

AGENDA

ASSEMBLY BUDGET COMMITTEE NO. 3 RESOURCES AND TRANSPORTATION

ASSEMBLYMEMBER RICHARD BLOOM, CHAIR

WEDNESDAY, MARCH 22

9:30 A.M. - STATE CAPITOL ROOM 447

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ITEMS TO BE HEARD

3860 DEPARTMENT OF WATER RESOURCES 0690 OFFICE OF EMERGENCY SERVICES

ISSUE 1: EMERGENCY FLOOD PROPOSALS

The Governor proposes to amend the current year budget with the following:

- \$387.1 million from Proposition 1 and 102.4 positions for the Department of Water Resources (DWR) to accelerate flood control projects over the next two fiscal years.

	Program Areas	Prop 1 Available	Total Appropriation
Delta	Urban Flood Risk Reduction	\$295	\$65
	Delta Levee Subventions		\$27
	Delta Special Projects		\$57.1
	"Statewide" Flood Risk Reduction		\$130
	Emergency Response		\$10
Central Valley & Coastal Watersheds	Coastal Watershed Flood Risk Reduction	\$100	\$27
	Central Valley Tributary Projects		\$50
	"Systemwide" Flood Risk Reduction		\$21

**Dollars in millions*

\$387.1

- \$3.0 million ongoing from the Dam Safety Fund for DWR to support 8 new positions to develop a focused Safety Re-Evaluation Program for a detailed review of appurtenant structures, beginning with the evaluation of 108 large spillways considered to pose the greatest downstream risk if they were to fail.
- \$5.3 million for DWR and Office of Emergency Services (OES) and 14 positions to implement a comprehensive approach to dam safety by requiring the development and review of inundation maps and emergency action plans.

These proposals are intended to address the aftermath of the recent atmospheric river storms.

BACKGROUND

Flood Conditions in 2017: The heavy rainstorms in recent months, referred to as “atmospheric rivers,” have reduced the areas in drought conditions to a small part of Southern California, according to the US Drought Monitor. Northern California has recovered from the five-year drought. Much of the Sierra Nevada, which provides the water supply for much of California, saw its rainiest and snowiest October-February period on record. The heavy precipitation has caused flooding, levee breaks, and sinkholes in some regions. These events, most notably the Oroville spillway breach, have generated concern over California’s flood protection infrastructure. Even after the rains stop, the record high snowpack in the mountains could potentially generate more big flows in the late spring.

Proposition 1 is a \$7.5 billion water bond measure approved in November 2014. The bond included a total of \$395 million for flood management projects. The bond language requires that all of the funding be allocated for “multi-benefit projects that achieve public safety and include fish and wildlife habitat enhancement.” Of the \$395 million total, \$295 million is specifically reserved to reduce the risk of floods and levee failures in the Sacramento-San Joaquin Delta. The remaining \$100 million can be used anywhere in the state.

DWR’s Dam Safety Program is comprised of four basic safety activities; they include annual maintenance inspections, construction oversight, application reviews, and re-evaluation of existing dams.

There are 1,250 dams in California subject to the program and are inspected annually. These dams are currently classified in three categories consistent with federal definitions; high hazard (678), significant hazard (271) and low hazard (289). Two dams are under review for classification.

The current inspection process focuses heavily on the dam itself and includes a visual inspection of the appurtenant structures. The re-evaluation component of the program over the last 10 years has focused on the highest risk to California dams including a seismic re-evaluation of dams in areas that have a high probability of a major earthquake occurring. The recent seismic re-evaluation program has led to over \$1 billion in repairs to dams.

Emergency Action Plans are a critical component of a strong dam safety program. The plans outline the action steps that are taken to protect life and property. They include components of detection measures through inspections and maintenance, determinations of emergency levels based upon the threat of flooding, notification protocols for local government and the public, and other preventive measures dam owners/operators can take. The emergency plans utilize dam inundation mapping to guide actions and notification protocols since they show the potential area of flooding and its impacts.

Inundation Maps, which provide the basis for Emergency Action Plans, are maps that show where flooding may occur should a flood control system fail. It includes downstream effects and shows the probable path by water released due to the failure of a dam or from abnormal flood flows released through a dam's spillway and/or other appurtenant works. Furthermore, these maps are currently only required for a sunny day full dam failure scenario, and do not take into account a failure of an appurtenant structure or failure of downstream flood facilities such as a levee breach. Additional inundation maps are also needed for other critical flow control structures and saddle dams, which will be identified by DWR.

These maps are created at the time a dam is built or enlarged and are only required for a complete sunny day dam failure scenario. They do not take into account a failure of an appurtenant structure as occurred at Oroville. The DWR Division of Safety of Dams currently has no enforcement power to mandate completion of Emergency Action Plans or inundation maps.

The Governor's Proposal. With the requested resources, the Governor proposes for DWR to do a complete a reconnaissance of the geologic, hydraulic, hydrological, and structural adequacy of the identified 108 largest spillways in the State by October 1, 2017. By January 1, 2018, DWR will complete a thorough site investigation and evaluation of those spillways that are found to be potentially at risk. Immediate action such as emergency repairs or reservoir operation restrictions will be required of dam owners as necessary to reduce the risk of any spillway identified to be in poor condition as a result of the study. DWR will complete evaluations of the remaining spillways by January 1, 2019 and direct dam owners to make required repairs or restrict reservoir operations as needed.

The Governor proposes for DWR to re-classify jurisdictional dams as extremely high, high, significant or low risk. The DWR will require inundation maps and Emergency Action Plans for all jurisdictional dams allowing a waiver for low hazard dams. During regular inspections, DWR will track any dams where the hazard classification has changed and reassess the waiver as necessary.

The DWR will identify which scenarios beyond a complete dam failure require a separate inundation map. The dam owner will create the inundation map and submit to the DWR, which will be reviewed and approved by DWR's Division of Flood Management. The approved maps will then be posted publicly on DWR's website and linked to Cal OES' website.

Dam owners will be responsible for creating Emergency Action Plans in accordance with federal guidelines and based on their updated inundation maps. Cal OES will provide guidelines regarding the coordination between dam owners and local emergency management agencies to create local emergency response plans. Dam owners will submit the plans through DWR, who will work with Cal OES to review and confirm that plan components are acceptable for incorporation into and to guide local emergency response plans.

The dam owner will send the final Emergency Action Plans and inundation map to DWR, Cal OES and local emergency management agencies.

Cal OES will coordinate emergency response drills with dam owners and local emergency management agencies. The dam owner will be required to update the Emergency Action Plans regularly in accordance with federal guidelines and update the inundation maps every ten years or sooner if there is a change in dam status or change in downstream risk.

