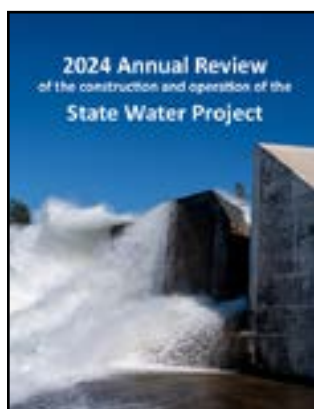


2024 Annual Review of the construction and operation of the State Water Project

DRAFT

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On the cover: Water flows over the four energy dissipator blocks of the Lake Oroville main spillway, as the California Department of Water Resources releases water from the Lake Oroville flood control gates down the main spillway in Butte County. Photo by Ken James/DWR

2024 CALIFORNIA WATER COMMISSION

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INTRODUCTION

The State Water Project (SWP) is the nation's largest state-built, multi-purpose water project that is paid for by its beneficiaries- primarily the water agencies that it serves. Planned, constructed, and operated by the Department of Water Resources (DWR) – in coordination with the federal U.S. Bureau of Reclamation's (USBR) Central Valley Project (CVP) – the SWP remains one of the most affordable and cost-effective sources of water in the state. The SWP is considered an engineering marvel that has helped fuel California's population boom and economic prosperity since its initial construction in the 1960s. Its continued operation through weather extremes such as flooding and drought is essential to the viability of California.

The SWP consists of 36 water storage facilities and 705 miles of rivers, pipelines, and canals that supply water to 27 million people and irrigate 750,000 acres of farmland. In addition to its primary purpose of supplying water, the SWP also provides flood protection, offers recreational opportunities such as boating and hiking, and generates hydroelectric power. Strategic planning by DWR balances environmental considerations with water management, while navigating external challenges, such as climate change and aging infrastructure, and internal efforts, such as safety and workforce development.

Public agencies and local water districts that receive water from the SWP are collectively known as the SWP Contractors, and they serve communities in the Central Valley, desert, Central Coast and Southern California, providing the water on which agriculture, industry, and households depend. The water supply contracts that SWP Contractors signed six decades ago specify the maximum amount of SWP water a contractor may request annually. However, the amount of SWP water available for delivery varies based on many factors, such as rainfall, snowpack, water in reservoirs, and any operating constraints

California Water Commission

The nine-member California Water Commission uses its public forum to explore water management issues from diverse perspectives to advise State decision-makers on equitable ways to improve water policy, planning, and management in response to California's changing hydrology. For more information regarding the California Water Commission, visit cwc.ca.gov.



Photo courtesy California Water Commission

Back row, from left, Commissioner Tyrone Bland, Commissioner Alexandre Makler, Commissioner Katherine Moulène, Commissioner Sandra Matsumoto, and Commissioner Danny Curtin. Front row, from left, Commissioner Jose Solorio, Commissioner Kimberly Gallagher, Commission Vice-chair Fern Steiner, and Commission Chair Matthew Swanson.

that protect fish, wildlife, and water quality in the Sacramento-San Joaquin Delta. As California deals with the effects of climate change, water deliveries will likely fluctuate even more from year to year, impacting the water supply for SWP's users.

The California Water Commission (Commission) uses its role as a public forum to provide additional transparency around the operations of the SWP. Water Code section 165 requires the Commission to conduct an annual review of the progress of the construction and operation of the SWP and to provide that report to the Legislature. In 2024, DWR made 10 presentations to the Commission on various SWP topics, and provided updates on current operations four times throughout the year. These presentations help the public stay informed of DWR's efforts, and provide the basis of the findings and recommendations that the Commission makes to DWR and the Legislature regarding SWP operations and construction activities in 2025.

FINDINGS

The Commission finds that, in 2024 DWR:

- Operated the SWP to provide water supply to meet minimum health and safety needs, meet environmental needs to protect endangered species, conserve water storage to meet future critical needs, provide downstream flood risk reduction, and deliver water based on the priority or water rights.
- Responded to the above-average precipitation and snowpack conditions, capturing and storing stormwaters, and increasing storage in its reservoirs.
- Reduced the number of sensitive fish species being trapped in SWP pumping facilities as they traverse through the Sacramento River and Delta by diverting them away from the pumps using a non-physical, bio-acoustic fish fence.
- Advanced an industry-leading safety culture among its employees with training, practices, and resources to reduce risks in the workplace.
- Created a workplace strategy plan for workforce development to assess recruitment and retention methods and expand employee programs to create a more diverse, equitable, and inclusive work environment.
- Improved long-term project planning to anticipate and adapt to climate change.
- Apprised the Commission of its financial goals, SWP budget, and cost projections, indicating that its 2024 approved SWP budget was \$1.031 billion, including operations and capital costs.
- Prioritized infrastructure repair, replacement, and maintenance projects by using a risk matrix that gauged the potential severity or consequences of not doing a project or activity.
- Informed the Commission about key construction activities undertaken in the past year to manage and maintain the SWP, including the Lake Perris Emergency Release Facility, the Big Notch Fish Passage, the Chipps Island Tidal Habitat Restoration Project, and physical security upgrades in the Southern Field Division.



Sara Nevis/DWR

A night view of the William R. Gianelli Pumping-Generating Plant pumps water from O'Neill Forebay into San Luis Reservoir, located in Merced County.

RECOMMENDATIONS

The Commission recommends that DWR:

- Maintain open and transparent communication with the Commission; State, local, and federal agencies; Tribes, interested parties; and the public as they prepare the SWP for water year 2025.
- Implement a workforce strategy plan to attract and retain skilled replacements, as one-third of the water sector workforce approaches retirement.
- Move boldly and swiftly to incorporate natural and innovative infrastructure solutions to address challenges associated with climate change, including completion of the Climate Adaptation Plan, and the implementation of interim action projects to mitigate subsidence in the California Aqueduct.
- Accelerate operational changes that allow the SWP to better address extreme hydrology, such as Forecast-Informed Reservoir Operations, sub-seasonal ridging forecasts, snow surveys, and downstream river stage forecast models.
- Work in conjunction with State Water Project Contractors and other water users to capture excess stormwaters and runoff to refill reservoirs and recharge groundwater basins.
- When briefing the Commission, include high-level information on the topic, explain its importance and what it is meant to achieve, and how it relates to other priorities of the administration and/or DWR's Strategic Plan.

State Water Project Facilities



SWP WATER DELIVERIES, POWER GENERATION, AND USE

The SWP delivered 1,987,597 acre-feet of water in 2024. The initial allocation to SWP Contractors was 10 percent on December 1, 2023, then increased to 15 percent in February 2024, 30 percent in March, and to 40 percent in April.

Allocations are tracked monthly, with adjustments made as needed, driven by the hydrology forecast, planned storage and exports, Delta water quality and flow requirements, SWP Contractor demands, and CVP operations.

The contractors' allocations were based on their maximum Table A1 amount, which equals 4,172,786 acre-feet for all 29 SWP Contractors combined.

During 2024, SWP facilities generated 4,076 gigawatt hours (GWh) of energy. During the same period, the SWP used 5,550 GWh of energy.³ In general, SWP power usage increases with SWP water deliveries. Table 1 displays recent years' water deliveries and energy generation and usage.

