Parties that extract, for domestic purposes, two acre-feet or less per year from a probationary basin, if the State Water Board decides the extractions will likely be significant
Late fee	25% of total fee amount per month late	Extractors that do not file annual extraction reports by the due date

According to the State Water Board in 2023, current fee revenue has been limited but is expected to increase given the information gleaned from GSPs deemed inadequate thus far. However, the amount of revenue is difficult to predict, and the time the state will receive these funds will lag compared to when state intervention work begins. The State Water Board anticipates that tens of thousands of groundwater pumpers may be required to report and that the first reports will be due as early as February 2025.

For GSAs, SGMA provides them authority to impose fees to fund the costs of the GSA including preparation, adoption, and amendment of a GSP, and investigations, inspections, compliance assistance, enforcement, and program administration. Fees may also be used for:

- Administration, operation, and maintenance
- Acquisition of lands or other property, facilities, and services
- Supply, production, treatment, or distribution of water

Classification of California's groundwater basins

DWR delineates 515 groundwater basins in California's Ground Water Update (formerly Bulletin 118). These basins are then categorized as "high," "medium," "low," or "very low" priority based on specified criteria including population, rate of population growth, and number of wells. Generally, SGMA applies to "high" and "medium" priority basins, with some exceptions. Based on these categorizations, 94 of 515 basins must comply. These 94 basins when combined with basins managed pursuant to a groundwater adjudication (see below) account for 98% of groundwater extraction, 83% of the population, and 88% of irrigated agricultural acres in the state (DWR, 2020). Basins that were already actively managing their groundwater resources at the time of SGMA's passage were permitted to submit an "alternative" plan to DWR for review to ensure the plan met the objectives of SGMA. The basins that were already adjudicated or in the

process of being adjudicated also were not required to form a GSA or develop a GSP. In addition, DWR identified a total of 21 "critically overdrafted" groundwater basins as required by SGMA. DWR classifies the 515 groundwater basins as follows:

- 46 basins as high priority (20 of these are also critically overdrafted basins)
- 48 basins as medium priority
- 11 basins as low priority
- 410 basins as very low priority (1 of these is also a critically overdrafted basin)

GSP Assessments by the Numbers

In total (both critically overdrafted and non-critically overdrafted basins) to date there are:

- 71 approved basins
- 13 incomplete basins
- 6 inadequate basins

Non-critically overdrafted basins categorized as medium and high priority had to submit their GSPs by January 31, 2022. On January 18, 2024, DWR completed reviews for those basins and concluded that 13 were "incomplete."

Critically overdrafted basins were required to submit GSPs to DWR in January 2020 and in January 2022, DWR initially determined that 12 of the basins were "incomplete;" after corrections, DWR ultimately deemed that six of the 21 critically overdrafted basins had inadequate GSPs (subbasins Delta-Mendota, Chowchilla, Tulare Lake, Kaweah, Tule, and Kern County have inadequate GSPs). The most common deficiencies in the inadequate GSPs are lack of coordination between GSAs, lack of consideration for protecting domestic wells, insufficient prevention of subsidence, lack of justification for water quality thresholds, and lack of monitoring to avoid depletions of interconnected surface waters and are discussed in more detail below.

The "inadequate" determinations for these basins triggered intervention by the State Water Board. These basins are awaiting public hearings before the State Water Board to determine whether the basins shall be designated as "probationary." The first of these hearings for the Tulare Lake Subbasin is scheduled for Tuesday, April 16, 2024.

Non-critically Overdrafted Basins: Challenges and Issues

Of the 73 GSPs submitted for non-critically overdrafted basins, DWR has determined that 58 are adequate and these the GSAs in these basins can proceed with implementing their GSPs subject to annual reporting to DWR and fiver year assessments by DWR to ensure the basin is on track to achieve sustainable groundwater management. The GSPs for two basins are still under review.

For the remaining 13 basins, DWR has determined that their GSPs are "incomplete" and the GSAs that submitted these GSPs have 180 days to address deficiencies and make corrections to their

GSPs in order to receive an "adequate" determination. If the GSAs in these "incomplete" basins do not make sufficient changes to their GSPs in this period, the GSPs will be deemed "inadequate" and referred to the State Water Board for potential designation as a "probationary" basin. Given the scope and nature of the deficiencies identified in DWR's assessments of these "incomplete" GSPs, these GSAs have their work cut out for them over the next few months. Below are some of the common deficiencies identified by DWR in its assessments of the "incomplete" basins:

- *Lack of sufficient analysis of overdraft and justification for management criteria*. A common theme is that these GSPs do not adequately assess overdraft in their basins and do not provide sufficient detail or analysis to justify their selection of groundwater levels that the basin will be managed to; in most cases these GSPs contemplate further significant declines in groundwater levels but fail to explain how these declines will not result in "undesirable results." The following from a DWR assessment is a typical critique of these GSPs: "Generally, descriptions of minimum thresholds are not provided with sufficient supporting information to allow Department staff to evaluate whether the criteria are reasonable or whether operating the Basin to avoid those thresholds is consistent with avoiding undesirable results, in part due to defined undesirable results in the Plan being insufficiently detailed."