The proposal will provide DWR additional enforcement power over dam owners who are not complying with the new emergency plan/inundation maps requirements. The proposal will propose revisions to the Water Code to incorporate penalties such as fines and reservoir operation restrictions when dam owners violate DWR's directives and orders.

STAFF COMMENTS

As the climate changes, our flood control systems will continue to be pushed to the limit with extreme drought conditions and extreme rainstorms. We are mid-way through the rain season, but there is still a lot that we don't know in terms of additional risks and vulnerabilities in the flood infrastructure. Although there are immediate funding needs, it is important to find a sound solution. Here are some issues to consider when weighing this proposal:

- **What is the rationale for an urgent appropriation?** If passed in the next couple of weeks, we are looking at approximately a three-month advantage. Further, the proposal only dedicates \$10 million for emergency response activities. The administration already repurposed \$50 million of deferred maintenance funding for emergency needs.
- **Would these funds take us to a 200-year flood protection in all major metropolitan areas?** In 2007, the Legislature set 200-year flood protection (i.e. 1-in-200 chance of flooding every year) as the minimum for urban development in the Central Valley floodplain.
- **Are the various deadlines in the proposal feasible?** The proposal requires DWR:
 - By October 1, 2017, to complete a reconnaissance of the geologic, hydraulic, hydrological, and structural adequacy of the identified 108 largest spillways in the State.
 - By January 1, 2018, to complete a thorough site investigation and evaluation of those spillways that are found to be potentially at risk.
 - By January 1, 2019, to complete evaluations of the remaining spillways and direct dam owners to make required repairs or restrict reservoir operations.

- **What is the rationale behind how the \$381 million Prop1 funds are allocated?** Should the allocations prioritize regions, or types of projects (levees, flood bypasses, dams)? Or extent of risk? Or connection to the Central Valley Flood Protection Plan? The proposal does not provide any insight on reasoning behind the proposed categories nor what prioritization criteria will be used for selecting specific projects within each of those categories.
- **Is this funding plan part of a larger plan to deal with flood management?** It is unclear whether this proposal is integrated with other flood management efforts.
- **What are the Legislature's priorities for expending these funds?** The Legislature has authority to decide on how to spend flood funding by category. This proposal takes this authority away from the Legislature. Further, the proposal does not contain budget language to codify the plan, which means the administration could later change its plan and direct the funding in a different way without legislative notification or approval.

Staff Recommendation: PENDING

3860 DEPARTMENT OF WATER RESOURCES
3940 STATE WATER RESOURCES CONTROL BOARD
3600 DEPARTMENT OF FISH AND WILDLIFE

ISSUE 2: DROUGHT RESOURCES

The Governor's budget requests a total of \$178 million for drought response activities across five departments in 2017-18. This agenda examines the drought funding allocations for three of the five departments. Specifically, this agenda reviews the following:

Department of Water Resources:

- \$14 million General Fund for DWR to address water shortages and conservation, provide state level drought coordination and response, and assist fish and wildlife affected by drought conditions. Specifically:
 - \$7 million for the drought management operations center, water transfer support and water supply modeling.
 - \$2 million for the "Save the Water Campaign."
 - \$5 million for local assistance and emergency drinking water support for small communities for small communities
- \$2.6 million General Fund and \$0.9 million from the Harbors and Watercraft Revolving Fund for DWR to combat the decline of the endangered Delta Smelt.

State Water Resources Control Board:

- \$5.3 million General Fund and 32 positions for SWRCB to continue enforcement of drought related water rights and water curtailment actions.

Department of Fish and Wildlife:

- \$8.2 million General Fund for DFW to continue fish rescue and stressor monitoring, improving water efficiency on department lands, law enforcement activities, and to protect salmon.

BACKGROUND

The multi-year long drought left California with a range of challenges, which continue despite this year's rain and snow. While reservoir levels have recovered, water levels remain dangerously low in our groundwater aquifers. This has affected every aspect of our environment and economy. The drought has imperiled drinking water supplies, our agricultural sector, and sensitive habitats. It has contributed to catastrophic wildfire and significant tree mortality throughout the state.

In recent years, the Legislature and Governor have deployed significant resources to combat the drought and made progress addressing a multitude of water challenges facing the state. Since the Governor declared a state of drought emergency in January 2014, \$3.7 billion has been appropriated to assist drought-impacted communities, provide additional resources for critical water infrastructure projects and respond to drought-related wildlife emergencies.

In a dramatic turn of events, the beginning of 2017 brought on some of the strongest storms in years, with downpours that produced flooding and mudslides in many areas of California. According to the US Geological Survey, precipitation in 2017 so far has filled the majority of California's major reservoirs to above-historic average levels. Most of California's rivers, creeks, lakes and reservoirs are now in good condition in terms of water levels.

LAO COMMENTS

Because the state's rainy season is still only halfway completed, it is premature to determine what drought conditions will remain and what state-level responses will be required in 2017-18. The significant increase in precipitation that has occurred since the Governor prepared his budget proposal, however, likely will reduce the need for some of his proposed activities and funding. Additionally, even as the state appears to be emerging from the recent drought, it faces the challenge of how to best prepare for more prevalent droughts in the future. These evolving conditions - both with current-year precipitation and longer-term climate - suggest the Legislature may want to modify the drought response proposal currently before it. In Figure 6, we offer a framework the Legislature could use to consider the proposal, consisting of three categories:

- **Necessary Emergency Response.** One-time emergency response activities needed to address lingering drought impacts (consistent with the Governor's portrayal).
- **Build Drought Resilience.** Activities that both respond to current conditions and could be continued on an ongoing basis to help build the state's resilience for future droughts.
- **Potentially Not Necessary.** Activities that could be decreased or eliminated based on improved hydrologic conditions and decreased response needs.

Given ongoing storms are still affecting statewide hydrology, we recommend delaying any action on the Governor's drought response proposals until after the May Revision. The Administration has also indicated it will reexamine its proposals based on evolving conditions, and likely will submit a revised proposal for the Legislature to consider.

STAFF COMMENTS

Staff concurs with LAO's comments and recommends holding this item open until after the rain season is over and when we get a better assessment of drought-related needs. Some questions the subcommittee may want to ask:

- What types of changes to this proposal does the Administration anticipate?
- What types of activities are no longer necessary due to the rain?
- What is still needed?
- Which activities should be funded on an ongoing basis?