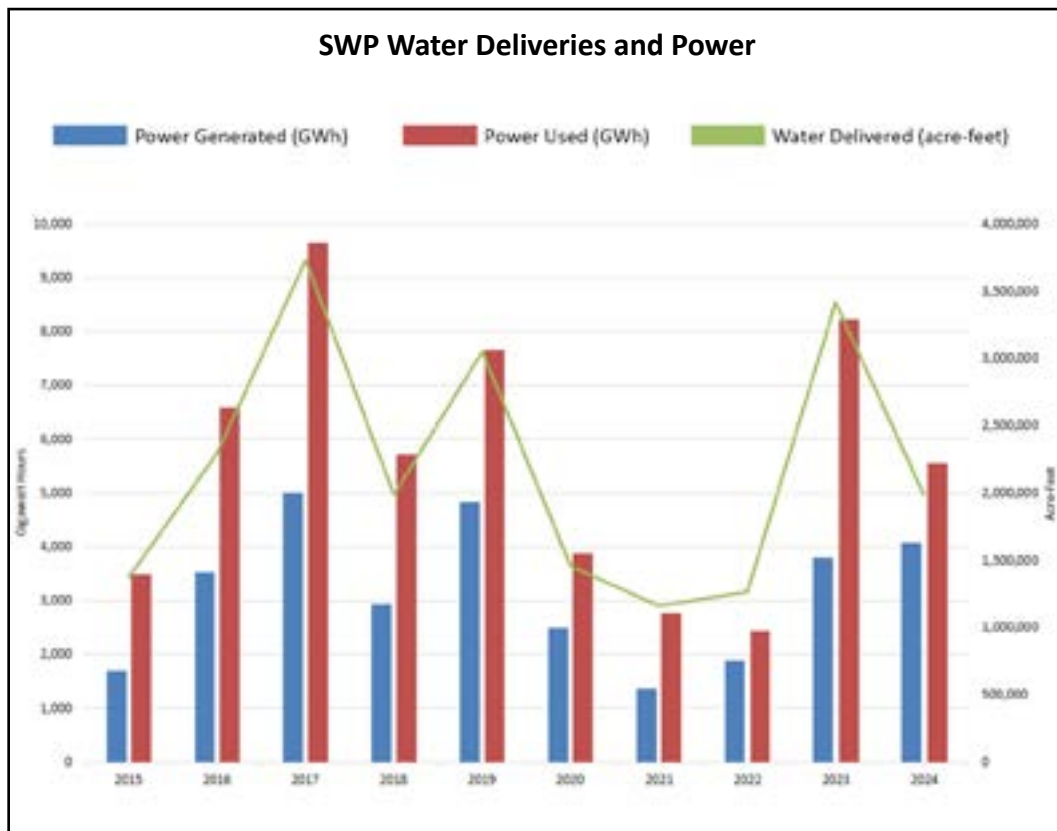


Table 1: SWP Water and Power Statistics¹					
Year	Water Delivered (acre-feet)	Allocation	Power Generated (GWh/)	Power Used	Net Power Acquired (GWh/)
2000	3,584,667	90%	6,832	8,518	1,686
2001	2,042,118	39%	4,588	6,358	1,770
2002	2,850,215	70%	5,631	8,191	2,560
2003	3,167,604	90%	6,117	8,862	2,845
2004	3,119,578	65%	6,887	9,661	2,774
2005	3,627,004	90%	5,661	8,282	2,621
2006	3,691,568	100%	7,515	9,109	1,594
2007	2,996,629	60%	6,410	9,276	2,866
2008	1,950,968	35%	4,100	5,701	1,601
2009	1,933,735	40%	4,255	5,438	1,183
2010	2,660,960	50%	4,368	7,184	2,816
2011	3,596,749	80%	5,258	8,583	3,325
2012	2,848,082	65%	4,810	7,404	2,594
2013	2,107,572	35%	3,679	5,721	2,042
2014	1,079,839	5%	1,426	2,780	1,354
2015	1,375,536	20%	1,699	3,483	1,784
2016	2,299,679	60%	3,535	6,598	3,063
2017	3,732,527	85%	5,011	9,652	4,641
2018	1,984,723	35%	2,933	5,723	2,790
2019	3,049,485	75%	4,842	7,662	2,820
2020	1,457,500	20%	2,484	3,877	1,393
2021	1,160,082	5%	1,371	2,771	1,400
2022	1,267,989	5%	1,891	2,434	543
2023	3,415,279	100%	3,809	8,226	4,417
2024	1,987, 597	40%	4,076	5,550	1,474

¹ Source: Department of Water Resources' State Water Project Analysis Office. (In addition to Table A water, reported deliveries include Article 56 carryover water, Article 21 interruptible water, Flexible Storage withdrawal water, Advanced Table A water, Human Health & Safety water, and other non-SWP deliveries.)



SWP Water Deliveries

Table A Water: Table A Water is an allocation of SWP water that DWR makes available for delivery to an SWP Contractor during a calendar year. The Table A water allocation is typically a percentage of a contracted maximum amount of Table A water (in Table A of Article 6), which an SWP Contractor may request from DWR for that year. The maximum Table A amounts also form the basis for a substantial portion of the payments SWP Contractors pay to DWR under their long-term water supply contracts.

Article 56 Carryover Water: An SWP Contractor can elect to store (carryover) its Table A water and non-SWP water in SWP conservation facilities for delivery in a subsequent year or years.

Article 21 Interruptible Water: Interruptible Water is SWP water available as determined by DWR that is not needed for fulfilling SWP Contractors' annual Table A water deliveries or for meeting SWP operational requirements. Interruptible Water is typically available on a short-term basis during wetter conditions and may be delivered to an SWP Contractor upon request. Interruptible Water is supplied in addition to other SWP water types.

Flexible Storage Withdrawal Water: Three SWP Contractors participating in the repayment of capital cost of Castaic Lake and Lake Perris have a contractual right under Article 54 of the water supply contracts to borrow a limited amount of SWP water from those lakes in excess of their other SWP supplies. The borrowed water must be replenished by the SWP Contractor to the SWP within five years using approved SWP or non-SWP water.

Advanced Table A Water: Three North of Delta SWP Contractors have a contractual right under Article 45 of their water supply contracts to borrow a limited amount of Table A water in excess of their other SWP supplies. The borrowed water must be replenished by the SWP Contractor to the SWP within five years unless water in Lake Oroville reaches certain levels, which resets the Advanced Table A balance to zero.

Human Health & Safety: A special allocation of SWP water under Article 18(a) of the water supply contracts to meet SWP Contractors' minimum demands for domestic supply, fire protection or sanitation (human health and safety needs). This allocation is subject to justification, DWR's approval, and multiple use restrictions, and is generally considered only during severe drought conditions.

Non-SWP deliveries: Under Article 55 of the water supply contracts, SWP Contractors may request delivery through the SWP facilities for water they acquire from non-SWP sources. Also, DWR may allow non-SWP Contractors (e.g., Central Valley Project contractors) to convey non-SWP water through the SWP facilities, subject to available capacity and payment of costs.

2024 PLANNING AND OPERATIONS

The SWP is operated in real time, adjusting the rate of releases from water storage facilities and the rate of exports from the Delta to meet water supply and downstream flow and water quality requirements. Many factors influence this real-time decision making. The SWP's objectives are to deliver water to meet minimum health and safety needs, preserve upstream storage for future dry year and drought protection, meet regulatory requirements, deliver water based on priority, and maximize diversion to storage and delivery of water supply.

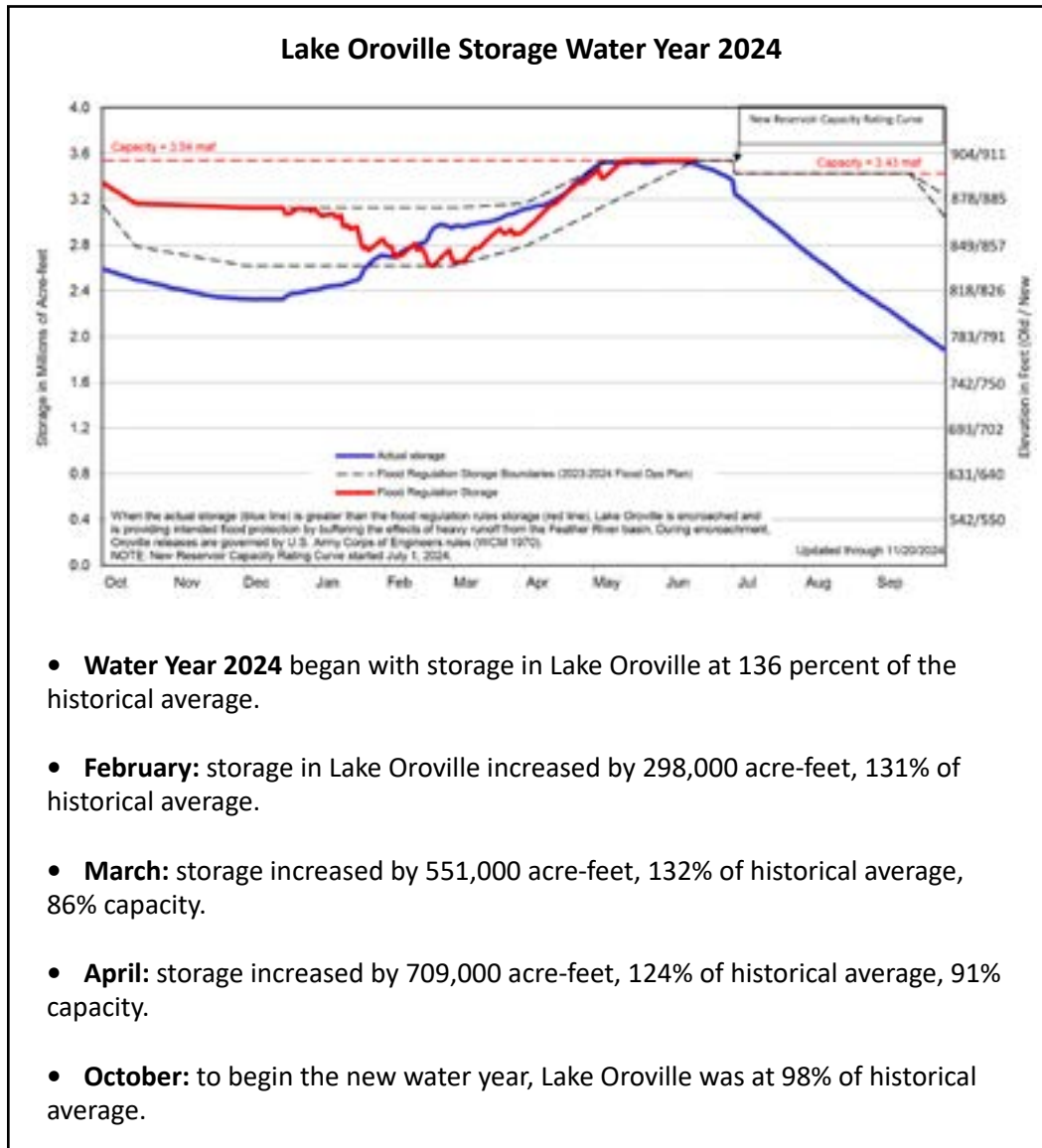
SWP operations are managed in close coordination with other State and federal agencies:

- DWR works with the USBR on the management of reservoirs jointly operated with the Central Valley Project (CVP).
- DWR works with the California Department of Fish and Wildlife (CDFW), the National Marine Fisheries Service (NMFS), and the U.S. Fish and Wildlife Service (USFWS) to mitigate impacts to threatened or endangered species as a result of SWP operations.
- DWR coordinates all Oroville flood control releases with the U.S. Army Corps of Engineers (USACE), which governs the management and operations of dams for flood control and water supply.
- DWR is currently partnering with local, State and federal agencies and the Scripps Institute of Western Weather and Water Extremes on the feasibility of Forecast Informed Reservoir Operations (FIRO) to reduce flood risks to downstream communities and improve water supply reliability.

Due to a wet 2023, Water Year 2024, which began on October 1, 2023, started with storage in Lake Oroville, SWP's largest water storage facility, at 136 percent of the historical average. California saw a series of winter storms in late December and into early 2024 which were warmer and brought historic rainfall to California. The SWP was able to take advantage of those storms, increasing storage at both Lake Oroville and San Luis Reservoir.

Beginning in late January, actions under the Biological Opinions (BiOps) and Incidental Take Permit (ITP) reduced exports from the Delta into the California Aqueduct, which in turn limited the movement and storage of water in San Luis Reservoir. The reduced pumping continued through May.

Beginning in February and lasting until early May, storage in Lake Oroville encroached into the required flood space as prescribed in the USACE Water Control Manual to reduce the risk of flooding should a large precipitation event



occur. With extensive coordination with USACE water managers, DWR made controlled water releases from Lake Oroville to maintain the required flood space.

From July through September, DWR increased releases from Oroville to support exports from the Delta, balanced with the implementation of actions to improve habitat for the endangered Delta smelt, a fish endemic to the Delta. Because WY 2024 was classified as Above Normal, the ITP required two summer/fall habitat actions for Delta smelt. These actions included tidal operation of the Suisun Marsh Salinity Control Gates (SMSCG) for 60 days in July and August, and “Fall X2” in September and October. With tidal operation of the SMSCG, the gates are opened during the outgoing tide to allow fresh water into Suisun Marsh, and closed during incoming tide to keep higher salinity water out of the



Lake Oroville Capacity Curve

The Lake Oroville capacity curve, a full reassessment to quantify how much the lake has changed since the 1960s, showed a 3 percent loss, or 110,000-acre feet of water. Half of that loss was attributed to sedimentation load into the lake, the rest was from having better tools and methods to assess the bathymetry.

Marsh. The Fall X2 action is achieved through a combination of SWP and CVP reservoir releases and reduced exports that move the location of the low-salinity zone downstream, to the western side of the Delta. The intention of the Fall X2 action is to provide Delta smelt habitat in Suisun Bay, so that the fish species have greater access to food supply and improved water temperatures.

In September, DWR submitted an ITP amendment request to CDFW that proposed to operate the SMSCG through September 30 and not implement Fall X2 in October. CDFW approved the proposed modifications. To ensure ESA compliance, USBR and USFWS confirmed that the modified operations were within those analyzed in the BiOp.

On October 1, to begin Water Year 2025, Lake Oroville was at 98 percent of average for that date. DWR reduced releases to preserve storage for future requirements. The SWP Contractors were projecting to carryover over 800,000 acre-feet of storage in San Luis Reservoir which will help shore up their supplies in the event of a dry 2025. DWR continues to communicate and coordinate with internal and external partners on system conditions and hydrologic forecasts for the current Water Year 2025.

FISHERY PROTECTIONS

SWP facilities are regulated by State and federal endangered species act permits that govern how the SWP is operated to minimize impacts on threatened and endangered (“listed”) species. The authorization that provides CESA coverage for the SWP is the Incidental Take Permit (ITP) for Long-term Operation of the SWP in the Sacramento-San Joaquin Delta, issued by CDFW. And the parallel authorizations providing federal ESA coverage are Biological Opinions (BiOps) for the Coordinated Long-term Operation of the CVP and SWP, issued separately by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service.

The SWP facilities include pumps in the southern portion of the Sacramento-San Joaquin Delta that pump water out of the Delta and into the California Aqueduct to move the water to places in the southern part of the state. Listed fish species can get trapped – or entrained – in the South Delta and Project facilities, and the permits specify the maximum number of listed fish species that may be entrained and/or conditions that could represent higher risk of entrainment before pumping must be reduced. In the spring, these permits resulted in reductions in SWP and CVP exports due to for the large numbers of steelhead and winter-run Chinook salmon being observed.

To reduce the risk of fish entrainment at the SWP pumps, DWR conducts a suite of water flow actions in the Delta’s Old and Middle River. To divert sensitive fish species away from the pumps, DWR installed the Georgiana Slough non-physical barrier, which is a bio-acoustic fish fence that uses bubbles, sound, and light to deter winter- and spring-run Chinook salmon from heading into the pumps. The non-physical barrier helps sensitive fish species safely traverse down the Sacramento River and out of the interior Delta, where they are susceptible to SWP and CVP entrainment or lower survival rates.

Incidental Take Permit

Under the California Endangered Species Act (CESA), DWR is required to obtain an Incidental Take Permit (ITP) to minimize, avoid, and fully mitigate impacts to threatened or endangered species that may result from SWP operations. In 2024, the California Department of Fish and Wildlife (CDFW) issued an ITP to DWR for long-term operations of the SWP. The permit covers four species protected under the California Endangered Species Act: Delta smelt, longfin smelt, winter- and spring-run Chinook salmon, and White Sturgeon.

Biological Opinions

2024 Biological Opinions (BiOps) written by the USFWS and NMFS addressed the effects of ongoing CVP and SWP operations on species listed under the federal Endangered Species Act (ESA), with the goals of supporting species viability, protecting life history diversity, supporting operational flexibility, providing regulatory certainty, supporting science and monitoring, and creating a single, adaptable, coordinated operation for the CVP and SWP.

A study conducted by DWR showed that the salmon traveling downstream from the Upper Sacramento River to the Delta that were tagged experienced 2.5 times higher survival than has been observed during the last five years, indicating that, while more fish are arriving at the pumps, more are also surviving entrainment. Ninety-five percent of fish that are entrained at DWR facilities survive: they are “salvaged,” which means that they are released after being collected. DWR will be looking at additional non-physical barriers and considering other actions to increase survival of fish emigrating from the San Joaquin River, which has been found to be generally low compared to fish emigrating from the Sacramento River.