- *Failure to consider beneficial users and uses of groundwater*. SGMA requires that a GSA consider the interests of all beneficial users and uses of groundwater in the basin when developing a GSP (Water Code § 10723.2). This is another deficiency that is cross-cutting in the "incomplete" GSPs. They consistently fail to demonstrate how, or if, the interests of all groundwater users were considered when defining undesirable results and management criteria in the GSP.

- *Failure to define and address chronic lowering of groundwater levels*. This is one of the six undesirable results and is often used as a proxy for assessing whether other undesirable results are occurring. The majority of the "incomplete" GSPs fail to adequately analyze or address this issue and, in many cases, allow for significant further declines in groundwater levels without triggering undesirable results. In one egregious case DWR notes: "Staff has not encountered any other Plan that has proposed to manage a basin to allow an up to 250-foot decline in groundwater levels from 2015 levels, and although this does not necessarily or by itself preclude such an approach, it is the GSA's responsibility to fully describe and support this approach in the GSP and it is this aspect of the GSP that staff has found lacking."

- *De-watering of groundwater wells*. The failure to address significant de-watering of groundwater wells is another common refrain in the DWR assessments of the "incomplete" GSPs for non-critically overdrafted basins. As groundwater levels decline,

some wells are de-watered because the depth of the groundwater level is greater than the depth of the well. Domestic wells are especially at risk because they are typically shallower than wells used to produce irrigation water for agriculture. Many of these GSPs contemplate further groundwater level declines that will dry out more than 20% of the wells in the basin. DWR repeatedly questions how this is *not* an undesirable result: "The GSA has elected to establish a threshold that will allow up to 20 percent of currently functioning domestic wells (up to 1,062 wells) to go dry without causing an undesirable result, and the GSA has not explained how it determined the current and projected well outages in the Subbasin are not considered undesirable results, even though those conditions appear to meet the definition of an undesirable result provided in the GSP."

- *Projects and management actions*. This section of the GSP is in some ways the most important as it is supposed to describe the actions the GSA will implement to mitigate and/or reverse overdraft. However, this is another area that DWR consistently finds lacking in its assessments of the "incomplete" GSPs for the noncritically overdrafted basins. Lack of detail on or commitment to actual implementation of identified projects and management actions is a recurring deficiency of these GSPs: "The GSAs do not appear to have an urgency to implement the necessary projects and management actions to mitigate overdraft and Department staff are concerned that continued overdraft will exacerbate the current problems the basin is experiencing, which include dry wells and worsening land subsidence."

Note: When the Assembly Water, Parks, and Wildlife Committee reviewed the GSP assessments for critically overdrafted basins two years ago, the most common deficiencies were governance coordination, domestic well protection, land subsidence correction, water quality examination, and interconnected surface water depletion.

Groundwater Adjudications

When disputes arise over water and rights usage, groundwater users can ask the court to "adjudicate" and define the rights that various entities have to use groundwater resources. Adjudications can cover an entire basin, a portion of a basin, or a group of basins. The court typically limits pumping to the "safe yield" of the basin, which is the rate at which groundwater can be withdrawn without using long-term decline of water levels or other undesirable effects (e.g., subsidence, see below). Through adjudication, the courts can assign specific water rights to users and can compel the cooperation of pumpers who might otherwise refuse to limit their pumping. Watermasters are usually appointed by the court to ensure that pumping conforms to the limits defined by the decision. This litigation is often time-consuming and costly.

SGMA does not apply to adjudicated basins. As of 2020, portions of 42 groundwater basins had been adjudicated. SGMA explicitly identifies 26 completed adjudications (some of these cover portions of multiple basins hence the mismatch between number of basins adjudicated and

number of adjudications) and three pending adjudications. Most of these adjudications occurred in southern California. Portions of five groundwater basins are currently being adjudicated:

- Santa Clara Valley – Oxnard (No. 4-001.2) and Pleasant Valley (No. 4-006) groundwater basins, commenced in December 2022.
- Cuyama Valley groundwater basin (No. 3-013), commenced in March 2022.
- Indian Wells groundwater basin (No. 6-54), commenced in November 2021.
- Upper Ventura River (No. 4-3.01), Ojai Valley (No. 4-2), Lower Ventura River (No. 4-3.02), and Upper Ojai Valley (No. 4-1) groundwater basins, commenced in November 2019.
- Las Posas Valley groundwater basin (No. 4-8), commenced in November 2018.

An additional adjudication in the Borrego Valley groundwater subbasin (No. 7-024.1) commenced in July 2020; the court approved a stipulated judgment to settle this adjudication on April 8, 2021 and the case is no longer active.