Staff Recommendation: PENDING

**3860 DEPARTMENT OF WATER RESOURCES
3940 STATE WATER RESOURCES CONTROL BOARD****ISSUE 3: SUSTAINABLE GROUNDWATER MANAGEMENT ACT IMPLEMENTATION**

The Governor's budget requests a total of \$17.3 million for two departments for continued implementation of the Sustainable Groundwater Management Act. Specifically, the request includes:

Department of Water Resources:

- \$15 million ongoing General Fund and 28.9 existing positions in 2017-18 growing to 54.1 positions in 2020-21 for the DWR to serve its legislatively mandated role in implementing the Sustainable Groundwater Management Act and supporting local agencies to achieve regional sustainability.

State Water Resources Control Board:

- \$2.3 million from the Water Rights Fund - \$750,000 ongoing and \$1.5 million one-time, and five new positions for SWRCB to develop the SGMA reporting unit in order to implement enforcement and intervention requirements.

BACKGROUND

The Sustainable Groundwater Management Act (SGMA) of 2014 provides a framework for sustainable management of groundwater by requiring local agencies to organize, plan, and manage their groundwater resources to a sustainable level within 20-years, along with fee authority to help cover the costs.

Local authorities with basins that are categorized as high-priority or medium-priority, must form new governance structures called Groundwater Sustainability Agencies (GSAs). If local agencies overlap on a basin, they must agree on a sustainable goal for the groundwater basin/management area, and jointly develop a groundwater sustainability plan.

California has 515 groundwater basins. Of those 515, only 127 high and medium priority basins defined by the Department are required to address the new groundwater sustainability plan and groundwater sustainability agency requirements. Those 127 high and medium priority basins cover about 96% of the average annual groundwater supply in the state

Early indications show that agreeing on the governance structure in each region is contentious in some regions and DWR expects that many regions will not have a GSA in place by the statutory deadline of June 30, 2017. As of August 2016, only 44 of the 127 high and medium priority basins had at least one GSA notice in place.

Over half the basins with GSA notifications currently have overlapping notices, which means the local agencies have not agreed who will form the lead agency under SGMA. These differences must be resolved by June 2017 or the State Water Resources Control board is authorized to intervene and to assess fees under SGMA.



LAO COMMENTS

As shown in the figure above, the next five to seven years represent a critically important period for establishing how SGMA will guide local operations and practices in future years. Local agencies must negotiate and collaborate to form functional GSAs, then undertake the difficult work of gathering and analyzing data about their areas' groundwater use, defining sustainability targets for their basins, and developing enforceable plans and practices for how the basins can be managed to achieve those sustainability goals. The comprehensiveness and effectiveness of these processes and plans will determine the overall success of the act and of the state's nascent efforts at comprehensively managing its groundwater resources.

State Plays Important Role in Ultimate Success of Implementation. The significant and complex workload facing local agencies in the coming years heightens the importance of assistance from state agencies during this period. In particular, the state can help by providing GSAs with baseline data to inform their GSPs. When possible, collecting data on a statewide basis—such as through remote sensing technology—can save funding by taking advantage of economies of scale, and ensure that data are valid and consistent across different areas of the state. Additionally, the State can play an important role in providing technical assistance, offering neutral facilitation services, monitoring local agency progress, and providing additional support when needed to ensure GSAs stay on track to meet deadlines. Finally, the State serving as a “backstop” if local agencies fail to meet SGMA’s requirements both raises the pressure for local compliance as well as increases the likelihood that the act’s sustainability goals ultimately will be met.

Given the essential function the successful implementation of SGMA plays in the state’s overall approach to water management, the LAO recommends the Legislature:

- **Adopt Governor’s Proposals.** Because state agencies could provide helpful assistance to local agencies during this critical implementation period, the LAO recommends adopting the Governor’s proposals for DWR and SWRCB.
- **Continue to Monitor Successes and Challenges of SGMA Implementation.** Because the next several years are a decisive period of SGMA implementation, the LAO recommends maintaining careful and regular oversight over how it is proceeding. This could include asking the Administration to report on implementation status, successes, and challenges through budget and oversight hearings. To avoid delays, pitfalls, or unforeseen consequences, the LAO recommends that the Legislature monitor whether additional state action, such as follow-up legislation or a modification to the activities conducted by state agencies, might be warranted to stay on track and achieve sustainability goals.

STAFF COMMENTS

California depends on groundwater for a major portion of its annual water supply. Prior to the passage of SGMA, the unrestricted use of groundwater has led to widespread lowering of water tables, land subsidence and diminished water quality. Sustainable groundwater management is essential to meet the state’s long-term water needs. SGMA is at a crucial point in its formative years. The request resources would help the state and local agencies build up the capacity it needs to do the job. Some questions that the subcommittee may want to ask:

- How is SGMA implementation going?
- What are the successes and challenges?
- What is the update on how many have formed GSAs?

- How many will fail to meet requirements and require intervention?
- Do you anticipate needed additional legislative action to help implementation proceed smoothly?

Staff Recommendation: PENDING

3860 DEPARTMENT OF WATER RESOURCES

The Department of Water Resources' proposed budget is \$3 billion, which represents a 20 percent decrease in expenditure from last year. This decrease is primarily due to several large expenditures of one-time funds in 2016-17, including from Proposition 1E (2006 Flood Prevention Bond). Most of the Department's budget is special funds, with \$129.6 million of the proposed total funding coming from General Fund.

ISSUE 4: CENTRAL VALLEY FLOOD PROTECTION BOARD PERMITTING AND ENFORCEMENT

The Governor's budget requests \$2.2 million General Fund for nine new positions and one existing position for the Central Valley Flood Protection Board to support the permitting process and enforcement of encroachments of the State Plan of Flood Control and related facilities. While the Board is an independent entity, its budget is contained within the Department of Water Resources' (DWR), and it receives some staff and administrative support from DWR.

BACKGROUND

The State Plan of Flood Control (SPFC) is the state-federal flood protection system in the Central Valley. This flood protection system is composed of federally authorized project levees and related facilities for which the State has provided assurances of cooperation to the federal government. There are other flood protection facilities in the Central Valley not covered by state assurances, and those are not part of the SPFC. SPFC includes over 1,600 miles of levees, over 1,300 miles of designated floodways, and approximately 18,000 parcels of land held in fee, easement, or other agreements.

The Central Valley Flood Protection Board (CVFPB) is the lead authority for flood protection in the Central Valley and is responsible for permitting and enforcing encroachments and operation and maintenance of all SPFC facilities. CVFPB work in collaboration with local authorities and stakeholders to ensure an integrated flood control system in order to provide the highest level of flood protection to the Central valley. CVFPB also manages real estate and easements necessary for flood control.