LONG-TERM DROUGHT PLAN

In May, DWR finalized its first comprehensive, public-facing Long-term Drought Plan for the SWP as part of an expanded effort to prepare for future droughts and extreme dry conditions, including the possibility that California’s shift to a hotter, drier future may result in more severe droughts and reduced water availability.

The Long-term Drought Plan compiles information and actions taken by the SWP during previous droughts, outlining how those actions have informed current operations and highlighting actions taken by the SWP to prepare for future droughts. The plan outlines multiple actions that improve long-term drought resilience and add flexibility, efficiency, and capacity to the system.

The actions include:

- Advancing the Delta Conveyance Project to modernize SWP infrastructure in the Delta to improve the ability to capture and store more water during high flow events.
- Identifying and investigating water storage opportunities throughout the state to allow for more water storage in wet years that can be used in dry years.
- Further planning for the use of drought salinity barriers on the West False River in extreme dry years and expansion of the program to locations in the North Delta to protect water quality during severe drought.
- Continued advancement of DWR’s Forecast-Informed Reservoir Operations along with improved seasonal forecasting to maximize water supply management while improving flood protection at Oroville Reservoir.
- Investing in environmental resiliency through habitat creation, restoration of tidal wetlands, floodplains, and rearing habitat for juvenile salmonids.

The plan will be reviewed and updated every five years and after major drought events to ensure the SWP continues to adapt to dry conditions exacerbated by climate change.



Photo by Xavier Mascareñas/DWR

The California Department of Water Resources begins the first 2024 water release from the Lake Oroville flood control gates, as water flows over the four energy dissipator blocks at the end of the Lake Oroville Main Spillway in Butte County. Main spillway releases manage lake levels in anticipation of rain and snowmelt.

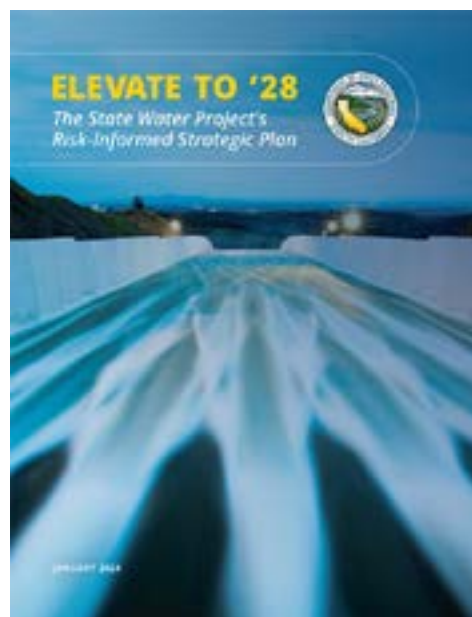
Forecast-Informed Reservoir Operations

DWR, along with federal and local water agencies, has developed a Forecast-Informed Reservoir Operations (FIRO) program to take advantage of scientific improvements in forecasting atmospheric rivers to better anticipate and manage large storm events while maximizing opportunities to increase water supply.

DWR, in coordination with Yuba Water Agency, UC San Diego, Scripps Institution of Oceanography, Center for Western Weather and Water Extremes, and the U.S. Army Corps of Engineers, is now working together on this critical public safety initiative at two locations: Lake Oroville and New Bullards Bar.

Implementing FIRO allows for coordinated, early releases of water in advance of strong atmospheric rivers, creating additional reservoir capacity to manage incoming inflows. Additionally, there is potential to improve water supply reliability and increase hydropower generation, both valuable assets.

The USACE is evaluating using FIRO in all new water control manual updates. This opens the door for California to explore implementing FIRO broadly as an adaptation strategy to climate change. It is one of just many tools California and its federal and local agency partners are using to reduce the risk of flooding and improve water supply in wet years as we adapt to a hotter, drier future in California.



ELEVATE TO '28: THE STATE WATER PROJECT FIVE-YEAR STRATEGIC PLAN

The SWP's new strategic plan, "Elevate to '28", sets the trajectory for the SWP for the next five years and beyond, and details its mission, vision, and purpose; the core values that guide its work; and the goals and objectives it sets out to achieve. Elevate to '28 supports the goals of DWR's strategic plan, and defines cross-divisional activities through initiatives to meet the strategic needs of DWR and the SWP.

- The SWP mission is to sustainably manage the water resources of California, in cooperation with other agencies, to benefit the state's people and protect, restore, and enhance the natural and human environments.
- The SWP vision is to be the most reliable, sustainable, and resilient water provider for the people and environment of California, now and for future generations.
- The SWP purpose is to operate the SWP as one team to provide safe, reliable, and affordable water for the well-being and prosperity of California.

The approach to developing Elevate to '28 consisted of a blend of input from a wide array of personnel across the SWP, integrating the SWP's risk management perspective, and incorporating leading strategic planning practices. The SWP has developed a work plan to outline and track implementation. Additionally, processes for continuous, regular reassessments are being developed to ensure Elevate to '28 can evolve and adapt over time. Elevate to '28 sets out SWP's five attainable and relevant organizational goals that coordinate and focus the efforts of the SWP's divisions and offices. These goals describe the broad desired results of Elevate to '28.



Photo by Sara Nevis/DWR

California Department of Water Resources staff perform the annual State Water Project's Delta dams inspections at Patterson Dam in Alameda County.

GOAL 1: ADVANCE AN INDUSTRY-LEADING SAFETY CULTURE

Advancing a safety driven culture not only safeguards the well-being of personnel and facilities, but also enables the safe delivery of water and power across California. Prioritizing safety at every level of SWP's operations reinforces its commitment to deliver reliable service.

Objectives include:

- Enhancing employee safety training, practices, and procedures to reduce risks to employees.
- Equipping employees and interested parties with the tools and knowledge regarding their roles and responsibilities in an emergency.
- Prioritizing security to protect human resources and assets.
- Strengthening the safety of infrastructure to enable the performance of key operations.

EMPLOYEE SAFETY

Safety is a core value, not a priority: priorities change, but core values do not. The continuous improvement plan for overall health and safety at DWR highlights the enhancements and improvements made over the past 15 years that showcase DWR's commitment to enhancing the safety culture among its employees.

The DWR safety program empowers its employees to:

- Act in a safe manner and intervene to stop unsafe behavior or conditions.
- Commit to safety in everything they do.
- Champion safety through leadership and recognition.
- Approach all incidents as if they are preventable.
- Manage and measure safety consistently throughout the Department.
- Be responsible for maintaining a safe workplace.

DWR's SWP team prioritizes "safety communication": the process of communicating different hazards to all employees in a workplace with the intention of reducing accidents. Communicating known risks and ensuring that everyone is familiar with safety operations and procedures allows employees to understand how to establish a safe working environment. When employees are aware of potential workplace hazards and risks, it allows them to make an active effort to avoid them. "Stop Work Authority" empowers and encourages employees to communicate unsafe work activity or behaviors without fear of reprisal.

Safety is integral to the well-being of both civil servants and contractors working on SWP facilities. During the contractor selection process for SWP projects, staff assess the contractor's safety record as a critical criterion. Once selected and on-site, contractors are required to submit a pre-work safety plan that identifies potential hazards and outlines tasks and measures to address them. Throughout the execution of a project, especially those involving significant hazards, SWP safety professionals and technical subject matter experts collaborate with contractors to ensure the work is conducted with the utmost safety and quality.

The program's success is monitored at both the program and executive levels. At the program level, performance is measured using a series of metrics, including reportable and recordable incidents, avoidable and non-avoidable vehicular accidents, safety audits conducted at SWP work locations, and the completion of action items identified during those audits. The performance indicators do include an employee-level validation of the safety program's performance to ensure employee comprehension and use of the safety program. At the executive level, annual audits are conducted at SWP work locations to validate the effectiveness of the SWP safety program and its measures. Since the program's inception in 2011, DWR reduced workplace safety incidents by at least 5 percent annually.

GOAL 2: BE THE EMPLOYER OF CHOICE

The SWP relies on a strong workforce to support internal operations and provide a multitude of benefits to Californians. Being the employer of choice means attracting and retaining highly qualified and motivated personnel. Fostering a workplace where employees thrive and feel valued empowers the SWP team to lead the way in innovation and excellence.

