State of California

Natural Resources Agency

Department of Water Resources

Annual Report to the Delta Stewardship Council

Investments in Delta Levees

FY 23-24

February 2025

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1. Purpose

The purpose of this report is to inform the Delta Stewardship Council (DSC) of Department of Water Resources' (DWR) investment decisions regarding Sacramento-San Joaquin Delta (Delta) levees in Fiscal Year (FY) 23-24, pursuant to California Code of Regulations Title 23 § 5012, Prioritization of State Investments in Delta Levees and Risk Reduction.

2. DWR's Mission

DWR's 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.

DWR manages California's water resources, systems, and infrastructure, including the State Water Project (SWP) Our specific responsibilities and duties include:

- Preventing and responding to floods, droughts, and catastrophic events
- Informing and educating the public on water issues
- Developing scientific solutions
- Restoring habitats
- Planning for future water needs, climate change impacts, and flood protection
- Constructing and maintaining facilities
- Generating power
- Ensuring public safety
- Providing recreational opportunities

3. DWR's Investment Role in the Delta

The State of California has significant, broad interests in the Delta Over time, many policies have been enacted with the goal of preserving the Delta in its current configuration to the extent possible. More recently, new policies have recognized that the Delta is in a state of transition and most State actions must account for that change. While DWR seeks to implement authorized programs in the context of its mission described above, individual programs and their funding sources are typically tied to specific legislative language and subsequent enacted regulations.

DWR's investments in the Delta are varied, reflecting the varied needs of Delta communities including rural, small communities, and urban areas DWR has been implementing the Delta Levees Subventions and Delta Levees Special Flood Control Projects programs (described below) to cost-share Delta levee maintenance and levee improvements in the Delta DWR also is

cost sharing with local agencies and the Unites States Army Corps of Engineers (USACE) to reduce flood risk in urban communities as well as administering and funding a program to assist small communities achieve a higher level of flood protection. These expenditures in flood risk management have contributed to preservation of ecosystem functions and water supply reliability of the Delta Expenditures in improving emergency response, conducting scientific research, updating hydraulic and hydrologic models, and gathering new geotechnical and topographic data have also been considerable DWR's investments support the State's goal of creating a resilient and sustainable water management system for all Californians while protecting and enhancing natural habitat for native species. As large-scale planning efforts, such as Delta Conveyance, the *Delta Plan*, and Central Valley Flood Protection Plan (CVFPP) proceed, DWR will continue to use available resources strategically to improve integrated water management and help preserve the unique characteristics of the Delta.

4. Legal Delta

The definition of the legal Delta is contained in Water Code §12220 (Delta Protection Act, 1959) Figure 1 illustrates the extent of Delta boundaries, island names, and location of State Plan of Flood Control (SPFC) (Project) levees and non-SPFC (non-Project) levees.

5. The *Delta Plan* Priority Islands

Water Code §85306 directs that the DSC shall recommend in the *Delta Plan* priorities for State investments in levee operation, maintenance, and improvements in the Delta. Table 1 is DSC's Island priority list which ranks Delta Islands into "Very High", "High" and "Other" priority categories.