California has some liability for loss of life/property in the event of a flood, if the State does not have a reasonable plan for maintaining the state-federal flood control system. In the 2003 *Paterno* decision, the California's Supreme Court found the state liable from the 1986 Linda Levee collapse in Yuba County. The levee failure killed two people and destroyed or damaged about 3,000 homes. The court opined that, "when a public entity operates a flood management system built by someone else, it accepts liability as if it had planned and built the system itself." The State settled with property owners for \$500 million. Since the 2005 settlement, the State has invested billions of dollars in improving the levees and other SPFC facilities.

The US Army Corps of Engineers identified thousands of non-compliant encroachments and/or deficient maintenance and operations of facilities within the SPFC. They estimate that 90 percent of the State's project levees no longer qualify for the federal Levee Rehabilitation Program. When a state project levee loses this status, it is no longer eligible for federal contribution funding for rehabilitation to return a levee to its pre-flood status. Instead, those rehabilitation costs and any associated liability due to loss of life/property falls on the state and/or local flood agency.

CVFPB has statutory authority to generate revenue through the ability to levy fines and charge fees for inspection related activities. However, CVFPB has been unable to utilize this authority due to incomplete real estate records and limited inspection and enforcement staff.

STAFF COMMENTS

The *Paterno* ruling held the State responsible for the defects in the Yuba river levee foundation that existed when the local agricultural community constructed the levee in the 1930s. This means that the State could potentially be responsible for the structural integrity of the Central Valley Flood Control System, which includes 1,600 miles of levees protecting over a half million people, two million acres of cultivated land, and approximately 200,000 structures with an estimated value of \$47 billion. This is an enormous financial liability. The requested resources can help toward decreasing the liability for loss of life and property in the event of a flood event and enabling CVFPB to generate revenue streams to further limiting liability through permitting, inspection, enforcement. Some questions that the subcommittee may want to ask:

- How does the Board intend to sustain these activities in the future years (this proposal asks for funding for three years only)?
- Will fee revenue be sufficient?
- What are the impacts from recent storms on SPFC levees?
- Are there any emergency repair needs?

Staff Recommendation: PENDING

ISSUE 5: REVERSION FOR ATMOSPHERIC RIVERS RESEARCH

The Governor's budget requests to reverse the \$3 million appropriated in FY 2016-17 for atmospheric rivers research.

BACKGROUND

An atmospheric river is a narrow corridor of concentrated moisture in the atmosphere. Like rivers in the sky, these columns carry an amount of water vapor roughly equivalent to the average flow of water at the mouth of the Mississippi River. When the atmospheric rivers make landfall, they often release this water vapor in the form of rain or snow.

SB 758 (Block, Chapter 682, Statutes of 2015) created the Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program in the Department of Water Resources to research atmospheric rivers and ways to capture the water generated by them.

Budget bill 2016-17 appropriated \$3 million to support the launch of this program.

STAFF COMMENTS

This program could help advance California's knowledge of atmospheric rivers, allowing us to better monitor and predict them. This knowledge can help us better manage our flood protection and water infrastructures.

Staff Recommendation: PENDING

3940 STATE WATER RESOURCES CONTROL BOARD

The SWRC's budget is \$1 billion, which represents a 65 percent decrease from last year. This substantial change is primarily due to the one-time allocation of approximately \$1.6 billion Proposition 1 funds in 2015-16. The Legislature provided an extended encumbrance period for this funding; therefore, it will be expended over a multiyear period. Most of the Department's budget is comprised of special funds, with \$48 million of the proposed total funding coming from General Fund.

ISSUE 6: OIL AND GAS MONITORING PROGRAM SUPPLEMENT FOR EXISTING UNDERGROUND INJECTION CONTROL (UIC) PROJECT REVIEW

The Governor's budget requests \$1 million from the Oil, Gas, and Geothermal Administrative Fund for three years and seven positions to ensure Class II underground injection control projects are in compliance.

BACKGROUND

The Safe Drinking Water Act (SDWA) of 1974 protects public health by regulating the nation's public drinking water supplies. SDWA authorizes the US EPA to protect underground sources of drinking water. Through its Underground Injection Control (UIC) Program, the US EPA prohibits injection wells from contaminating underground sources of drinking water. The EPA can exempt aquifers that do not currently serve as a source of drinking water and will not serve as a source of drinking water in the future, based on specific criteria. Aquifer exemptions allow these underground sources of water to be used by energy and mining companies for oil or mineral extraction or disposal purposes in compliance with EPA's UIC requirements.

In 1983, the US EPA delegated to California's Division of Oil, Gas and Geothermal Resources (DOGGR) the primary responsibility to regulate Class II wells under the UIC program. Class II wells are primarily used to inject steam or water for enhanced oil/gas recovery, or to inject waste water (such as brines) from oil and gas production. The US EPA approves the locations where injection into groundwater aquifers may be allowed, by issuing aquifer exemptions.

A Memorandum of Agreement (MOA) entered into 1988 between DOGGR and the SWRCB, which called for DOGGR to consult with the SWRCB during its consideration of UIC project permitting so SWRCB could assist DOGGR with the protection of water resources. Public Resources Code 3130 also requires SWRCB to concur with DOGGR that the exemption proposal merits consideration before the aquifer exemption proposal can be sent to the US EPA.

The US EPA conducted an audit in 2011 and found that DOGGR had authorized injection of oil and gas-related disposal fluids into non-exempt aquifers containing high quality water. Additionally, DOGGR identified the presence of water supply wells near

some of the injection wells. The US EPA also identified that DOGGR had not been performing its required annual review of active UIC projects.

DOGGR submitted their Renewal Plan for Oil and Gas Regulation to the Legislature in December 2015 and identified a path forward to bring its UIC program into compliance with federal and state regulations. As a part of their compliance plan, DOGGR reached out to operators with injection wells in non-exempt aquifers, providing an opportunity to prepare technical proposals to support exemption of those aquifers under State and federal law.

This requires SWRCB to conduct an annual review of active UIC projects in cases where an update or modification to a project is required. According to SWRCB, there are more than 900 active UIC projects consisting of more than 50,000 UIC wells that are slated for annual review by DOGGR. SWRCB estimates that approximately 100 active UIC projects will be reviewed per year by the Water Boards and annually thereafter. This estimate is based on DOGGR's capacity to process the annual review of active UIC projects, the actual number of projects that will be passed on to SWRCB for review, and the scope of the projects.

In 2015, SWRCB received \$2.9 million and 19.0 permanent positions to:

- review aquifer exemption proposals from DOGGR,
- review UIC wells identified by DOGGR as injecting into aquifers that may not have been properly exempted,
- review UIC project proposals,
- review discharges of produced water to surface ponds, and
- take appropriate enforcement action where necessary.