Objectives include:

- Improving the recruitment strategy to attract a diverse and engaged workforce.
- Promoting an employee-centric culture to meet the current and future needs of personnel.
- Expanding promotional pathways to increase employee retention.
- Implementing succession planning to improve knowledge management.
- Fostering diversity to create an inclusive work environment.

Workforce attraction and retention challenges include:

- Shifting workplace expectations.
- The availability and competition of skilled resources.
- The agility and speed of State hiring practices.
- The impending retirement of one-third of the water sector workforce over the next 10 years.

ONE BLUE TEAM

The SWP's One Blue Team was established in 2021 to develop future leaders now. One Blue Team promotes communication and collaboration across the SWP's divisions and offices and looks to broaden their perspective in their work environment by engaging internally and externally with partners, leading to sustainable leadership development with high engagement and increased employee growth and retention.

One Blue Team Initiatives:

- **Creating a Workforce Strategy Plan:** The SWP is assessing current recruitment and retention methods and creating a new workforce strategy plan informed by input from employee engagement channels.



Photo by Florence Low/DWR

Brian Rains, left, Cal Fire Associate Governmental Analyst, and Glen Biete, Cal Fire Workforce Planning and Recruitment Analyst, staff the California Natural Resources Agency Career Center, located at California Poppy Pavilion, 715 P Street, Sacramento.

- **Improving Knowledge Management:** The SWP will assess critical knowledge, processes, and data across SWP and create a knowledge management strategy with clear governance to gather and manage information, including succession planning and training.
- **Enhancing Incentives and Programs:** The SWP will improve and better communicate financial and non-financial employee incentives and programs to better meet the needs and expectations of SWP personnel and increase retention rates.
- **Advancing Diversity, Equity, and Inclusion Efforts:** The SWP will expand and enhance employee programs related to Diversity, Equity, and Inclusion (DEI) to continue creating a more diverse, equitable, and inclusive work environment.
- **Expanding and Enhancing Workforce Trainings:** The SWP will assess current training offerings then develop and implement a training strategy for employees, informed by the Workforce Strategy Plan (e.g., training around key risks, SWP history, and job required activities).
- **Expanding Education and Community Outreach:** The SWP will continue to perform outreach, participation, and partnership development with educational institutions, professional organizations, and community groups.
- **Leveraging Workforce Feedback and Analytics:** The SWP will establish stronger employee feedback channels and conduct additional research and analyses to better measure employee engagement and improve retention.

GOAL 3: ACCELERATE ADAPTATION AND STRENGTHEN RESILIENCY FOR CLIMATE CHANGE

Accelerating adaptation and strengthening resiliency enable the SWP to proactively respond to some of the greatest risks and opportunities posed by a changing climate and extreme weather. By focusing on climate adaptation, the SWP will be a more resilient service provider for the people and environment of California, now and for future generations.

Objectives include:

- Improving long-term project planning to anticipate and adapt to climate change.
- Promoting a culture of accountability to increase climate change resilience.
- Being a leader in achieving California's climate goals.

Key 2024 initiatives were to enhance the Delivery Capability Report, implement Climate Adaptation Planning Analyses, and advance the California Aqueduct Subsidence Program.

DELIVERY CAPABILITY REPORT

The SWP Delivery Capability Report (DCR) is released every two years and shows how water managers could prepare for drought, extreme weather, and future water supply conditions amidst a changing climate. It presents a new and enhanced analysis of current and future expectations for the SWP water supply if no new adaptation actions are taken.

The DCR is used widely both within and outside the SWP for water supply planning. The information in this report is a key component of the drought planning done by the SWP, and is fundamental to the drought planning done by the public water agencies that receive SWP and CVP water. The report provides the information needed by these agencies to develop and manage their own water supply portfolios, and is an important input for Groundwater Sustainability Plans, Urban Water Management Plans, Agricultural Water Management Plans, and Integrated Regional Water Management Plans.

The DCR also serves as the default climate change scenario for SWP planning for future energy resources, asset maintenance and management studies, Environmental Impact Reports, and various longer-range operations studies.

The DCR introduces two new innovative approaches to characterize current

Key Takeaways from the Delivery Capability Report:**If we don't act:**

- Changes in snow accumulation, precipitation, temperature, and sea level will reduce SWP deliveries.
- Average SWP deliveries will decrease by 10 percent by 2043.
- Dry/Critical Year SWP deliveries will decrease by 20 percent by 2043.
- This does not mean there is not water, but that the current infrastructure was not designed for current climate conditions.

Key Takeaways from the SWP Climate Adaptation Plan:**The SWP CAP shows:**

- How adaptation can lead to alternative futures and mitigate climate impacts.
- How multiple adaptation strategies work together.
- Any residual vulnerabilities to the SWP system from climate change.

climate change conditions and emphasize the uncertainty in future climate change projections. The first is an approach to account for changes in hydrology from climate change that has already occurred. The second is an approach for developing future climate scenarios. Both additions have undergone independent peer review and are considered significant improvements over previous methods.

The impact of climate change that has already occurred is estimated to have yielded a two percent loss of long-term average annual SWP allocation, or 3.5 percent by volume. This comes from more seasonal variability, higher winter flows, and lower spring flows. Future conditions scenarios evaluate combinations of climate changes (temperature, precipitation, and sea level rise) that represent different levels of risk. Three future conditions scenarios are provided in the report (50% level of concern, representing a most likely or central tendency outcome, and a 75% and 95% level of concern representing more extreme and less likely outcomes). DWR recommends that water agencies use the scenarios that are most consistent with their own risk-tolerance as they conduct their planning.

The 2023 DCR shows that if California continues with business as usual, meaning no major adaptations to the SWP or changes in regulation impacting the SWP, but the climate continues to warm and precipitation becomes more extreme, there would be a 13 to 23 percent decline in average annual SWP deliveries by 2043. These decreases in the availability of surface water deliveries can lead to supply shortages, an increase in groundwater demand, and reductions in available supplies to support groundwater replenishment.

CLIMATE ADAPTATION PLAN

The SWP is proactively developing an SWP Climate Adaptation Plan (CAP) that will incorporate key adaptation measures and develop several significant projects that would provide climate adaptation and resilience. Current SWP adaptation measures are broken into three groups: structural measures, operations and management measures, and nature-based solutions.

The CAP identifies five key adaptation measures: the Delta Conveyance Project, California Aqueduct Subsidence Project, increased south-of-Delta storage, FIRO and Lake Oroville Water Control Manual update, and enhanced SWP asset management. These measures, in conjunction with maintenance and restoration, are modeled in different combinations to quantify how much additional water and operational improvement each scenario would provide.

This builds on top of DCR work, showing alternative futures where there are adaptations, such as the Delta Conveyance Project, in place by 2045. It also looks further into the future, to 2085, when the current contracts with the SWP Contractors end, which provides an important planning horizon given California's changing climate.

The SWP CAP is part of the State's long-term planning efforts and adds additional detail to DWR's existing three-phase Climate Action Plan, described below.

Phase 1: Greenhouse Gas Emissions Reduction Plan

DWR activities contribute to continued climate change by emitting greenhouse gasses (GHG). Each project is expected to minimize GHG emissions to the extent possible to help reduce future climate change. Key objective: contribute to State, federal, and global goals.

Phase 2: Climate Change Analysis for Project Evaluation

DWR evaluates and analyzes climate change impacts on projects. This may relate to the California Environmental Quality Act or permitting analyses, and includes what amount of sea level rise should be considered or how much change in streamflow is considered for future operations of a project. Key objective: analysis and cross-department coordination and consistency.

Phase 3: Adaptation Strategy

DWR must adapt to climate change impacts and understand what infrastructure and operational changes will be needed, and what investments should be planned for. Key objective: to prepare for the future.

The SWP Climate Adaptation Plan is expected to be completed in the winter of 2024/25, followed by a financial assessment in the first quarter of 2025.



Photo courtesy/DWR

DWR implemented the California Aqueduct Subsidence Program to address ongoing subsidence while developing solutions and funding sources to proactively preserve the California Aqueduct's ability to deliver water for the next 60-plus years.

CALIFORNIA AQUEDUCT SUBSIDENCE PROGRAM

Subsidence, or the sinking of land, has been documented throughout California for almost a century. Prior to the construction of the California Aqueduct in the mid-1960s, portions of land near the alignment dropped between 20 and 30 feet. While rates of subsidence stabilized for a few decades after original construction, the California Aqueduct has sustained an alarming and unprecedented increase in subsidence rates. In the three years of the drought from 2013 through 2016, parts of the canals have sunk nearly three feet.