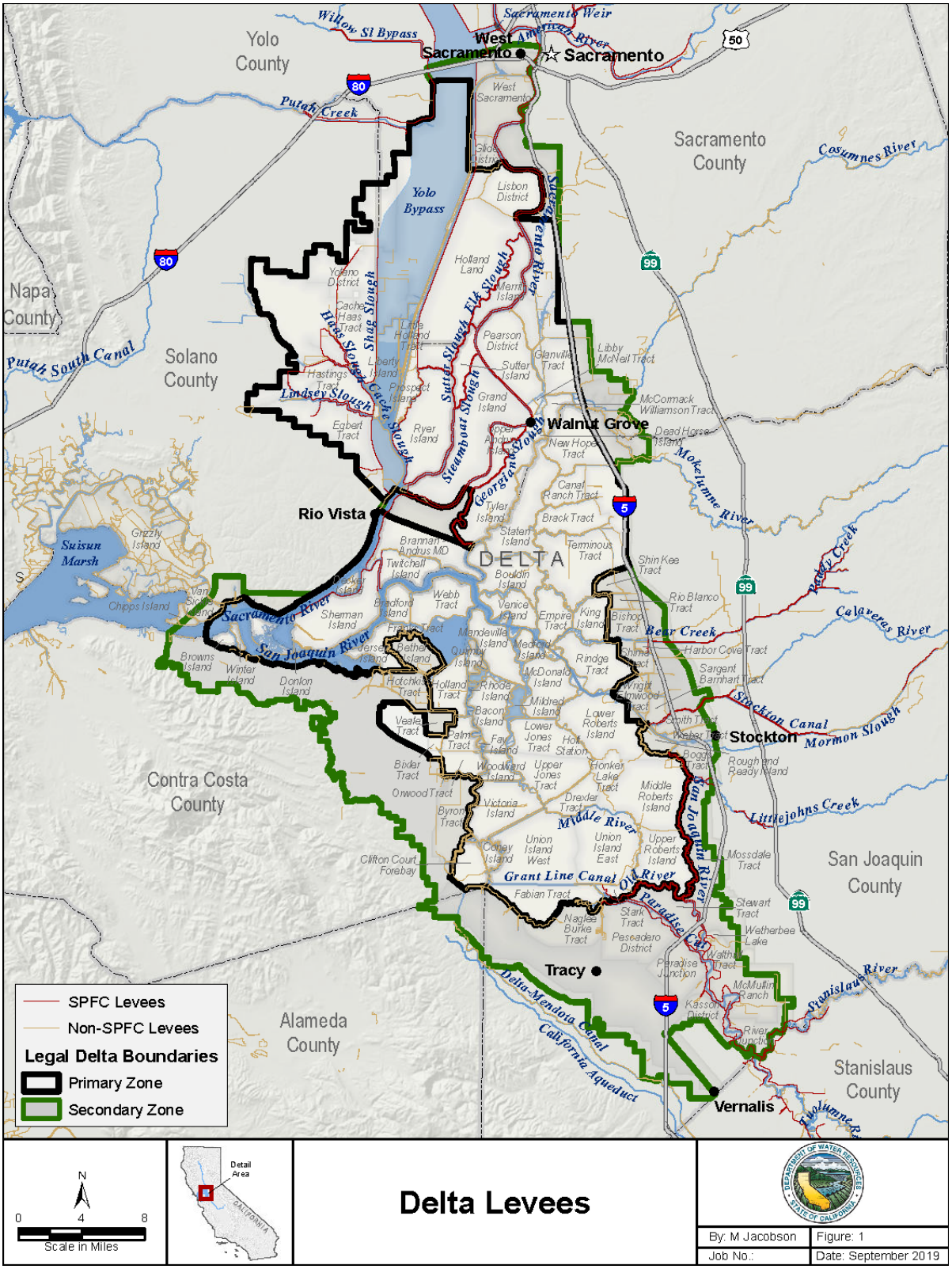
Table 1 - Island Priority List - January 1, 2024

Priority Level	Delta Islands by Priority Level		
Very High Priority	Bacon Island Bethel Island Bishop/DLIS-14 (North Stockton) Brannan-Andrus Byron Tract DLIS-19 (Grizzly Slough Area) DLIS-28 DLIS-33 DLIS-63 (Grizzly Island Area) Drexler Tract	Dutch Slough Hasting Tract Hotchkiss Tract Jersey Island Jones Tract (Upper and Lower) Maintenance Area 9 North Maintenance Area 9 South McCormack- Williamson Tract McDonald Island McMullin Ranch New Hope Tract	North Stockton Paradise Junction Reclamation District 17 Roberts Island (Middle and Upper) Ryer Island Sherman Island Staten Island Terminous Tract Twitchell Island Upper Andrus Island Victoria Island Webb Tract

High Priority	Bouldin Island Brack Tract Bradford Island Cache Haas Area Central Stockton Clifton Court Forebay DLIS-01 (Pittsburg Area) DLIS-07 (Knightsen Area) DLIS-08 (Discovery Bay Area) DLIS-20 (Yolo Bypass) DLIS-22 (Rio Vista) DLIS-26 (Morrow Island)	DLIS-29 DLIS-30 DLIS-31 (Garabaldi Unit) DLIS-32 DLIS-39 DLIS 41 (Joice Island Area) DLIS-44 (Hill Slough Unit) DLIS- 55 DLIS-59 Egbert Tract Fabian Tract Glanville	Grand Island Holland Tract Honker Bay Kasson District Libby McNeil Little Egbert Tract Lower Roberts Island Mandeville Island Mossdale Island Netherlands Palm-Orwood Paradise Cut Pearson District Pescadero District	Rindge Tract River Junction Shima Tract Stewart Tract Sunrise Club Tyler Island Union Island Veal Tract Walnut Grove Woodward Island Yolano
Other Priority	Atlas Tract Bixler Tract Canal Ranch Tract Chipps Island Coney Island Dead Horse Island DLIS-06 (Oakley Area) DLIS-10 DLIS-15 DLIS-17 DLIS-18	DLIS-25 DLIS-27 DLIS-34 DLIS-35 DLIS-36 DLIS-37 (Chadbourne Area) DLIS-40 DLIS-43 (Potrero Hills Area) DLIS-46 DLIS-47 DLIS-48	DLIS-49 DLIS-50 DLIS-51 DLIS-52 DLIS-53 DLIS-54 DLIS-56 DLIS-57 DLIS-62 Drexler Pocket Ehrheardt Club Empire Tract Fay Island Glide District	Holt Station Honker Lake Tract King Island Lisbon District Medford Island Mein's Landing Merritt Island Peters Pocket Pico-Naglee Prospect Island Quimby Island Randall Island Rio Blanco Tract	Rough and Ready Island Shin Kee Tract Stark Tract Sutter Island Venice Island Walthall West Sacramento Wetherbee Island Winter Island Wright Elmwood Tract