The Committees will be hearing from one of the parties involved in the *Las Posas Valley Water Rights Coalition v. Fox Canyon Groundwater Management Agency* adjudication at today's hearing. This adjudication occurred in the Las Posas groundwater basin which is located in Ventura County and underlies the Las Posas Valley, a drainage area that encompasses 42,000 acres of land and extends from Simi Valley and Moorpark west to Camarillo. The basin is designated as a high-priority basin by DWR. In 2018, a group of agricultural landowners that overlie the Las Posas Groundwater Basin filed a comprehensive groundwater adjudication lawsuit to determine the rights to extract groundwater from the basin.

As part of its role as a groundwater sustainability agency, Fox Canyon Groundwater Management Agency had limited the amount of water landowners could pump from the basin based on its groundwater sustainability plan. The move, the plaintiffs argued, was invalid and interfered with their water rights. The lawsuit sought a court adjudication of groundwater rights against all persons or entities that either extract or pump groundwater from the basin, including agricultural, commercial, domestic, and mutual water company users.

The court adjudication was split into three phases with the initial complaint beginning in 2018, and court proceedings ending in 2023. The judgment established different groundwater allocations compared to those established under Fox Canyon Groundwater Management Agency's GSP. The court judgment also appointed Fox Canyon Groundwater Management Agency as the watermaster to implement these new allocations as the physical solution determined by the Court. The case is among the first adjudications brought since the passage of SGMA.

WATER, PARKS, AND WILDLIFE COMMITTEE

Assemblymember Papan, Chair

AND

SELECT COMMITTEE ON STATE PARKS

Assemblymember Reyes, Chair

Tuesday, August 13, 2024
1:30 p.m. -- State Capitol, Room 437

Informational Hearing

Leveraging State Parks for a Climate Resilient Future

Welcoming Remarks and Introductions

- Assemblymember Eloise Reyes, Chair, Select Committee on State Parks
- Assemblymember Diane Papan, Chair, Water, Parks, and Wildlife Committee
- Committee Members

Panel 1: State Approach to Achieving Climate Resiliency

- Jay Chamberlin, Chief, Natural Resources Division of California State Parks
- Madeline Drake, Assistant Secretary, California Natural Resources Agency

Panel 2: Case Studies in Climate Resiliency at State Parks

- Emily Doyle, PhD, California State Parks Foundation
- Julie Rentner, President, River Partners
- Austin Stevenot, Senior Restoration Manager, River Partners
- Sara Barth, Executive Director, Sempervirens Fund

Public Comment

WATER, PARKS, AND WILDLIFE COMMITTEE and

SELECT COMMITTEE ON STATE PARKS

PAPAN AND REYES, CHAIRS

INFORMATIONAL HEARING

Tuesday, August 13, 2024

1:30 p.m. – State Capitol, Room 437

Leveraging State Parks for a Climate Resilient Future

California Department of Parks and Recreation (State Parks). The mission of California State Parks is "to provide for the health, inspiration and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation." California's state parks system include beaches, underwater refuges, native Californian cultural preserves, museums, lighthouses, ghost towns, recreation areas, and wilderness areas. The system of 280 state park units encompasses nearly 1.6 million acres of land, more than 340 miles of coastline, 970 miles of lake and river frontage, 15,000 campsites, 5,200 miles of trails, 3,195 historic buildings, and more than 11,000 known prehistoric and historic archaeological sites. State Parks recognizes that California's population is expected to grow by nearly 30% in the next quarter century, which will put ever-increasing pressure on the state's remaining wild lands.

Climate Resiliency. California is one of the most "climate-challenged" regions in North America and is already facing numerous threats such as extreme heat, severe drought, flood, mega-wildfires, and sea-level rise (SLR). California's Fourth Climate Assessment notes that there will be negative impacts to California's ecosystems, both on land and in the ocean, leading to local extinctions, migrations, and management challenges. The actions taken to prepare for, recover from, and generally manage the impacts of climate change are termed *climate resilience*. These actions can generally be categorized as adaptation (actions to cope with current threats and prepare for future extremes) and mitigation (actions to reduce the numerous factors that contribute to climate change).

Like the state as a whole, State Parks faces unprecedented threats as a result of the changing climate. The parks system will need to take a range of management actions to adapt to these challenges. At the same time, the State Parks system also provides diverse mitigation opportunities to make California more resilient to climate change.

Biodiversity. California boasts incredible biological diversity. Approximately 40 of the state's 770 native wildlife species and about 2,100 of its 6,300 plant species are found nowhere else in the world. State parks provide a refuge for many of these species across the state including some of the 450 species of plants and animals that are currently listed under the federal or state Endangered

Species Acts. However, these native species are under threat from many angles. Not only do they face pressure from weather whiplash and wildfire, the state's climate provides suitable conditions for non-native and invasive plants and animals that compete for resources with the native wildlife. Additionally, recovery from natural disasters like wildfire, often favor faster-growing non-native plants, choking out native landscapes. Drought-stressed trees are also more susceptible to the pests and disease that increase tree mortality.