Subsidence impacts cause a decrease in flow capacity, increased maintenance and repair costs, and decrease in operational flexibility, which can lead to higher energy costs as it reduces an operator's ability to take advantage of lower energy costs while moving water. Groundwater pumping, which has long been understood as a primary cause of this alarming trend, typically ramps up during extended drought periods. With the trends in the changes of land use over the last two decades, the effects of climate change are predicted to exacerbate this subsidence trend.

SWP implemented the California Aqueduct Subsidence Program (CASP) to address ongoing subsidence while developing solutions and funding sources to proactively preserve the California Aqueduct’s ability to deliver water for the next 60-plus years. SWP is actively developing near-term solutions, while planning for long-term alternatives that include feasibility evaluations of different remediation measures that would mitigate the risks posed by current and projected impacts of subsidence.

Through the western side of the San Joaquin Valley, reductions in the system’s capacity to move water due to subsidence are as high as 46 percent, and will increase as subsidence continues. To re-establish the system’s capacities that have been lost to subsidence are expected to require billions of dollars over the next 20 years. Of particular concern is the 164-mile section between the Dos Amigos Pumping Plant and the Buena Vista Pumping Plant which relies entirely on gravity and continuous downstream hydraulic slope to move the water.

To re-establish the system’s capacities that have been lost to subsidence are expected to require billions of dollars over the next 20 years.

To prevent further impacts it is crucial that Groundwater Sustainability Agencies (GSAs) along the alignments make decisive management decisions under the Sustainable Groundwater Management Act (SGMA) and address subsidence as an “undesirable result” under SGMA. The CASP Groundwater Monitoring Project will proactively fill data gaps along the alignments, increase the general understanding of subsidence cause and effect, and aid the SWP in working with GSAs on their basin

management actions, monitoring, and GSP updates. These efforts include the installation of equipment to provide real-time data to monitor groundwater levels and other ground surface spatial information to help inform how subsidence is affecting the Aqueduct. To date, CASP has made substantial progress toward completing nine of the 23 proposed monitoring sites in the southern San Joaquin Valley.

Interim actions are intended to reduce the impact of subsidence on water deliveries and flexibility prior to the implementation of long-term solutions. In the Central Valley, the San Luis Canal and California Aqueduct are broken up into pools, which are each roughly 10 miles long. At the end of each pool, a gated check structure controls the water surface elevation in the pool and thereby the flow from one pool to the next. The interim actions include multiple independent projects that collectively would result in approximately 42 miles of liner raises in five pools, and the removal of one check structure gates that is causing constriction. CASP is currently in the design phase of the projects and will soon be in the permitting phase. By implementing these interim actions, which occur entirely within the existing right-of-way of the facilities, CASP is taking proactive steps to ensure reliable water delivery while working on the longer-term solutions.

GOAL 4: PROMOTE AWARENESS OF THE SWP'S SIGNIFICANCE

Promoting awareness of the SWP's significance enables its customer agencies and external interested parties to have a deeper understanding of the importance of the SWP's work and their connection to that work. As the nation's largest state-owned water and power generator, the SWP — and support of the SWP's work — is a critical component to California's continued success.

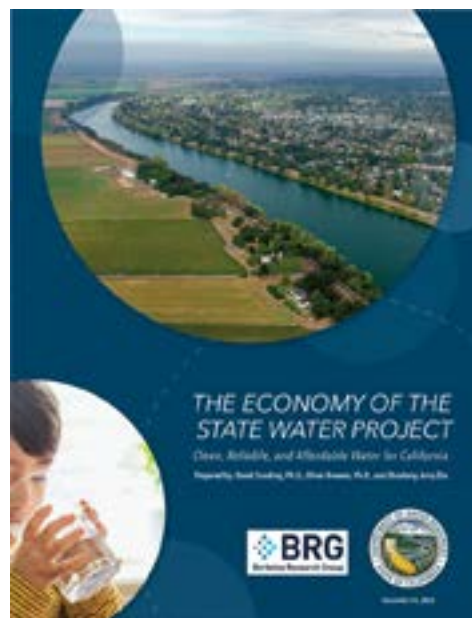
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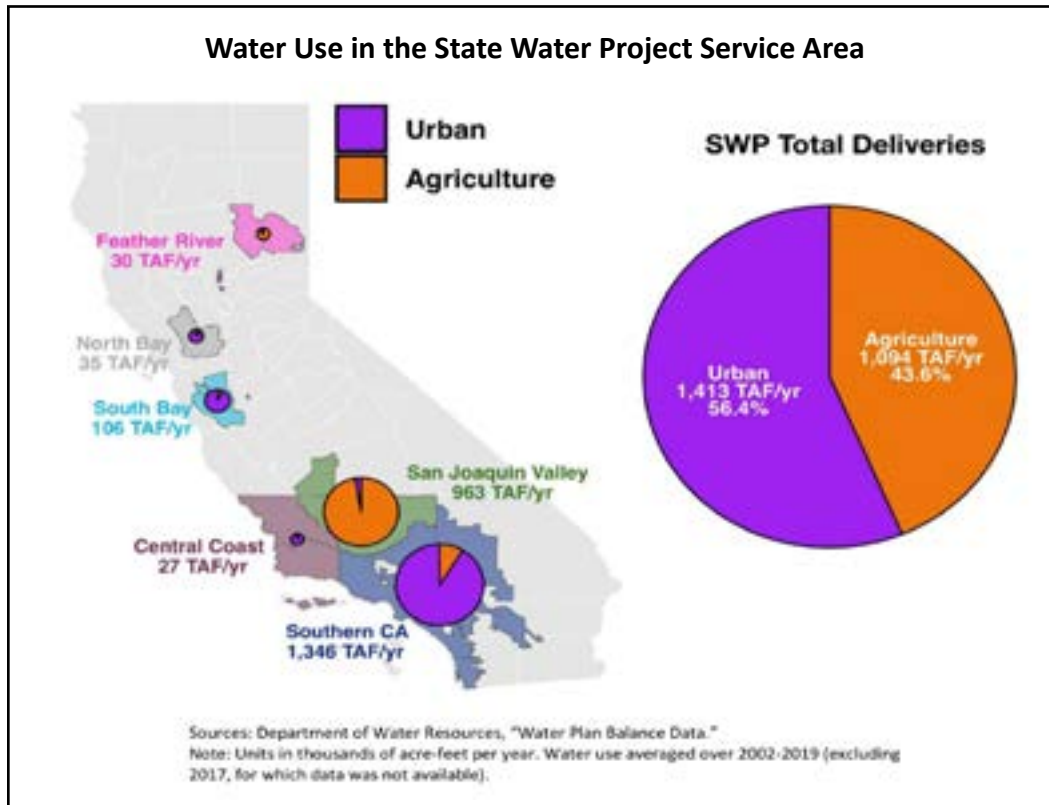
- Strengthening communications and engagement with external partners to achieve shared initiatives.
- Increasing public awareness of the SWP to strengthen support for its purpose and priorities.
- Fostering internal awareness and collaboration to create a shared understanding of the SWP's importance and the role of each division and office.

THE ECONOMY OF THE SWP

The Economy of the SWP, published in collaboration with the Berkeley Research Group in December 2023, offers a deep analysis of the SWP's economic contributions to California and its importance to the state's overall economy. The study is a tool to help DWR better communicate the importance of the SWP and build the case with policy makers and the public for public investment into one of California's major water systems.

The significance of the SWP to California's economy is clear: if the SWP service area were its own nation, it would rank as the world's eighth largest economy, with a \$2.3 trillion Gross Domestic Product. At the same time, the SWP is aging, with much of the project more than 60 years old. The system requires billions of dollars in refurbishment to be able to maintain its current level of water service, without taking into account the anticipated 10 percent reduction in water supply due to the effects of climate change. The SWP Contractors will be unable to bear the burden of these refurbishment costs alone.





State and federal investments are needed to close the funding gap and maintain SWP's contribution to the economy.