Note: January 1, 2024 (Source: www.deltacouncil.ca.gov/dlis/)

Figure 1 - Delta Boundaries and Levees



6. DWR's Reporting Requirements

California Code of Regulations Title 23 §5012 will require DWR to submit a written annual report to the Council and make the report publicly available, as well as present the report to the Council, on State funds distributed or provided by DWR within the legal Delta.

This report includes the following sections, as required by the California Code of Regulations Title 23 §5012:

(A) A description of all discretionary State funding for levees awarded by the California Department of Water Resources, during the reporting year FY 23-24**;**

(B) A list of each levee improvement project proposal submitted to the California Department of Water Resources for funding, regardless of whether the California Department of Water Resources awarded funding to the project;

(C) A list of the improvement projects awarded funding, the funding level awarded, the local cost share, and the applicable priority of the island or tract from Table 4 in subsection (b) where the levee improvement project is located;

(D) A description, for each awarded project, of changes (when completed) to levee geometry, the specific locations of those changes, and expected changes in the level of flood protection provided or standard achieved;

(E) If the California Department of Water Resources awards funds for any levee improvement project that is inconsistent with the priorities identified in subsection (b), the annual report shall identify for each project: how the funding is inconsistent with the priorities, describe why variation from the priorities is necessary, and explain how the funding nevertheless protects lives, property, or other State interests, such as infrastructure, agriculture, water supply reliability, Delta ecosystem, or Delta communities;

(F) A summary of the California Department of Water Resources' rationale for levee improvement project proposals submitted, but not awarded funding during the reporting year; and

(G) A summary of all previous California Department of Water Resources funded levee improvement project activities completed during the reporting year and location of those activities.

(A) A description of all discretionary State funding for levees awarded by the California Department of Water Resources, during the reporting year

DWR has developed various programs to support its mission 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 programs and efforts listed and described below have responsibilities and/or interests, in whole or in part, associated with levees that are within the legal Delta.

- Delta Levees Program
    - Delta Levees Ecosystem Enhancement
    - Delta Levees Maintenance Subventions Program
    - Delta Levees Special Flood Control Projects
    - West Delta Projects
    - North Delta Projects
- Flood Management
    - Urban Flood Risk Reduction
    - Small Communities Flood Risk Reduction Program (SCFRRP)
    - State Plan of Flood Control System Improvements
    - Flood System Repair Project (FSRP)
    - Emergency Response
    - Sacramento River Bank Protection Project
    - Levee Repairs cost shared under Public Law 84-99
    - Flood Maintenance Assistance Program (FMAP)
    - Storm Damage DWR Emergency Rehabilitation
    - DWR Flood System Maintenance
    - Floodplain Management, Protection, and Risk Awareness (FMPRA)
- Systemwide Flood Risk Reduction Program

Table 2 presents a summary of annual expenditures for Delta, systemwide, and flood management programs.

Table 2 - Summary of Fiscal Year 2023-2024 Annual Program Expenditures Excluding Delta Subventions

Program	Number of Projects	FY 23-24 Expenditures
Delta Levees	11	$30.9 million
Systemwide	3	$1.4 million
Flood Management	8	$61.3 million

Table 2A details FY23-24 active project expenditures for Delta Levees, Systemwide, and Flood Management Programs.

Table 2A - List of Active Projects and Funding

Program	Location	Project Title	Total Project Cost ($)	State Cost Share ($)	Federal or Local Cost Share ($)	Funding Amount Awarded FY 23-24 ($)	Project Status	DLIS Priority
Delta Levees Ecosystem Enhancement	Twitchell Island	Twitchell Island Wetland Enhancement Restoration Project	6,677,543	6,677,543	0	637,044	In Progress	Very High
Delta Levees North Delta	Grizzly Slough	Grizzly Slough Floodplain Project	13,200,000	13,200,000	8,700,800 Delta Conservancy Prop 1	1,696,911	In Progress	Very High
Delta Levees Special Projects	Bacon Island	Engineering, Design, and Construction of District Levee Repair Project on Bacon Island	14,368,421	13,650,000	718,421	6,980,000	In Progress	Very High
Delta Levees Special Projects	Bouldin Island	Engineering, Design, and Construction of District Levee Repair Project on Bouldin Island	16,989,247	15,800,000	1,189,247	7,770,000	In Progress	High
Delta Levees Special Projects	Brannan Island	Design and Construction of District Multi-Benefit Project on Brannan Island	20,942,570	19,686,016	1,256,554	7,497,443	In Progress	Very High
Delta Levees Special Projects	Brannan Island	Design and Construction of District Multi-Benefit Project on Brannan Island	2,676,706	2,275,200	401,506	1,586,808	In Progress	Very High
Delta Levees Special Projects	Lower Jones Tract	Design and Construction of District Multi-Benefit Project on Lower Jones Tract	6,633,585	5,638,547	995,038	242,801	In Progress	Very High
Delta Levees Special Projects	Orwood Palm Tract	Design and Construction of District Multi-Benefit Project on Orwood and Palm Tracts	2,988,498	2,540,223	448,275	230,010	In Progress	High
Delta Levees Special Projects	Simmons-Wheeler Island	Construction of District Levee Project on Simmons Wheeler Island	937,000	843,300	93,700	246,258	In Progress	Very High
Delta Levees Special Projects	Staten Island	Engineering, Design, and Construction of District Levee Repair Project on Staten Island	22,166,667	19,950,000	2,216,667	3,499,200	In Progress	Very High