State Parks' goal is to focus future land acquisitions on the preservation of under-protected, under-represented, and rarely found resources in California according to the State Park Acquisition Guidelines. Specifically, the guidelines require State Parks to prioritize new lands for the park system that create linkages between existing units of the parks system to other large blocks of protected habitat, protect under-protected habitats, protect under-protected ecological regions, protect evolutionary hotspots, and other criterion that are consistent with the foundation of the state's 30x30 goal. According to the *Pathways to 30x30 Report* (2022), California's state park properties are generally consistent with the definition of a 30x30 Conserved Area.

Wildfires. State Parks protects some of the state's most unique natural resources. For example, California has 49 state parks (144,000 acres) that provide habitat for redwoods (only 5% of the original 2.2 million acres of old growth coastal redwood forests remain since European settlement). As noted in the California State Parks Foundation report, *Building a Climate-Resilient California State Park System*, California State Parks are also under wildfire threat because of over 150 years of fire suppression, exacerbated by climate change. *California's Wildfire and Forest Resilience Action Plan* (2021), calls for State Parks and other state agencies to increase the use of prescribed fire on high-risk state lands, which will help achieve the state's 500,000-acre fuels reduction goal, and implement a monitoring program to gather information about the ecological benefits of the forest management practices. In 2021, the Wildfire and Forest Resilience Program was created in State Parks to carry out ecosystem resilience treatments (e.g., prescribed burns, forest thinning, monitoring), post-fire recovery and restoration, planning, and education and outreach. State Parks maintains a burn team to decrease fuel loads, improve habitat for native species, and increase forest diversity.

The 2020 CZU wildfire burned over 86,000 acres, including 97% of California's first state park, Big Basin. State Parks initiated the Reimagining Big Basin project in summer 2021 to begin the planning process for permanent park facilities in response to the CZU fire. This process has included public events and activities to hear from partners, stakeholders, and the community to assess the priorities for rebuilding. The Reimagining Big Basin Vision (Vision) highlights themes that emerged from the public process, including forest resiliency and how to be inclusive to California's diverse population as park facilities are re-established. According to the Vision, "The CZU Lightning Complex Fire demonstrated the importance of planning at the landscape scale. […] Coordination with adjacent landowners and managers and strategic acquisitions will strengthen wildlife corridors and habitat connectivity, trail connectivity, and the diversity of recreational experiences in the region."

Sea Level Rise. State Parks manages nearly one quarter of the California coastline. State Parks has 128 coastal park units (111 oceanfront units and an addition 17 units within the coastal zone)—this

is nearly one-half of State Parks units. More than 50 million people visit these coastal units annually. By 2100, California is projected to experience 1–7 feet of SLR. State Parks modeling suggest that 5 feet of SLR and a 100-year storm would result in the inundation of 593 structures, 150 acres of parking lots, 93 campgrounds and day-use areas, and 65 miles of access roads—without considering underground infrastructure, bluff erosions, and archaeological losses.

State Parks has a goal of preparing for 3.5 feet of SLR by 2050. Some examples of projects that are already underway including shoreline stabilization, native plantings, habitat restoration, infrastructure redesign, and building managed retreat into hazard management plans. The State Parks *Sea Level Rise Adaptation* Strategy (2020) includes six principles:

1) Integrate SLR adaptation into projects, plans, and funding decisions.
2) Translate best available science into practicable, long-term solutions.
3) Work with partners.
4) Balance access with resource protection.
5) Align its approach with the Coastal Act to improve permitting and compliance.
6) Increase public awareness.

The unprecedented winter storms of January 2023 inflicted over $190 million of damage to coastal state parks and devastated Seacliff and New Brighton State Beaches. State Parks is currently undertaking a Recovery and Resilience Study of the beaches to understand the impacts of SLR and develop recommendations to build beaches that are more resilient. This study includes a public survey to understand visitor values.

Extreme Heat. Extreme heat threatens both public health and the natural resource in state parks. Mitigating climate impacts by protecting landscapes that offer sanctuary from the heat will be particularly appreciated by those in urban areas. It is possible that park visitation will increase in response, so State Parks will need to respond to increased park usage as the natural resource becomes increasingly valuable and stressed. Recently, State Parks closed the Skyline Trail at Mount San Jacinto State Park due to dangerously high temperatures, which had led to an increase in rescue operations for hikers suffering from heat exhaustion and dehydration on the trail.

Forest and riparian restoration efforts create cooler microclimates that provide ecosystem benefits as well as places to recreate safely in the heat. State Parks recently celebrated the newest park unit in over a decade—the Dos Rios property eight miles west of Modesto. The 1,600-acre Dos Rios property is the largest floodplain restoration project in California and has restored habitat for imperiled wildlife at the convergence of the Tuolumne and San Joaquin Rivers, including the riparian brush rabbit, Swainson's hawk, Central Valley Chinook salmon, and steelhead trout. This property will also provide on-going community benefits by mitigating flood risk, replenishing groundwater, sequestering carbon, and providing green space for public recreation.