Water Use in the SWP Service Area

On average, the SWP delivers more than 2.5 million acre-feet of water annually. Around 1.4 million acre-feet of water, or 56.4 percent of total SWP deliveries, supply urban areas, including residential, commercial, and industrial customers and other urban water uses such as parks, landscaping, and urban fire suppression. Deliveries to the agricultural sector constitute around 1.1 million acre-feet per year, or around 43.6 percent of total SWP deliveries. The SWP service area is broken up into six service regions: Southern California, San Joaquin Valley, South Bay, North Bay, Central Coast, and Feather River.

On average, the State Water Project delivers more than 2.5 million acre-feet of water annually.

Southern California receives about 1.35 million acre-feet of SWP water per year on average, or around 54 percent of all water deliveries. Around 90 percent of all SWP water use in Southern California is in the urban sector. Within Southern California, the Metropolitan Water District of Southern California (MWD) is the single largest user of SWP water. The

MWD serves a large area that includes parts of six counties: Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura. The district provides water

to 26 member agencies, which in turn supply water to a total of approximately 19 million people.

The SWP delivers on average 963,000 acre-feet per year to the San Joaquin Valley, around 90 percent of which is delivered to Kern County. Unlike Southern California, SWP water is primarily used for agricultural purposes in the San Joaquin Valley.

The South Bay counties of Santa Clara and Alameda receive around 106,000 acre-feet of SWP water per year. Water in the South Bay is predominantly used in the urban sector. The North Bay aqueduct delivers on average 35,000 acre-feet per year, primarily to urban customers in Napa and Solano Counties in the North Bay. The Central Coast aqueduct supplies on average 27,000 acre-feet per year of water to San Luis Obispo and Santa Barbara counties, again mostly to the urban sector. Finally, in the Feather River Basin, 36,000 acre-feet per year of water is used for both agriculture and urban sectors.

The Urban Economy of the SWP

The SWP Contractors supply water to urban customers in all six SWP service regions. These regions are home to more than two-thirds of California's population, including six of the state's 10 largest cities. A reliable water supply is

The State Water Project service area contains 27 million residents, and 800,000 businesses that employ more than 7 million workers.

essential for these customers; it plays a critical role in public health and sanitation, attracting and retaining the residential and business customers that drive economic growth, and contributing to the overall quality of life.

Within the urban service area, the SWP provides 20 percent of all water for urban consumption, making it a critical part of the area's water supply portfolio. In total, the SWP service area contains 27 million residents with a median household income

of \$85,460, about 23 percent higher than the average for the United States.

The SWP service area also contains 800,000 businesses that employ more than seven million workers. These urban customers include many underrepresented communities that depend on the SWP for a low-cost and reliable water supply.

The Agricultural Economy of the SWP

The SWP supplies water for 750,000 acres of irrigated farmland. In the agricultural sector, SWP water is used primarily in the southern San Joaquin Valley, but is also used in agriculture in most other regions supplied by the project. Kern, Kings, San Diego, and Ventura counties receive more than 93 percent of all agricultural SWP deliveries. These four counties have experienced steady economic growth since 1960, when the SWP was founded.

In total, the SWP service area employs around 160,000 farm workers. Farm employment in the top four counties totals more than 113,000. Kern County alone makes up about 43 percent of total farm employment within the SWP service area.

The State Water Project supplies water for 750,000 acres of irrigated farmland.

The total value of agricultural production in regions served by the SWP exceeds \$19 billion, with more than \$8 billion worth of production in Kern County alone. The largest crops in Kern County include table grapes, oranges, tangerines/tangelos, pistachios, and almonds. In Kings County there is significant dairy and cattle production, and cotton is grown in the

Tulare Lakebed. In coastal areas such as San Diego and Ventura Counties, nursery crops, raspberries and avocados predominate.

Underrepresented Communities Served by the SWP

Low-income and environmentally impacted communities make up a sizable number of the residents in the SWP service area, with almost 8.2 million individuals living in disadvantaged communities¹ (DACs). Based on the Median Household Income definition, 32 percent of individuals in the SWP service area are considered part of DACs. Most of these individuals (87% or 7.1 million) live in the Southern California service region. In the rural San Joaquin and Feather River service regions, 67 percent of individuals live within DACs. Overall, the SWP service area is representative of the entire state in terms of DAC populations.

The Costs of SWP Deliveries and Alternative Supplies

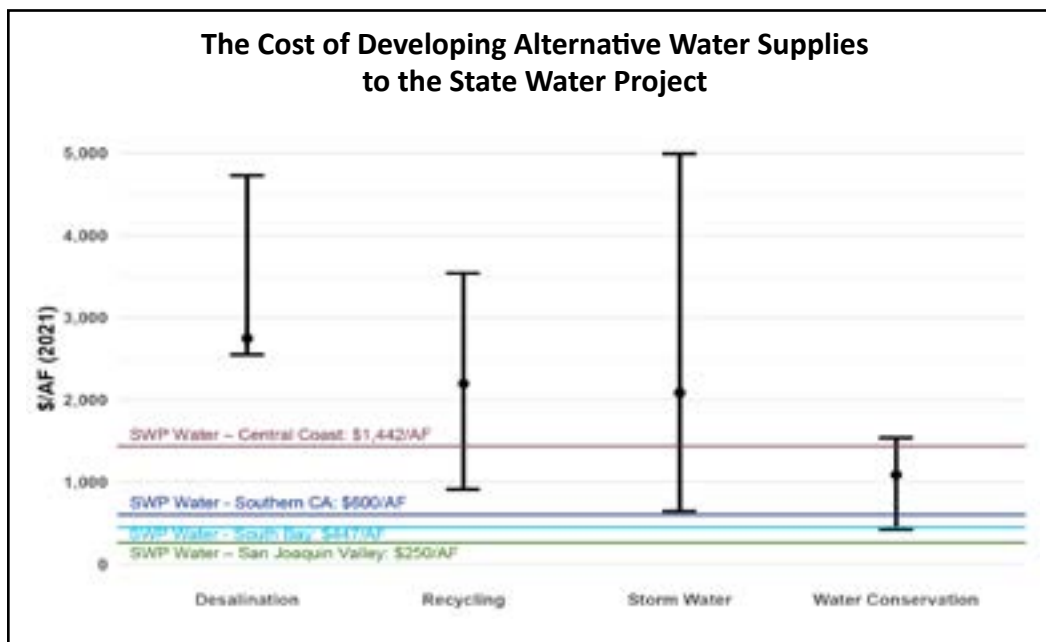
The SWP is one of the most affordable and cost-effective sources of water in California when compared to desalination projects that produce potable water from seawater using reverse osmosis, recycling projects that reclaim and treat

The State Water Project is one of the most affordable and cost-effective sources of water in California when compared to other options.

wastewater for reuse, stormwater capture projects that harvest rainwater for storage and local irrigation, and water conservation programs that include use of water-efficient appliances and toilets, as well as landscape rebates for households to replace grassy areas with drought-tolerant plants or artificial turf.

The approximate cost of delivering SWP water ranges between \$250 per acre-foot in the San Joaquin Valley, to \$600 per acre-foot in Southern California, and as high as \$1,440 per acre-foot on the Central

¹ Disadvantaged communities have a median household income at or below 80 percent of the statewide MHI. Severely disadvantaged communities have a median household income at or below 60 percent of the statewide MHI. Calculated based on Census tract-level median income data from 2021 American Community Survey 5-year Estimates



Coast. The cost each SWP Contractor agency pays depends on multiple factors. One is the number of facilities relied upon, as agencies generally pay only for facilities upstream of the point where their water is delivered. Another is when those facilities were built, with recent facilities having higher annual capital costs. Another factor is the amount of energy needed to deliver each agency's water.

Seawater desalination facilities have a median cost of \$2,800 per acre-foot, with a range of \$2,500 to \$4,700. Water recycling programs have a median cost of \$2,200 per acre-foot, with a range of \$1,000 to \$3,500. Stormwater conservation programs have a range of \$600 to \$5,000 per acre-foot, with a median of \$2,100. Water conservation has a range of \$420 to \$1,500 per acre-foot, with a median of \$1,100. Although some water conservation programs have the lowest unit cost of water among the alternatives considered, they tend to have a more limited scale. It would be difficult for these programs to replace the significant volume of SWP deliveries.

GOAL 5: OPTIMIZE INFRASTRUCTURE, FINANCIAL INTEGRITY, AND OPERATIONS

Optimizing infrastructure, financial integrity, and operations enables the SWP to overcome the uncertainties and challenges caused by aging facilities, environmental stresses, and economic shifts. The SWP strives to be “best in class” (i.e., achieve excellent performance), delivering services more efficiently and effectively thanks to critical investments in these areas.