As of February 15, 2017, the UIC program is still out of compliance. To date, operators have provided proposals for 42 fields, covering more than 2,000 wells. Thirteen of those 42 fields (approximately 460 injection wells) were shut down on February 15, 2017 because the operators have not provided adequate data to support an exemption proposal. Twenty-nine of those 42 fields (approximately 1,650 injection wells) are allowed to continue operations because their exemption proposal meets the state and federal criteria for exemption or the proposal appears to have merit warranting ultimate submission to the US EPA. DOGGR additionally identified ten fields with injection operations in non-exempt zones (approximately 15 wells), which was also shut down on February 15, 2017.

In total, 23 fields covering 475 wells are required to cease operations on February 15, 2017, 29 fields covering 1,650 wells are allowed to continue operations pending US EPA approval.

STAFF COMMENTS

The requested resources would increase the Water Boards' capacity in assessing the potential impacts UIC projects on water quality and bring the UIC program back into compliance with regulations. Some questions that the subcommittee may want to ask:

- Many wells were allowed to inject past the February 15, 2017 deadline. When do you anticipate the State Board will be able to concur or non-concur to all of the aquifer exemption proposals the Division has deemed sufficient?
- Does the state board have sufficient resources to review aquifer exemptions in a timely manner?

Staff Recommendation: PENDING

ISSUE 7: IRRIGATED LANDS REGULATORY PROGRAM

The Governor's budget requests \$1 million in authority from the Waste Discharge Permit Fund and 5 positions to support ongoing regulatory efforts to protect drinking water sources and reduce nitrate loading to groundwater.

BACKGROUND

SWRCB's report to the Legislature in 2013, titled "Recommendations Addressing Nitrate in Groundwater," identified nitrate contamination in groundwater as a widespread water quality problem that can pose serious health risks to pregnant women and infants. Agricultural fertilizers and animal wastes applied to cropland are by far the largest sources of nitrate in groundwater. The report revealed that almost 97% of nitrate loading to groundwater in the Central Valley and Central Coast can be directly linked to irrigated agriculture. In the report, SWRCB made 15 specific recommendations to address issues associated with nitrate contaminated groundwater.

SWRB and the Regional Water Quality Control Boards are engaged in numerous efforts to address nitrate contamination in groundwater. One such effort is the Irrigated Lands Regulatory Program (ILRP). The ILRP regulates discharges from irrigated agricultural lands by issuing conditional waivers of waste discharge requirements (Orders) to growers. These Orders contain conditions requiring water quality monitoring of receiving waters and corrective actions when impairments are found.

The ILRP is currently in operation within four of the nine water quality control board regions. This represents about 6.6 million acres out of a total of 8.8 million acres of irrigated agricultural land in California. SWRCB estimates another 1.7 million acres will be enrolled into the ILRP as three of the remaining five water quality control board regions move to implement the ILRP.

\$4.5 million and 23.1 positions currently support the ILRP. According to SWRCB, there has been a systematic increase in workload over the last decade and current staffing levels are insufficient to protect surface water bodies impacted by agricultural runoff and inadequate to properly regulate discharges to groundwater. The positions in this BCP will be funded from waste discharge permit fees from agricultural dischargers. Industry estimates that this proposal would result in a 21 percent increase for agricultural waste dischargers.

STAFF COMMENTS

The subcommittee may wish to clarify the exact need for the additional resources. Some questions that the subcommittee may want to ask:

- Three of the regions that currently have no enrolled acreage will be implementing ILRP within the next 2 years, how much in fees do you anticipate to generate from these additional regions?
- Would these additional fees help ameliorate the funding needs in this request?

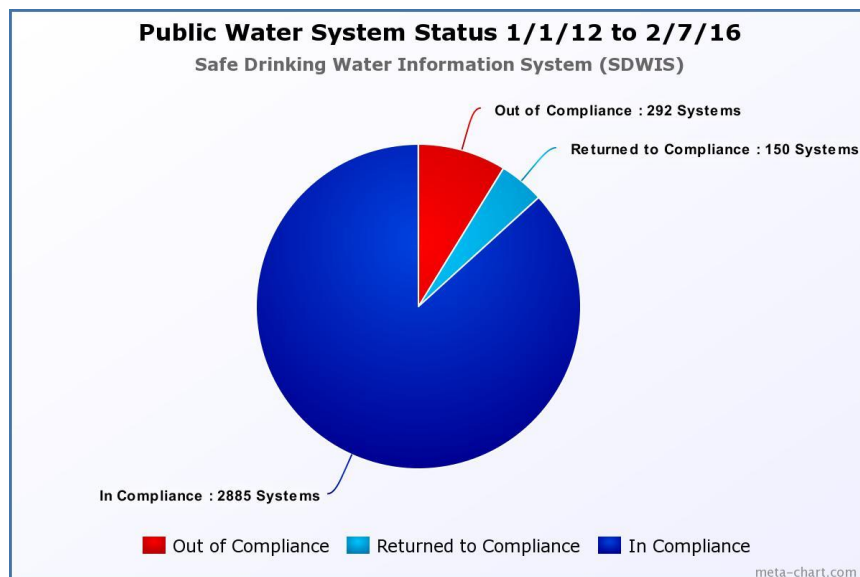
Staff Recommendation: PENDING

ISSUE 8: SAFE AND AFFORDABLE DRINKING WATER

The Subcommittee will receive a briefing from the State Water Resources Control Board (SWRCB) on their efforts to ensure safe and affordable drinking water in California.

BACKGROUND

A significant number of California communities rely on a contaminated groundwater source for their drinking water supply. Contaminants include nitrate, arsenic, and disinfectant byproducts. Lack of safe drinking water is a problem that disproportionately affects disadvantaged communities. Over 300 drinking water systems in disadvantaged communities, serving approximately 200,000 people, are unable to provide safe drinking water. These systems include 30 schools and daycare centers that serve over 12,000 children. Although disadvantaged communities are most impacted by recurring violations, the State Water Board reports that almost 700,000 Californians in total are served by water systems that are currently out of compliance with drinking water standards, representing almost 1.8% of the California population. Of note, this number does not include the well over 2 million Californians served by domestic wells or by drinking water systems of under 15 connections.



Water treatment systems are the key to providing safe drinking water to these communities, but the installation, operation and maintenance of such systems are often very costly. The state can potentially provide financial assistance to these disadvantaged communities by paying for the construction cost of the treatment systems with funds from the Water Quality, Supply and Infrastructure Improvement Act of 2014 (Proposition 1) or the Drinking Water State Revolving Fund. However, there are no funding sources available to provide funding for long-term operations and maintenance costs, which public water systems must provide in order to gain access to the initial capital improvement funding.