Program	Location	Project Title	Total Project Cost ($)	State Cost Share ($)	Federal or Local Cost Share ($)	Funding Amount Awarded FY 23-24 ($)	Project Status	DLIS Priority
Delta Levees Special Projects	Woodward Island	Design and Construction of District Multi-Benefit Project on Woodward Island	7,129,086	6,059,723	1,069,363	549,998	In Progress	High
Systemwide Flood Risk Reduction	Hasting Tract	RD 2060 Pipe Replacement	1,750,000	1,750,000	0	259,254	In Progress	Very High
Systemwide Flood Risk Reduction	Little Egbert Tract	Little Egbert Multi-Benefit Project	300,000,000	300,000,000	0	687,904	In Progress	High
Systemwide Flood Risk Reduction	Yolano RD 2068	RD 2068 Levee Rehabilitation Project	1,725,000	1,725,000	0	482,027	In Progress	High
Floodplain Management Protection and Risk Awareness	Libby McNeil	RD 369 -- Libby McNeil Tract: Planning and Monitoring	938,200	938,000	0	938,200	In Progress	High
Levee Operations, Maintenance, and Repair Program	SPFC Facilities and Levees	Flood Maintenance Assistance Program (FMAP)	8,058,000	8,058,000	0	2,600,000	In Progress	NA
Urban Flood Risk Reduction	Pocket Area Along the Sacramento River	American River Common Features 2016 (USACE)	1,851,993,000	569,578,100	1,282,414,900	10,710,000	In Progress	Very High
Urban Flood Risk Reduction	RD-17 Mossdale Tract	Lower San Joaquin River Lathrop and Manteca Feasibility Study (USACE)	7,000,000	1,750,000	5,250,000	458,500	In Progress	Very High
Urban Flood Risk Reduction	Smith Canal & San Joaquin River in Stockton	Smith Canal Gate Project (UFRR)	95,121,490	58,284,258	36,837,232	6,842,490	In Progress	None
Urban Flood Risk Reduction	Stockton	Lower San Joaquin River California (LSJR) Project (USACE)	1,385,283,000	339,394,335	1,045,888,665	7,000,000	In Progress	Very High

Program	Location	Project Title	Total Project Cost ($)	State Cost Share ($)	Federal or Local Cost Share ($)	Funding Amount Awarded FY 23-24 ($)	Project Status	DLIS Priority
Urban Flood Risk Reduction	West Sacramento	West Sacramento Project (USACE)	1,173,819,000	287,585,655	886,233,345	25,000,000	In Progress	Other

Program Overview

Urban Flood Risk Reduction – This program provides funding for projects that contribute to achieving an urban level of flood protection (200-year, 05% annual chance) by improving SPFC facilities in the Central Valley. Urban areas are defined in statute as "…any contiguous area in which more than 10,000 residents are protected by project levees" (PRC 5096805.) While primarily focused outside the Delta, this program funds some urban areas with at least a portion of their footprints within the Delta. These include Sacramento, West Sacramento, Stockton, and Reclamation District 17 (Lathrop area). Urban flood protection investments are generally shared among USACE, the State, and local agencies in accordance with federal and State law. Because of the high cost and the rigor of the federal-State-local flood project implementation process, investments in this category are projected for periods up to 30 years.

Small Communities Flood Risk Reduction – Following adoption of the 2012 CVFPP, DWR initiated this program to help communities having fewer than 10,000 residents protected by the SPFC achieve a 100-year level of protection, where feasible. The program currently supports actions for the continued viability of small communities within the SPFC Planning Area to preserve cultural and historical continuity and important social, economic, and public services to rural agricultural populations, agricultural enterprises, and commercial operations. This will help preserve small community development opportunities within specific boundaries without providing urban level of protection and encouraging broader urban development.