Objectives include:

- Innovating methods to proactively adapt to shifts in regulatory requirements and other external factors.
- Increasing fiscal discipline and financial transparency to responsibly manage finances.
- Improving asset lifecycle management to streamline decision-making, increase operational efficiency, and improve future dependability.
- Integrating environmental stewardship in all its work in order to protect, restore, and enhance the environment.
- Implementing SWP-wide organizational practices to demonstrate and achieve “best in class.”

ANNUAL BUDGET AND COST PLANNING

The SWP has long-term, legally binding contracts with the 29 local public water agencies, known as the State Water Project Contractors. The SWP has a fiduciary responsibility to the state of California and to the SWP Contractors, who are responsible to their ratepayers.

The SWP is operated as an enterprise fund for the State, and provides an annual comprehensive financial report. The SWP enterprise fund is an account for activities that operate like a business, charging to external users, as opposed to government entities, and its debt is backed solely by the SWP Contractor charges. Metropolitan Water District (MWD) is the largest SWP Contractor, followed by Kern County Water Agency (KCWA). For the projected charges in 2025, MWD accounts for 52 percent of the SWP revenue, followed by KCWA at 12 percent.

The 29 SWP Contractors are responsible for the reimbursable costs of operating the SWP, which includes water supply and power, water storage, water conveyance, operations and maintenance (O&M), and regulatory compliance, which in total amounts to more than 95 percent of the SWP’s revenue. Non-

reimbursable costs – or those not covered by SWP Contractors – include the cost-sharing portion of Joint-Use facilities with the Central Valley Project (CVP), recreation, fish and wildlife enhancement, and flood control purposes. The recreation and fish and wildlife enhancement costs are paid for by other means, such as through annual State General Fund appropriations.

Capital improvements to the SWP are financed through the issuance of water system revenue bonds. Full repayment of these bond funds is being made by SWP Contractors, rather than by California taxpayers. The SWP's revenue bonds receive the high-grade rating from both Moody's and S&P, ensuring favorable financing from the bond markets.

The 2024 SWP budget is \$1.031 billion. \$691 million of that is the expense of operation and maintenance (O&M). \$340 million is for planned capital projects expenditures. Power is a variable cost and is planned separately and depends on dynamic power markets, hydrology, and water delivery. In 2023, there was \$425 million in power-related cost. This amount is high due to the 100 percent allocation of SWP water to contractors and the need to purchase power to move water around the state.

The largest capital projects that have been planned and are currently undergoing construction include the Perris Dam Remediation – Emergency Release Facilities, Fire Safety Modernization at San Luis Field Division, Oroville River Value Outlet System, and the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project.

DWR continues operating the SWP with stable revenues provided by the SWP Contractors. DWR requires that all program expenditures are managed within the annual budget. SWP costs are increasing – including O&M costs (water supply and power), capital improvement needs, and improvements to aging infrastructure to address climate change. Currently, total SWP assets are valued at approximately \$8.9 billion, benefiting California's people and environment. Continued investment to maintain and enhance the SWP is critical to California's economy.

PROJECT PRIORITIZATION

The SWP utilizes a multi-year detailed planning and prioritization process that ultimately leads to the SWP work activities for every year. For example, the SWP started planning for much of the work done in 2024 back in 2019, with future resource planning around project concepts, scoping, and preliminary resourcing. In 2022, SWP determined the initial 2024 work plan and forecast, including prioritizing and scheduling. The work plan was reassessed, revised, and finalized in 2023, so work could be executed in 2024. This process also accounted for emergencies and unplanned work.

When planning SWP projects, priority is given to “annual activities,” or those which occur every year, such as maintenance. Additional projects are identified



Photo by Sara Nevis/DWR

The B.F. Sisk Dam Safety Modification Project borrow pit used to add safety features to the existing 3.5-mile-long earthen dam. Increasing the dam crest by 10-feet will reduce downstream public safety concerns by reducing the likelihood of overtopping if slumping were to occur during a large earthquake.

through inspections, condition assessments, and studies. The scope of work is then defined for each activity or project, with the necessary resources identified.

The SWP has more potential projects than could be accomplished in any given year. Therefore, the SWP uses asset management principles to prioritize the work, assessing the risk reduction for each project, and identifying the resources needed for each project.

A risk matrix is used to gauge the potential severity of a problem. As a potential issue is identified, it is ranked based on how likely it is to occur, and how bad the consequences would be should it occur. Consequences could include financial impacts and impacts to public safety, personnel safety, compliance, reliability of water delivery, and the SWP's reputation. Public safety is always the highest priority and is reflected as such on the risk matrix.

An ABC ranking is used to develop the annual SWP project work plan. The total number of projects achievable in the upcoming year are determined by the available resources. The highest priority projects are planned for the upcoming year and the rest are planned for a following year. For the projects planned for the upcoming year, projects are ranked by need and importance, with the top 10

percent given the A rank, 40 percent B, and 50 percent C. The goal is to complete 90 percent of the A-ranked projects that year, and 75 percent of B-ranked projects. Necessary adjustments are made throughout the year, such as responding to emergencies.

The finalized work plan results in a plan of activities for the upcoming two years. Each activity has specific resources assigned, with cost estimates used to establish the bills that will be sent to the SWP Contractors.

STATUS OF SWP CONSTRUCTION PROJECTS





Photo courtesy DWR

Lake Perris, an artificial lake, is the southern terminus of the California State Water Project, located in Riverside County.

DWR manages the SWP to ensure adequate water supplies are available under various hydrologic and legal conditions while maintaining SWP operational flexibility. Key construction activities undertaken in the past year to manage and maintain the SWP occurred across the entire length of the SWP and include all major facility types – dams, canals, pipelines, and pumping and generating plants. The four examples that follow are a sampling of the more than 54 active projects and programs that contribute to the no-fail operation of the SWP.

Lake Perris Emergency Release Facility: As a public safety measure, containment levees will be constructed to hold water should the lake need to be lowered in the event of an emergency. A channel is also under construction that will direct the water into the Perris Valley flood channel to flow safely away from the community. The project also includes two new bridges and a new box culvert structure which will support several lanes of traffic over the channel. The project is expected to be completed in April 2027.

Chippis Island Tidal Habitat Restoration Project: This project was implemented to restore the diked managed wetland back to tidal wetlands, and includes vegetation management on the exterior levee and interior island. The restoration project includes creating new channels in the interior of the island and removing all man-made structures. The project is expected to be completed in November 2025.

Salmonid Habitat Restoration and Fish Passage (Big Notch): The Big Notch project will create critical floodplain habitat for juvenile fish and improve a migration corridor for adult fish, as required by the SWP BiOp and ITP. The project includes an intake channel, headworks structure and control building,



Photo by Andrew Nixon/DWR

The Yolo Bypass Salmonid Habitat Restoration and Fish Passage (Big Notch) Project, which is built into the Fremont Weir. Big Notch aims to improve fish passage between the river and bypass, and increase floodplain fisheries rearing habitat.

transport channel, pedestrian bridge, and an electrical communications connection to the adult fish passage facility. Construction is expected to be completed in Spring of 2025.

Physical Security Upgrades: Physical security upgrades at each Field Division (Oroville, Delta, San Luis, San Joaquin, and Southern) include security operations centers, guard shacks, impact-rated gates and bollards, security fencing and cameras, hardened doors and windows, and key card readers and door contacts. In 2024, DWR began the design process for facilities regulated by the Federal Energy Regulatory Commission in Southern Field Division. These facilities will be packaged into west and east plan sets. The west includes Quail Lake, Warner Power Plant and Pyramid dam. The east includes Mojave Power Plant, Cedar Springs Dam, San Bernardino Intake Tower and Devil Canyon Power Plant. Construction of these projects is planned from 2027 through 2028.

CONCLUSION

This document fulfills the Commission's requirement to review the progress of the construction and operation of the SWP. The Commission has determined that DWR is working to maintain the operations of the SWP, preparing for and responding to climate extremes, and maintaining operational flexibility so that the SWP continues to benefit California. The Commission requests that DWR continue to keep the Commission apprised of operations and construction activities in 2025. These findings and recommendations will be presented to DWR and the Legislature.



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