Traditional Ecological Knowledge (TEK). Before Euro-American contact, Native American tribes managed and stewarded California's terrestrial and marine resources for thousands of years. TEK, also known as indigenous knowledge, traditional knowledge, or native science, refers to the evolving knowledge acquired by indigenous peoples in the process of caring for the landscape and promoting the health of human, plant, and animal populations. There are currently 12

memorandums of understanding (MOUs) between State Parks and California tribes. The most recent MOU was signed on June 21, 2024, with the Big Valley Band of Pomo Indians of the Big Valley Rancheria (Big Valley) for stewardship of Clear Lake State Park, which is in the Tribe's traditional territory. The MOU includes opportunities for State Parks and Big Valley to cooperate on including TEK into natural resource management and collaborating on the interpretation of the natural and cultural heritage within Clear Lake State Park.

State Parks Partnerships. Partnership is not new to State Parks. From their inception, California's state parks were forged in partnership with community leaders and organizations. Among a collection of concession businesses, volunteers, and others supporting State Parks, nonprofits are invaluable partners that amplify the reach of State Parks' own community engagement efforts, foster ongoing connection to parks with added programming and events, leverage public investments with additional sources of funding, and build onramps that increase park access to ever more Californians. Parks California, the statutory nonprofit partner to State Parks released *A Study of Nonprofit Partnership in California State Parks* that notes that one-third of State Parks partners support natural resource management. Nonprofits and conservation organizations support State Parks by conducting damage and hazard assessments, habitat restoration efforts, and property acquisition. Parks California reported that 30% of its revenues are directed to climate and stewardship programs, such as providing technical assistance for climate planning and invasive plant eradication.

Joint Informational Hearing

Assembly Agriculture Committee and

Assembly Water, Parks, and Wildlife Committee

Groundwater Recharge

September 17, 2024

10 a.m. – 1 p.m.

Merced County Board of Supervisors Building

Welcome and Opening Remarks

a) Esmeralda Soria – Chair, Assembly Agriculture Committee
b) Diane Papan – Chair, Assembly Water, Parks, and Wildlife Committee

Panel 1: Overview and Future Plans

a) Josué Medellín-Azuara – Professor, Civil and Environmental Engineering - UC Merced
b) Department of Water Resources:
    i) Tim Godwin – Technical & Policy Advisor to the Deputy Director for Sustainable Water Management
    ii) Ajay Goyal – Manager, Department of Water Resource's Statewide Infrastructure Investigations Branch
c) California State Water Board:
    i) Erik Ekdahl – Deputy Director of Division of Water Rights
    ii) Tina Cannon – Leahy Supervising Attorney, Office of Chief Counsel
d) Merced Irrigation District – Stephanie Dietz, Board Member

Panel 2: Farmers and Community organization

a) Elijah Greidanus – CALF TECH – Fresno and Tulare
b) Jennifer Peters – Markarian Family LP – Madera
c) Vicky Garcia-Moya – Eco Family Farms – Chowchilla
d) Michael Claiborne – Directing Attorney, Leadership Council for Justice and Accountability – Fresno

Public Comment – 2 minutes per speaker

Closing Remarks

ASSEMBLY COMMITTEES ON AGRICULTURE and

WATER, PARKS, AND WILDLIFE

ASSEMBLYMEMBERS SORIA AND PAPAN, CHAIRS

INFORMATIONAL HEARING
Tuesday, September 17, 2024
10:00 a.m. – 1:00 p.m.
County of Merced, Board of Supervisors Chambers, 3rd Floor
2222 M Street; Merced, CA

Groundwater Recharge

Introduction. Groundwater is an important source of supply for California's communities, economy, and diverse natural resources. Unfortunately, many areas of the state have been pumping and using more groundwater than is naturally replenished. As a result, these same areas are now working diligently to bring groundwater use into balance with supply. This is not an easy undertaking. Many groundwater management agencies are looking to increase supplies through groundwater recharge, a strategy that is widely supported and will not only help bring use into balance, but put the state in a better position to respond to the impacts of climate change.

The Assembly Committees on Agriculture and Water, Parks, and Wildlife are holding this hearing to learn more about groundwater recharge and to explore ways in which the Legislature can facilitate this practice while avoiding any potential adverse impacts.