Disadvantaged communities often lack the rate base, as well as the technical, managerial, and financial capacity to show they can afford and effectively manage operations and maintenance costs related to water treatment. Without being able to pay for maintenance, these communities are effectively barred from accessing capital improvement funding.

STAFF COMMENTS

The Subcommittee should explore and consider a new sustainable source of funding to meet the current gap-in-funding need for costs related to drinking water treatment 'operations and maintenance' (or O&M), since bond funding cannot be used to support O&M.

Staff Recommendation: Informational, no action needed.

ISSUE 9: WATER RECYCLING AND INDIRECT POTABLE REUSE

The Subcommittee will receive a briefing from the State Water Resources Control Board (SWRCB) on their efforts relating to water recycling and direct potable reuse.

BACKGROUND

California is a leader in indirect potable reuse -- using highly purified recycled water for drinking water purposes. Indirect potable reuse is currently used for groundwater recharge of drinking water supplies in many places in California and it will soon be used to augment surface water reservoirs that store drinking water supplies.

New potable reuse projects have the potential to provide an additional 1.1 million-acre-feet (MAF) of water supplies per year, enough to serve more than 8 million Californians or one-fifth of the state's population by 2020, according to a 2014 report by the Water Environment & Reuse Foundation.

In early 2017, SWRCB pursuant to SB 918 (Pavley, Chapter 700, Statutes of 2010), issued a report to the California Legislature titled, "Investigation on the Feasibility of Developing Uniform Water Recycling Criteria for Direct Potable Reuse (Report)". In the report, SWRCB made the finding that it is feasible to develop direct potable reuse (DPR) regulations, although additional potable reuse research must be completed concurrently or before regulations are developed.

SWRCB convened two independent groups, an expert panel of scientists and engineers, and an advisory group of stakeholders, to advise SWRCB on issues related to the investigation of the feasibility of developing regulations for DPR. The recommendations of the Expert Panel and Advisory Group established the foundation of the SWRCB's investigation and findings

The Expert Panel found that there is no need for additional research to be conducted to establish uniform criteria for direct potable reuse, yet consistent with its charge, the Expert Panel suggested additional research to further ensure the protectiveness of DPR. These six research recommendations are included in the report's Implementation Plan. They are as follows:

- 1) Develop targeted monitoring for source control and final water quality;
- 2) Implement a probabilistic method (Quantitative Microbial Risk Assessment) for virus removal in DPR;
- 3) Monitor pathogens in raw wastewater concentrate;
- 4) Assess feasibility to conduct outbreak monitoring in connection pathogen data;
- 5) Find methods to control the potential for chemical peaks;
- 6) Develop methods to identify unknown contaminants.

AB 574 (Quirk) was introduced this year and would establish a statutory deadline of December 2021 for the Division of Drinking Water, to develop sequential regulations for potable reuse that are consistent with the report to the Legislature. Under the bill, the Division of Drinking Water can extend this deadline if research is not adequately completed.

STAFF COMMENTS

The Subcommittee should explore and consider how the Division of Drinking Water within the SWRCB intend to complete the research outlined in the report to the Legislature. Some questions that the Subcommittee may want to ask:

- What are some of the challenges to complete the research in the report?
- What resources are needed to develop statewide regulations as described in the report?

Staff Recommendation: Informational, no action needed.

3600 DEPARTMENT OF FISH AND WILDLIFE

The Department of Fish and Wildlife budget is \$523 million. This represents a nine percent decrease from last year. Most of the Department's budget is comprised of special funds, with \$89 million of the proposed total funding coming from General Fund.

ISSUE 10: RESTRUCTURING THE FISH AND GAME PRESERVATION FUND

The Governor's Budget proposes the following to address the structural imbalance of the Fish and Game Preservation Fund (FGPF) non-dedicated account:

- Trailer bill language to increase commercial landing fees by \$12.4 million, and
- Trailer bill language to eliminate the Lifetime License Trust Account and transfer \$8.7 million from approximately \$12.5 million in the Lifetime License Trust Account (LLTA) to the FGPF non-dedicated account. Hereafter, approximately \$750,000, which would otherwise go to the LLTA, would be deposited into the FGPF non-dedicated account.

BACKGROUND

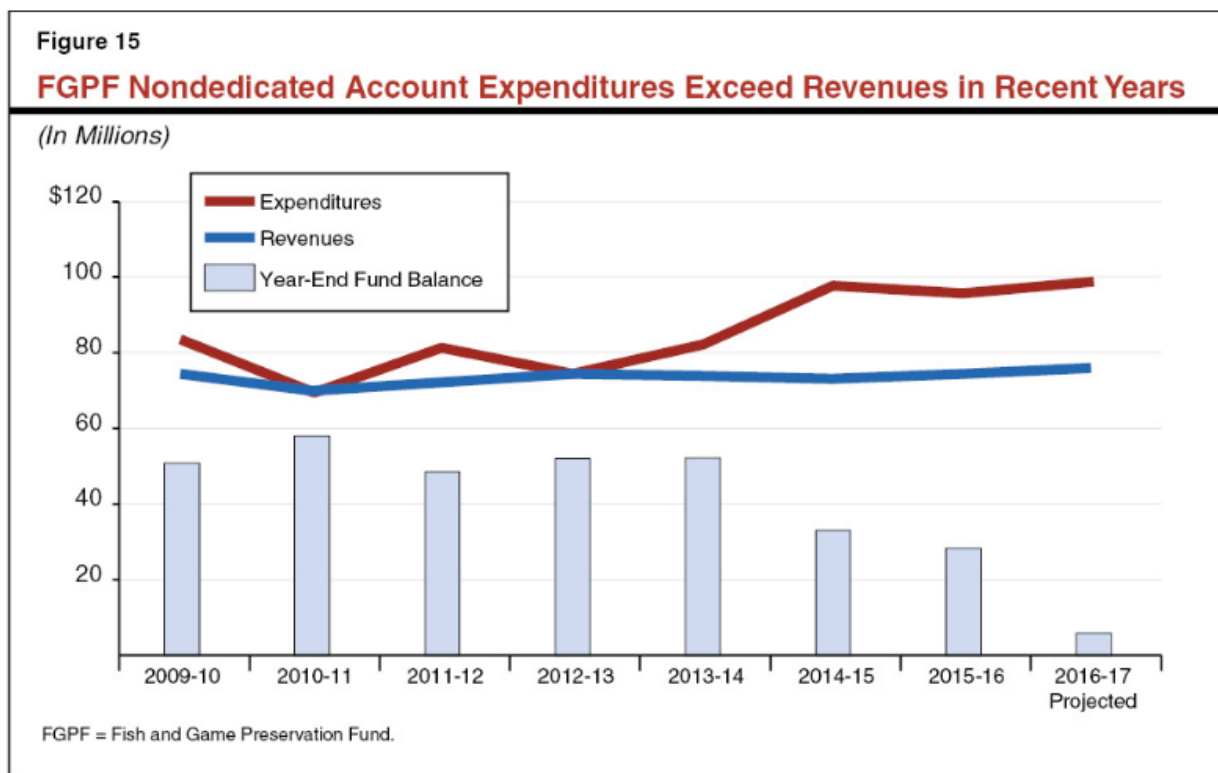
The FGPF was established in 1909 as a repository for all funds collected under the Fish and Game Code and any other law relating to the protection and preservation of birds, mammals, fish, reptiles and amphibians in California. These revenues are generated from the sale of licenses for hunting, recreational and commercial fishing, and numerous special permits. Over time, the Legislature has created various subaccounts within the FGPF, which have specified permit fees generating revenue for projects benefitting those species. For example, the taking of migratory waterfowl in California requires a state duck stamp validation in addition to a general hunting license. Revenues from the duck stamps are deposited into the Duck Stamp Account within the FGPF to be used for waterfowl protection and habitat restoration. There are currently 29 dedicated subaccounts within the FGPF. The department issues more than 500 different types of hunting and fishing licenses and permits.