Like urban areas, small communities located in floodplains contain a degree of risk to human life, and the density of existing development somewhat limits the types of management actions available within the small community footprints. However, unlike urban areas, the smaller scale of development and openness of the surrounding landscape often allows for a more diverse and resilient approach to flood management that holistically addresses all components of risk and contains more multi-benefit opportunities. Many small communities in the Central Valley are disadvantaged communities with limited resources to plan or implement flood management system repairs, rehabilitation, or improvements without greater assistance from the State and other partners.

State Plan of Flood Control System Improvements – In the Central Valley, the CVFPB and DWR are partnering to lead formulation of systemwide improvements to the SPFC "Systemwide improvements" are distinct improvements that positively impact how the entire system functions – e.g., improving the Yolo Bypass can reduce stress on upstream levees. These improvements are intended to reduce flood risks while achieving multiple benefits, as described in the CVFPP. The State is proceeding with planning and implementing certain systemwide features to achieve greater system sustainability, resiliency, and multiple resource benefits. The opportunity to incorporate riparian and floodplain habitat features into systemwide improvements is also important because it may enhance sustainability and potentially reduce long-term operation and maintenance costs.

Delta Levees Maintenance Subventions (Subventions) – Through reimbursements to local levee maintaining agencies, this program leverages State and local funds to support the

maintenance of eligible levees, which helps preserve the Delta essentially in its present configuration. Non-SPFC levees, which account for about 65 percent of the Delta levee system, were the historical focus of the program. However, since 1996, maintenance costs for SPFC levees in the Primary Zone of the Delta are also eligible for reimbursement under the program when the majority of the acreage protected by the maintenance area falls within the Primary Zone of the Delta, per AB 360 of 1996 Guidelines governing distribution of Subventions program funds, drafted by DWR and adopted by the CVFPB, are designed to facilitate the distribution of funds to achieve at least a minimum standard of levee maintenance for as much of the Delta as possible. Maintenance of the existing Delta levee system is essential for both conveying the water supply for 27 million Californians through the Delta and conveying flood waters from the Sacramento and San Joaquin rivers through the Delta and into San Pablo Bay.

The Subventions program has been continuously administered by DWR since 1973 and supported by various State funding sources over the years. Program administrative procedures and guidelines have been refined over time, such that it has achieved a high degree of efficiency and effectiveness. Types of activities funded by this program include vegetation control, rodent control, erosion control, erosion repair, access road repairs, levee rehabilitation, rip rap replacement, clearing drains and toe ditches, encroachment removal, levee crown repairs, seepage control, debris removal, regular inspection, and levee crown raise to compensate for subsidence.

Delta Levees Special Flood Control Projects –To ensure protection of statewide interests in the Delta, this program was established in 1988 by the California State Legislature under SB 34 and later revised under SB 1065 (1991) and AB 360 (1996). The Program was originally authorized to address flooding on the eight western Delta islands, as well as the communities of Thornton, New Hope and Walnut Grove. It was expanded in 1996 to the entire Delta and to portions of the Suisun Marsh, and new language was added that requires achieving net long-term improvement in aquatic habitat (Water Code §12311). DWR disburses funds to local agency projects on a competitive basis. The guidelines governing distribution of Program funds focus on levee work with statewide benefit while giving DWR the ability to select the most effective projects to cost-share. This program also provides the opportunity to construct critically important habitat projects, and the program's restoration sites are proving grounds that advance the science needed to accomplish projects on a larger scale. Types of activities funded by this program include:

- **Five-Year Plan** – The Five-Year Plan assesses the current conditions of a local agency's levees and sets out a strategy for rehabilitation, repair, and/or improvement of its facilities to meet a desired levee standard and/or level of protection. Anticipated funding assistance, required permitting, expected mitigation, and potential habitat enhancement may also be included in the Five-Year Plan.
- **Bulletin 192-82 Levee Improvement** – Levee improvement work to achieve Bulletin 192-82 Agricultural requirements.
- **Levee Improvement** – Projects that reduce the probability of flooding of the land protected by the local agency's levees. Work may include adding fill to the landside,

waterside, and/or crest of the levee. Work may also include drainage or stability berms, erosion protection, or other geotechnical work.

- **Programmatic Habitat Improvement Projects** – Large-scale habitat improvement and/or enhancement projects within the Delta that contribute to meeting the Water Code §12311 requirement to provide for a net improvement in aquatic habitat.
- **Multi-Benefit Projects** – Combined levee improvement and habitat enhancement projects that can help simultaneously improve the environment, flood management, and water supply reliability.