Background. Groundwater refers to water stored beneath the land surface; it "fills the pores and fractures in underground materials such as sand, gravel, and other rock, much in the same way that water fills a sponge."[1] While groundwater may be out of sight and sometimes out of mind, it is, nonetheless, a vital source of water for California's communities, economy, and environment. Per Department of Water Resources (DWR), groundwater represents 30% to 40% of California's water supply in "normal" and wet years and nearly 60% in dry years.[2]

For many decades, many regions of the state have been using or pumping out more groundwater on an annual basis than is replenished (or recharged). This is referred to as "overdraft," a condition when "more groundwater is pumped out compared to what natural or human efforts, called recharge, can do to put water back into the aquifer."[3] Overdrafting of groundwater can lead to adverse impacts including diminished water quality, land subsidence, reduced water storage, and reduced water supply. Due to the combination of these adverse impacts and drought, the State

[1] U.S. Geological Survey, "What is groundwater?" Accessed September 11, 2024, https://www.usgs.gov/faqs/what-groundwater.
[2] DWR, *California's Groundwater, Update 2020* ("Bulletin 118") (Sacramento, 2020), 1-1.
[3] DWR, "Groundwater: Understanding and Managing this Vital Resource," Accessed September 11, 2024, https://data.cnra.ca.gov/dataset/calgw_update2020/resource/1a04ec16-4473-4f31-be10-ba46aac752d2.

Legislature, Governor, and myriad stakeholders worked to pass the Sustainable Groundwater Management Act (SGMA) in 2014.

SGMA represents the first time the state adopted a comprehensive approach to managing groundwater resources and it requires local agencies [i.e., groundwater sustainability agencies (GSA)] to develop groundwater sustainability plans (GSP) to sustainably manage groundwater resources in their groundwater basins. SGMA defines sustainable groundwater management as the avoidance of "undesirable results" (i.e., chronic lowering of groundwater levels, reduction of groundwater storage, seawater intrusion, degraded water quality, land subsidence, and depletions of interconnected surface waters). SGMA's explicit intent is to keep management of groundwater resources at the local level while allowing for state intervention if local agencies are unsuccessful or get off track in meeting their sustainability goals. SGMA also intends for GSAs to have flexibility to address conditions unique to their particular basin and states that it does not alter groundwater rights.

What is Groundwater Recharge? Groundwater recharge occurs when water on the land surface or a water body percolates down through layers of soil and earth into aquifers. Recharge occurs naturally when it rains and when water moves through rivers, streams, and creeks. It can also occur through active management when individuals or agencies divert water from a waterway to farmland or a settling basin where the water can gradually percolate down into the aquifer. Rates of recharge vary by soil type and conditions, but it is generally not a rapid process. Active groundwater recharge requires advance planning and infrastructure to be successful.

The GSPs developed under SGMA must include a groundwater budget and identify actions to reverse groundwater overdraft and avoid undesirable results over a 20-year period. The management actions GSAs can implement to achieve this basically fall into either demand management or supply augmentation buckets. Due to the harmful economic impacts of reducing groundwater use, many GSAs are keenly interested in supply augmentation and, therefore, intend to increase groundwater recharge in their respective basins.

To wit, in a 2020 study reviewing the GSPs submitted for critically overdrafted basins in the San Joaquin Valley, the Public Policy Institute of California (PPIC) shows that, collectively, the GSPs intend to recharge nearly 1 million acre-feet (MAF) of water annually to address groundwater overdraft.[4] This is significant given that PPIC estimates that groundwater overdraft in the region for the 1987-2017 period was nearly 2 MAF annually.[5] PPIC notes there are challenges to realizing the goal of recharging this amount of water on an annual basis, but the analysis does show the strong interest in recharge to address groundwater overdraft.

In addition, the importance of groundwater recharge has been recognized in numerous state plans and strategies:

- The California Water Plan: Update 2023 – see Recommendations (and associated sub-actions) 2.1, 3.1, 3.3, 4.2, and 6.2.

[4] Ellen Hanak, Jelena Jezdimirovic, Alvar Escriva-Bou, Andrew Ayres, *A Review of Groundwater Sustainability Plans in the San Joaquin Valley*, (San Francisco: PPIC, 2020), 6.
[5] Ibid, 1.

- Governor Newsom's "California's Water Supply Strategy: Adapting to a Hotter, Drier Future" (August 2022) – see Action 2.1 that calls for an increase in annual groundwater recharge of 500,000 AF.
- Water Resilience Portfolio (2020) – see Actions 3, 5, 11, and 16.
- The California Water Action Plan (2014) – see Actions 2, 4, and 6.

Despite the many benefits of recharge, there are also potential adverse impacts from groundwater recharge. These include degradation of groundwater quality (if source water is contaminated[6] and/or recharge moves contaminants in the soil into groundwater aquifers), infringement on the water rights of others, adverse impacts to fish and other aquatic species, exacerbating flood risk if water is diverted in areas that are inappropriate, and adverse impacts on vines and orchards due to root inundation (though this concern appears to be diminishing as this practice is studied[7] and more landowners flood their orchards to allow for groundwater recharge).

Flood-MAR ("managed aquifer recharge"). A compelling multiple benefit approach that can provide flood protection while recharging groundwater is "Flood-MAR." Under this approach, high surface water flows (or floodflows) are diverted during periods of abundant precipitation or atmospheric rivers. The state is actively involved in attempting to expand these efforts due to the public safety and water supply benefits it can provide during wet winters such as 2017 and 2023.