Revenue from licenses, fees and permits that are not directed by statute to a dedicated account are accounted for in what is known as the non-dedicated FGPF. This is the largest repository for department revenues, including sales of general fishing and hunting licenses. Approximately 75 percent to 80 percent of total FGPF revenues are deposited into the non-dedicated account, with the remainder going to the various 29 dedicated subaccounts. There is a running deficit in the non-dedicated FGPF.

Program Activities Supported by the FGPF. The FGPF is the DFW's largest single fund source and supports a multitude of program activities. Some of the main functions supported by the FGPF are displayed in the following table:

Main Functions Supported by the Fish and Game Preservation Fund	
Law Enforcement	Support for more than 400 wildlife officers positioned throughout the state to promote compliance with laws and regulations protecting fish and wildlife resources. Wildlife officers also investigate habitat destruction, pollution incidents and illegal commercialization of wildlife, and serve the public through general law enforcement, mutual aid and homeland security.
Lands Management	Management of department-owned lands including wildlife areas, ecological reserves, and public access areas to contribute to the conservation, protection, and management of fish and wildlife. Among other things, these activities support hunting opportunities and serve as required match for federal wildlife restoration grant funds.
Wildlife Conservation	Activities conducted by regional and field staff related to resource assessment and monitoring, conservation and management activities for game and nongame species, and public outreach related to those species. Funding for these activities also serves as required match for federal wildlife restoration grant funds.
Fisheries Management	Development and implementation of policies to address management, protection, and restoration of fish species and their habitats. Also promotes commercial and public recreational angling opportunities. These funds serve as required match for federal sport fish restoration grant funds.
Fish and Game Commission	The commission establishes regulations for hunting, sport and commercial fishing, aquaculture, exotic pets, falconry, depredation control, listing of threatened or endangered animals, marine protected areas, public use of department lands, kelp harvest, and acts as a quasi-judicial appeal body.

FGPF Structural Imbalance. In recent years, expenditures have exceeded revenues in the non-dedicated account of the FGPF, with the gap reaching over \$20 million annually beginning in 2014-15. In the past, the department has been able to sustain FGPF program activities by utilizing the balance in the reserve and lowering actual expenditures, thereby creating savings. However, the current situation is not sustainable. Expenditures have continued to increase and the fund balance continues to decrease, which, without action, will lead to a projected deficit in 2018-19. The following LAO chart displays the FGPF’s non-dedicated revenue as compared to expenditures.



Some of the causes of the FGPF’s structural imbalance that the department has identified include; fund shifts (particularly to the General Fund), lifting of prior spending restrictions (e.g. vehicles, furloughs), increased need for federal funds, and cost of business increases (e.g. employee compensation).

Commercial Landing Fees. Commercial landing fees are established in statute as a fixed rate per pound. The rate was last amended in 1992 and currently generates revenue that is approximately 0.5 percent of the three-year historical average value of the fishery. An evaluation by the DFW in 2007 calculated that the total revenue from commercial fisheries (landing fee revenue and permit fees) covered approximately 22 percent of the total costs to manage, license, and enforce the fisheries. Since that evaluation was conducted, a number of proposed mechanisms to generate additional revenue from commercial fisheries have been evaluated over the years, such as Assembly Bill 489 (Huffman, 2009). The development of an ad valorem approach (value

based), which is used by other west coast states such as Oregon and Washington, routinely rises to the top as a preferred approach.

However, DFW reports that implementation of an ad valorem approach can be extremely costly and difficult to track. Amending the statute to use an ad valorem collection approach would require establishing (and regularly amending) state regulations defining average market prices for each commercial fish species. It would also require new audits and collection processes, and law enforcement staff at the field level would need to develop new methods of investigating for compliance using business records in addition to commercial fish tickets. Costs of developing and implementing these new regulatory programs, internal business practices, and enforcement costs would offset a significant portion of the additional revenue generated.

The proposed approach uses an "Eleven-Tier System," with fees based on the ad valorem concept. The proposed approach would take advantage of the current structure to set, implement, and enforce landing fees, eliminating the need to establish new mechanisms to set and collect landing fees. According to the department, the proposal would not require new regulations to implement and there are minimal and absorbable anticipated new costs associated with notification to payees of the new fee rates. This proposal would utilize an eleven-tier system such that fisheries that are the highest value per pound pay the highest rate. All fisheries would pay a higher rate than status quo under the proposal.

Lifetime License Trust Account. Fish and Game Code Section 13005 established the LLTA as a repository for revenues generated from the sale of lifetime fishing and hunting licenses. These licenses range from \$700 to \$1,200, depending on the age of the buyer. The LLTA was established to hold these revenues, with a specified amount made available for expenditure by an annual transfer to the FGPF, effectively amortizing the revenues from lifetime licenses over the buyers' lifetimes.