Delta Emergency Response – As the State's lead agency for flood management, DWR has broad authority to collect and disseminate hydrologic data, issue flood and water supply forecasts, stockpile and deploy flood fighting equipment and supplies, conduct flood response operations, offer assistance to other agencies, and participate in post-flood recovery operations among other activities. These activities are collectively referred to as "flood emergency preparedness, response, and recovery activities" Although DWR responsibilities are statewide, the Delta warrants greater attention due to its critical importance and vulnerability to flooding. This program maintains a high degree of readiness to respond quickly and effectively to threatening levee conditions and levee failures in the Delta, including potential simultaneous failures affecting multiple islands DWR has, in recent years, invested in facilities for stockpiling flood-fight materials and annually replenishes supplies and equipment needed for flood fighting in the Delta. The program supports local agencies by offering grant funding to improve emergency response capabilities in the Delta including enhancing local emergency response plans, stockpiling flood fight materials and equipment, training and exercises, and additional critical improvements. While the focus of this program is the legal Delta, it currently does not specifically fund levee improvements or rehabilitation as defined by the DSC.

West Delta– Continuing subsidence not only makes the Delta more susceptible to flooding due to increased hydrostatic pressure on the levee walls resulting in levee failure, but also makes farming more difficult and expensive, while threatening public safety, infrastructure, water supply, and water quality It is in the State's interest to curtail subsidence in the Delta by initiating mitigation studies and actions that will result in neutralizing subsidence and possibly help in the accretion of soils. Under this program, in collaboration with other agencies for more than 20 years, DWR has conducted scientific experiments on Sherman and Twitchell islands to develop a better understanding of subsidence processes and how to slow or reverse them. Historically, this program is focused on work within the island and landside of the levee prism. Various regimes of soil cultivation, plantings, and inundation have been studied to formulate practical approaches to subsidence reversal, habitat creation, and carbon sequestration. Sufficient understanding has been achieved to justify a major expansion in this program.

North Delta Projects– These projects implement flood management improvements principally on and around McCormack Williamson Tract, Dead Horse Island, and Grizzly Slough in a manner that benefits habitats, species, and ecological processes. By breaching levees, the projects attenuate floods in surrounding areas and provide aquatic and floodplain habitat along

the downstream portion of the Cosumnes Preserve along the Cosumnes and Mokelumne rivers. The North Delta Projects are being conducted within the Division of Multi-Benefit Initiatives in partnership with the Cosumnes Preserve, including The Nature Conservancy, Bureau of Land Management, and Sacramento County. In addition to flood management benefits, these projects enhance Delta productivity, provide habitat for native fish including Splittail and salmonids, and various wildlife and provide recreation opportunities. Knowledge gained through these projects will lead to more practical Delta restoration approaches.

Delta Levees Programmatic Restoration—The Dutch Slough Tidal Marsh Restoration Project is a multi-benefit project that will restore ecological processes to provide habitat for fish and wildlife species currently in decline and includes flood protection, climate change, and sea level rise accommodation. The project supports the Delta Levees Program AB 360 mandate of "Net Habitat Improvement for Aquatic Species". The project is being carried out by the Division of Multi-Benefit Initiatives in partnership with a local agency Reclamation District 2137. In addition to habitat and flood protection benefits, the project provides a place for recreational and educational opportunities and to study ecological restoration in the Delta.

Flood System Repairs Project (FSRP) – A bond-funded program that supports repairs to rural SPFC facilities of the Sacramento and San Joaquin River systems under State and local maintaining agency (LMA) cost-share agreements. On an annual basis, DWR compiles and updates a list of all potential repair sites from a variety of sources including USACE inspection and evaluation data, DWR maintenance and evaluation program data, and input from LMAs For each site that meets FSRP screening criteria, DWR works with LMAs to assess the funding and remediation options and prioritize sites to maximize flood risk reduction for implementation. For participating LMAs, a project agreement is developed allowing for DWR to provide funding for the LMA to implement and complete all phases of the project.

Sacramento River Bank Protection Project – The goal of this USACE program is to evaluate the levees and embankments of the Sacramento River and tributaries to reduce stream bank erosion and minimize the threat of flooding. While the original 1960 authorization approved the rehabilitation of 430,000 linear feet of levee, the 1974 Water Resources Development Act added 405,000 linear feet to the authorization and a 2007 bill authorized another 80,000 linear feet for a total of 915,000 linear feet of project. The CVFPB is the local project sponsor who works with DWR to provide the non-federal cost-share and manage the State interests (Land Easements, Relocations, Rights of Way and Disposal, or LERRDs) in these projects.

Levee Repairs cost shared under PL 84-99 – Established in Section 5 of the Flood Control Act of 1941, PL 84-99 gives USACE emergency management authority Under PL 84-99, USACE may undertake a variety of activities, including emergency response and storm damage rehabilitation. The CVFPB is the local project sponsor who works with DWR to manage the State interests (Land Easements, Relocations, Rights of Way and Disposal, or LERRDs) in these projects. Levee systems that are eligible for rehabilitation assistance under PL 84-99 following flood or storm damage include those federally authorized, operated and maintained by a non-federal sponsor or non-federally built, operated and maintained by a non-federal sponsor. These levees remain eligible if operated and maintained to acceptable or minimally acceptable

standards Federal government cost-share policy regarding repairs to levee systems and flood control projects damaged by floods includes:

- Federally constructed or enhanced, locally maintained systems (in PL 84-99 program): Will be repaired by the federal government at 100 percent federal cost Pending letter of request by maintaining authority and funding by Congress.