According to DWR, Flood-Mar is:

> An integrated and voluntary resource management strategy that uses flood water resulting from, or in anticipation of, rainfall or snowmelt for groundwater recharge on agricultural lands and working landscapes, including but not limited to refuges, floodplains, and flood bypasses. Large-scale implementation of Flood-MAR will fundamentally change how flood and groundwater management are managed. Flood-MAR can be implemented at multiple scales, from individual landowners diverting flood water with existing infrastructure, to using extensive detention/recharge areas and modernizing flood protection infrastructure/operations. Flood-MAR's potential and value for California is achieved by integrating Flood-MAR with other regional recharge efforts, changing management of California's water system to better integrate surface water and groundwater, upgrading conveyance, storage, and operations….[8]

Flood-MAR can provide multiple benefits including: Flood risk reduction, drought preparedness, aquifer replenishment, ecosystem enhancement, subsidence mitigation, water quality improvement, working landscape preservation and stewardship, climate change adaptation, and recreation and aesthetics.

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[6] U.S. Environmental Protection Agency, "Enhanced Aquifer Recharge Research," Accessed September 12, 2024, https://www.epa.gov/water-research/enhanced-aquifer-recharge-research.

[7] Xiaochi Ma, Helen Dahlke, Roger Duncan, David Doll, Paul Martinez, Bruce Lampinen, and Astrid Volder, "Winter flooding recharges groundwater in almond orchards with limited effects on root dynamics and yield," *California Agriculture* 76, no. 2-3 (2022), 8.

[8] DWR, *Flood-MAR: Using Flood Water for Managed Aquifer Recharge to Support Sustainable Water Resources (White Paper)*, (Sacramento: 2018), 7.

In March 2024, DWR completed a three-year study on the potential benefits of implementing Flood-MAR in the Merced River watershed. The analysis looks at four scenarios – status quo plus three scenarios using various levels of Flood-MAR that incorporate recharge, reservoir reoperation, and infrastructure enhancement – and finds that all three scenarios implementing various levels of Flood-MAR will provide water supply, environmental, and/or flood protection benefits while making the region more resilient to climate change. The study concludes that the "outcome demonstrates that Flood-MAR can play an important role in adapting water management in California and illustrates the value of project planning and implementation at the watershed scale."[9] The Merced Irrigation District (MID) collaborated with DWR on this study and the Committees look forward to hearing DWR's and MID's thoughts on the potential to implement Flood-MAR in the Merced River watershed.

Legal framework for groundwater in California. Unlike surface water rights, in the vast majority of cases, a groundwater pumper does not need to obtain a permit or license from the State Water Resources Control Board (State Water Board) in order to use groundwater. Rights to groundwater are correlative to landownership and landowners overlying a groundwater aquifer possess an inherent right to use the groundwater beneath the surface of their land. These rights are also referred to as "overlying" rights. Pumpers must still put the groundwater to beneficial use and are subject to the "reasonable use doctrine," otherwise, the right is not well defined and oftentimes not quantified. In several basins pumpers have gone to court to resolve disputes over groundwater use. This process is referred to as an "adjudication" and the court typically establishes a "safe yield" and apportions pumping rights to water in the basin. Adjudicated basins are managed pursuant to the court order or settlement and are not subject to SGMA.

In non-adjudicated basins, there is uncertainty about whether water that is proactively recharged by one landowner will not be pumped out by an adjacent landowner (and there is generally no prohibition on such activity). As such, accounting for who gets to use any water that is recharged remains an ongoing challenge. Fortunately, SGMA has significantly improved the accounting of groundwater resources[10] so that landowners that desire to recharge groundwater for later use can have a higher degree of confidence that water they recharge will be there at a later date for their use.

Permitting of groundwater recharge projects. Capturing water during high-flow or flood events can be challenging if a potential diverter has not obtained the necessary permits to do so. This is because a water right or permit is required if a groundwater recharge project involves diverting surface water from a river or stream to a recharge area. Obtaining a permanent water right can take a long time so, several projects in recent years have opted to seek a temporary urgency (180-day) permit to divert flood flows to groundwater recharge. The State Water Board can also issue a five-year temporary permit for groundwater recharge.

Both 180-day and five-year temporary permits are a conditional approval to divert and use available water that has not been claimed by a water right holder. Permits are junior to all water

[9] DWR, *Merced River Watershed Flood-MAR Reconnaissance Study*, (Sacramento: 2024), ES-5.
[10] Caitlin Peterson, Ellen Hanak, Zaire Joaquín Morales, *Replenishing Groundwater in the San Joaquin Valley: 2024 Update*, (San Francisco: PPIC, 2024), 16.

rights and include terms and conditions that prohibit diversions in times of water shortage when the demands of other right holders may not be met. Temporary permits are typically processed more quickly than standard permits and may be renewed, but are subject to change or revocation at any time. Applicants must complete a water availability analysis to determine excess water is available and obtain a Lake and Streambed Alteration Agreement (LSAA) from the Department of Fish and Wildlife (DFW).