The balance of the account, currently approximately \$12.5 million, would be transferred to the non-dedicated FGPF, to various dedicated accounts within the FGPF, and to the Hatchery and Inland Fisheries Fund. Beginning in 2017-18, annual revenues of approximately \$910,000 would instead be deposited into the FGPF. Of this amount, approximately \$750,000 would be deposited into the non-dedicated FGPF and approximately \$160,000 would go to the appropriate dedicated accounts. In addition, approximately \$198,000 would go to the Hatchery and Inland Fisheries Fund.

LAO COMMENTS

The LAO is concerned that the Governor's proposal to address the operating shortfall for the FGPF non-dedicated account includes a commercial fishing landing fee increase that may be too large for the industry to sustain, and adds new activities that exacerbate the account's imbalance. Moreover, the LAO notes that the proposals leave an ongoing shortfall for the Legislature to address in 2018 19.

They recommend the Legislature:

- Adopt a commercial landing fee increase but perhaps at a lower level or more gradually,
- Adopt the Governor's proposal to transfer lifetime license fee revenues to the non-dedicated account, and
- Begin the process of identifying and considering options for addressing the remaining shortfall on an ongoing basis.

STAFF COMMENTS

This proposal attempts to resolve the majority of FGPF's non-dedicated account deficit through commercial landing fees, which represents a very dramatic increase of 1300 percent. This comes at a time when commercial fisheries are financially strained due to climate-related changes such as the drought and harmful algal blooms. Further, the FGPF non-dedicated account would still have a deficit in the next budget year if this proposal were adopted. The Administration acknowledges in their proposal that further permanent solutions will be necessary. Some have raised the argument that the department's work serves a statewide purpose and the public good, which should merit the consideration of alternative proposals that are more broad-based.

DFW work on a broad range of activities such as habitat protection, law enforcement, promotion of hunting and fishing opportunities, and management of wildlife areas and ecological reserves. Costs to deliver these programs have increased considerably over the years and expenditures from the FGPF currently exceed annual revenues by more than \$20 million. Staff recommends a closer look at program expenditures by requiring the department to produce detailed information on its programs as well as revenues generated to get a better assessment of the resources needed to carry out DFW's regulatory duties.

A question the subcommittee may want to ask:

- Has the Administration considered other options to close the funding gap, if so what are they?

Staff Recommendation: PENDING

ISSUE 11: HARMFUL ALGAL BLOOM (HAB) SAMPLING PROGRAM

The Governor's budget requests \$1.7 million in 2017-18 and \$996,000 annually thereafter from the Fish and Game Preservation Fund non-dedicated account to develop and implement a new program to collect and analyze samples harmful algal blooms to prevent fishery closures.

BACKGROUND

Harmful algal blooms (HAB) occur when colonies of certain types of algae — simple plants that live in the sea and freshwater — grow out of control and produce toxins. In balanced ecosystems, algae are harmless and serve as a food base for many organisms. When there is an overabundance of nutrients and ideal growth conditions, algae populations can grow rapidly and form blooms, and certain species of algae produce toxins that can harm water quality, animal and human health. The frequency and intensity of HABs is increasing in marine systems worldwide. In 2011, a HAB occurred in Sonoma County killing 60 percent of all the red abalone and red sea urchins on the southern fishing grounds, triggering an emergency fishery closure.

A massive and persistent HAB occurred off the coast of California in 2015-16. The toxin levels exceeded federal and state health thresholds in a variety of species, resulting in the closure of the Dungeness crab, rock crab, and razor clam fisheries for extended periods in the fall of 2015. These closures resulted in significant economic impacts to the fishing communities. The toxins accumulated in the flesh of affected species poses a threat to humans when consumed. Human illnesses caused by HABs are rare, but can be debilitating or even fatal. Due to changing weather patterns, it is estimated that HABs will become more prevalent.

LAO COMMENTS

The information produced through additional sampling of harmful algal blooms would enable the state to more precisely target fishery closures to where and when contamination exists. This would both improve public health protections and avoid potentially unnecessary closures and the resulting economic effects on the commercial fishing industry.

The LAO recommends funding but on limited term basis using a different fund source (General Fund), then revisiting in future years to see if FGPF has sufficient funding to sustain this.

STAFF COMMENTS

The proposed funding source for this program is the Fish and Game Preservation Fund, which is expected to be insolvent by 2018 to the tune of \$20 million. Although the proposed program has merit, staff recommends holding action on this item until we receive additional information from the department on its plans to balance its budget.

Staff Recommendation: PENDING

ISSUE 12: MONITORING AND REPORTING WATER DIVERSIONS

The Governor's budget requests \$1.8 million ongoing from the Fish and Game Preservation Fund non-dedicated account for the Department to comply with SWRCB's emergency regulation for measuring and reporting on the diversion of water.

The proposed funding would be for the Department to conduct an assessment of the equipment and costs it will need to comply with the law. The Administration indicates it will submit a subsequent budget request in future years for the funding to purchase and install the measurement devices, and potentially for additional staff to oversee their operation and maintenance.

BACKGROUND

In 2016, the SWRCB's in 2016 adopted a regulation that applies to all public and private entities that divert more than ten acre-feet of surface water a year. The regulation requires these water right holders to install and maintain a device or employ a method capable of measuring the rate of diversion, rate of collection, rate of withdrawal or release from storage, and the total volume of water diverted or collected.

This regulation presents additional measuring and reporting duties for the Department of Fish and Wildlife, which manages over 1 million acres of public land and holds approximately 130 surface water rights that would be subject to this emergency regulation. Noncompliance would result in civil liability fines of up to \$500 per day per diversion, which could result in millions of dollars per year in penalties ($\$500/\text{day} \times 130 \text{ water rights} \times 365 \text{ days/year} = \$23,725,000/\text{year}$ in fines).

LAO COMMENTS

Efforts to account for surface water diversions are an important part of improving statewide water management, and the Department would face costly penalties for failing to comply with the new statutory requirements to do so. Moreover, continued provision of water to department lands is vital for the wildlife that live there.

While the LAO believes the Governor's proposal to account for the water diverted and used on department lands has merit, the specific activities proposed do not warrant the ongoing funding requested. The Governor's proposal is to conduct an initial assessment of where the department is diverting water and what equipment and actions—and associated costs—ultimately will be necessary to comply with the new law and efficiently meet wildlife needs. These assessments represent one-time activities, so the Governor's rationale for requesting \$1.8 million in ongoing funding—before the ongoing costs have been determined—is unclear.

STAFF COMMENTS

The proposed funding source for this program is the Fish and Game Preservation Fund, which is expected to be insolvent by 2018 to the tune of \$20 million. Although it is necessary for DFW to comply with the regulation, staff recommends holding action on this item until we receive additional information from the department on its plans to balance its budget.

Staff Recommendation: PENDING