Flood Maintenance Assistance Program (FMAP) – Established in 2018 due to growing recognition that the operation and maintenance (O&M) of SPFC facilities (levees, channels, and structures) have been chronically underfunded and hindered by evolving and conflicting regulatory constraints hampering efficient and timely O&M. Through new State appropriations, FMAP provides funds to LMAs and State-managed maintenance areas (MAs) for eligible maintenance activities For LMAs within the legal Delta, FMAP funding is provided to assist with completing the necessary reports to secure federal eligibility under PL 84-99 or to support securing funding through local assessments to fund levee maintenance. For these levees in the legal Delta, levee maintenance is not funded through FMAP.

Storm Damage DWR Emergency Rehabilitation – Consistent with the Office of Emergency Services and the State Emergency Plan, DWR works to restore all flood protection facilities under our jurisdiction. The 2017 atmospheric river storms that occurred in the months of January and February caused flooding in the Central Valley and the Sacramento-San Joaquin Delta, resulting in multiple damage sites Field reconnaissance classified sites as 1) critical, 2) serious, and 3) areas of concern in which a site has problems that need periodic monitoring. A catastrophic failure at one of the sites would have disastrous results, including possible loss of human life, significant property damage, negative environmental impacts and threats to water supply. This State-led emergency rehabilitation program evaluates, designs, permits, and constructs the levee repair projects based on site prioritization and available funding.

DMP-Pipes – Deferred Maintenance Project-Pipes (DMP-Pipes) is a system repair and rehabilitation program focused on evaluating and rehabilitating pipes that were installed when SPFC levee system was constructed. The corrugated metal pipes are well past their design service life and are a significant hazard to levee integrity DMP evaluates the system pipes by means of internal video inspections and identifies the pipes that require replacement and rehabilitation to extend the design service life USACE requires the levee penetrations to be inspected on a five-year basis.

DWR Flood System Levee Maintenance – As described in California Water Code §8361, some Central Valley levees are to be maintained and operated by DWR on behalf of and paid by the State. DWR has also assumed responsibility for some SPFC levees by the formation of State Maintenance Areas through authority provided by Water Code §12878. Maintenance Area work performed by DWR is reimbursed by beneficiaries of the maintained area. Altogether, DWR is responsible for maintaining over 300 miles of SPFC levees in California's Central Valley. Of these 300 miles, DWR is responsible for maintaining 22 miles of levees in the legal Delta.

Floodplain Management, Protection, and Risk Awareness (FMPRA) – The Floodplain Management, Protection and Risk Awareness (FMPRA) Grant Program supports local agency

efforts to prepare for flooding by providing financial assistance for flood risk reduction activities related to stormwater flooding, mudslides, and flash floods. The program was established in 2019 by the State Legislature and Governor Gavin Newsom through Assembly Bill 74, which also authorized the use of funds from Proposition 68: The California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access For All Fund Act of 2018 of Senate Bill No. 5.

Systemwide Flood Risk Reduction Program (SFRR) – The Systemwide Flood Risk Reduction Program oversees the work necessary to develop and implement Delta and Central Valley multi-benefit flood risk reduction and habitat restoration projects that further the goals and objectives of the Central Valley Flood Protection Plan (CVFPP) and other systemwide priorities identified by Governor Newsom or the Legislature. The State may improve the system through direct investment in new or improved facilities for the State Plan of Flood Control or through proposal solicitations.

(B) **A list of each levee improvement project proposal submitted to the California Department of Water Resources for funding, regardless of whether the California Department of Water Resources awarded funding to the project.**