There has been some frustration with the permitting process for groundwater recharge. In PPIC's 2023 survey on groundwater recharge in the San Joaquin Valley, 32% of respondents report a "permitting or regulatory barrier" to implementing groundwater recharge projects (contrast with 49% of respondents that report an "infrastructure" barrier and 23% that report a "cost or funding barrier").[11]

In the past decade, both state agencies and the Legislature have tried to find ways to expedite the permitting process for groundwater recharge efforts given the high priority placed on this action. In the 2023-24 Legislative Session, AB 2060 (Soria) and SB 1390 (Caballero) were introduced and attempted to facilitate groundwater recharge efforts; however, neither made it all the way through the process before the Legislature adjourned on August 31, 2024. The Governor's Executive Orders (EO) during Winter 2023 and SB 122 (Committee on Budget and Fiscal Review), Chapter 51, Statutes of 2023, have been implemented and helped increase groundwater recharge in 2023 (see next section).

Governor's EOs N-4-23/N-7-23 and SB 122 (Committee on Budget and Fiscal Review). To take advantage of the unexpected wet winter last year and capture high water flows for groundwater recharge, Governor Newsom issued EO N-4-23 which, among other provisions, authorized diverters to temporarily take "floodflows" off of streams and rivers for groundwater recharge without obtaining a water right, complying with the California Environmental Quality Act, and obtaining an LSAA. The authority in EO N-4-23 was modified and extended through EO N-7-23 and then codified into law with the passage of SB 122 last year. SB 122 makes various changes to the EOs, including adding a requirement that a local or regional agency must rely upon a local plan of flood control or a county general plan that considers flood risk in order for an unpermitted diversion of floodflows to occur within the agency's territory. Further, the diverted water cannot be applied to certain types of land (e.g., where manure has been applied in the previous 45 days) and the diversion must meet the following criteria:

- Use existing diversion infrastructure or temporary pumps;
- Use existing groundwater recharge locations;
- Cannot use new permanent infrastructure or permanent construction; and
- Use protective screens on temporary pumps to protect fish and other aquatic life when water is diverted directly from a river or stream. The protective screens must be constructed of any rigid material, perforated, woven, or slotted that allows water to pass while physically excluding fish. In addition, a protective screen must be parallel to the flow of water and adjacent to the water's edge and meet other specified criteria.

[11] Ibid, 21.

The State Water Board received and posted 78 reports of temporary diversion of floodflows for groundwater recharge under the authority granted by the EOs (see https://www.waterboards.ca.gov/waterrights/water_issues/programs/groundwater-recharge/). The majority of these reports indicate that diversions began the same day or within days of, the issuance of the first EO, N-4-23, on March 10, 2023 and, in many cases continued through August and even September 2023. EO N-4-23 provides in paragraph 3c that "diversions cease when the flood conditions have abated to the point there is no longer a risk of flooding and inundation of land, roads, or structures downstream of the point of diversion" (EO N-7-23 extended the authority to divert but also this restriction). Despite this requirement, it appears that many diversions under the authority granted by the EOs continued long after flood conditions had abated.

Progress in efforts to expand groundwater recharge. Despite some of the challenges with implementing groundwater recharge projects, it appears that significant progress has been made. Respondents to a PPIC survey covering 2023 recharge efforts in the San Joaquin Valley report recharging 5.3 MAF of water in 2023 and PPIC estimates the actual amount of water recharged is higher, 7.6 MAF (one reason the estimate is higher than what survey respondents reported is that respondents did not report "passive," or naturally, occurring recharge).[12]

Likewise, DWR released its Semi-Annual Groundwater Conditions report in May of this year that indicates that groundwater storage in California improved for the first time since 2019. Per the report, the state achieved 4.1 MAF of managed aquifer recharge water in 2023;[13] 1.2 MAF of this was permitted by state agencies and approximately 453,000 acre-feet occurred under the authority for the temporary diversion of floodflows for groundwater recharge authorized by EO N-4-23 and EO N-7-23 (see discussion below). The remaining recharge occurred as a result of the wet conditions.

Key legal and policy questions for groundwater recharge and Flood-MAR. The Committees hope to shed light on the following questions through this hearing:

- Where will the surface water come from?
- How much surface water is available?
- How will recharged water be accounted and recovered or otherwise used?
- What (if any) permits are required? What is the cost of these permits and any associated analysis and/or environmental review?
- Is recharge or "groundwater storage" a beneficial use?
- How can groundwater recharge and Flood-MAR projects be implemented more broadly and expeditiously?

[12] Ibid, 9-10.

[13] According to PPIC, DWR's recharge number differs than PPIC's due a difference in reporting period [Water year (October through September) versus calendar year], DWR did not include Tulare Lake basin in its estimate, and DWR may not have accounted for all of the passive recharge that occurred.

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