Table 3 - List of Levee Improvement Project Proposals Submitted to DWR

Program	Project Proposal Title	Location	Proposals Submitted in FY 23-24	Awarded (Yes/No)
Delta Levees Special Projects	Bacon Island Levee Rehabilitation Project (Middle River)	Bacon Island	FY23-24	No
Delta Levees Special Projects	Levee Improvement in the Bethel Island Urban Area	Bethel Island	FY23-24	No
Delta Levees Special Projects	Bouldin Island Levee Rehabilitation Project (San Joaquin River)	Bouldin Island	FY23-24	Yes, Phase 1 Planning and Design only
Delta Levees Special Projects	Brack Tract Levee Rehabilitation Project (South Mokelumne River Corridor)	Brack Tract	FY23-24	No
Delta Levees Special Projects	Holland Tract Waterside Slope Armoring (Holland Cut)	Holland Tract	FY23-24	No
Delta Levees Special Projects	Reclamation District 799 Perimeter Levee Improvement Project (The Little Dutch Slough and Dutch Slough, and Sandmound Slough)	Hotchkiss Tract	FY23-24	Yes, Phase 1 Planning and Design only
Delta Levees Special Projects	King Island Disappointment Slough Levee Rehabilitation and Multi Benefit Project	King Island	FY23-24	No
Delta Levees Special Projects	Medford Island San Joaquin River Levee Rehabilitation Project (San Joaquin River-Middle River)	Medford Island	FY23-24	No
Delta Levees Special Projects	The Beaver Slough Multi-Benefit Project	New Hope Tract	FY23-24	No
Delta Levees Special Projects	2023-Reclamation District 1007 Multi-Benefit Project(s)	Pico-Naglee Tract	FY23-24	No
Delta Levees Special Projects	San Joaquin River Multi-Benefit Project (San Joaquin River)	Sherman Island	FY23-24	Yes, Phase 1 Planning and Design only
Delta Levees Special Projects	Levee Improvement of the Suisun March Exterior Levee (Suisun Marsh)	Simmons-Wheeler	FY23-24	No
Delta Levees Special Projects	Mokelumne River Confluence Multi-Benefit Project	Staten Island	FY23-24	Yes, Phase 1 Planning and Design only

Program	Project Proposal Title	Location	Proposals Submitted in FY 23-24	Awarded (Yes/No)
Delta Levees Special Projects	2023- Reclamation District 548 Multi-Benefit Project(s)	Terminous Tract	FY23-24	No
Delta Levees Special Projects	San Joaquin River Setback Levee Project	Twitchell Island	FY23-24	Yes, Phase 2 Construction only
Delta Levees Special Projects	Reclamation District 1607 Levee Improvement and Habitat Enhancement Project	Van Sickle Island	FY23-24	No
Delta Levees Special Projects	Webb Tract Levee Rehabilitation (San Joaquin River)	Webb Tract	FY23-24	No

(C) **A list of the improvement projects awarded funding, the funding level awarded, the local cost share, and the applicable priority of the island or tract where the levee improvement project is located.**

Table 4 - List of Selected Projects and Funding

Program	Location	Project Title	Estimated Total Project Cost ($)	Total Project Cost ($)	State Cost Share ($)	Local Cost Share ($)	FY 23-24 Expenditures ($)	Project Status	DLIS Priority
Phase 1				**Phase 1**	**Phase 1**	**Phase 1**			
Delta Levees Special Projects	Staten Island	Mokelumne River Confluence Multi-Benefit Project on Staten Island	15,787,021	1,516,854	1,350,000	166,854	0	In Progress	Very High
Delta Levees Special Projects	Sherman Island	San Joaquin River Multi-Benefit Project on Sherman Island	8,966,554	898,876	800,000	98,876	0	In Progress	Very High
Delta Levees Special Projects	Hotchkiss Tract	Hotchkiss Tract Perimeter Levee Improvement Project	3,374,800	591,954	515,000	76,954	0	In Progress	Very High
Delta Levees Special Projects	Bouldin Island	Reclamation District No 756 (Bouldin Island) Multi-Benefit Project	7,500,000	1,000,000	900,000	100,000	0	In Progress	High
Phase 2				**Phase 2**	**Phase 2**	**Phase 2**			
Delta Levees Special Projects	Twitchell Island	Reclamation District No 1601 – Twitchell Island San Joaquin River Setback Levee – Reach 6	17,256,400	15,000,000	15,000,000	2,256,400	0	In Progress	Very High

(D) **A description, for each awarded project, of changes (when completed) to levee geometry, the specific locations of those changes, and expected changes in the level of flood protection provided or standard achieved.**

Table 5 5- Project Information for Selected Projects

Reclamation District	Project Title	Project Description	Specific Location	Standard to be Achieved	DLIS Priority
1601 Twitchell Island	Reclamation District No 1601 – Twitchell Island San Joaquin River Setback Levee – Reach 6	Construction to provide additional levee freeboard, landside improvements consist of the construction of the foundation berm and a new setback levee behind and attached to the existing levee. Provide channel margin habitat along this stretch of the San Joaquin River with approximately 5 design options to create a mosaic of three different habitat types (tule, marsh and mudflat, riparian forest and scrub, and upland scrub and grassland.	Sta 482+00 to Sta 508+80	Bulletin 192-82	Very High
38 Staten Island	Mokelumne River Confluence Multi-Benefit Project on Staten Island	Planning, engineering, and design of levee rehabilitation, approximately 4 miles, to the Delta Specific PL 84-99 Standard, create approximately 1 acre of Delta Levee Waterside Habitat (DLWH).	Levee rehabilitation from Station 822+00 - 1038+00, Delta Levee Waterside Habitat (DLWH) from Station 857+00 - 864+00	PL 84-99	Very High
341 Sherman Island	San Joaquin River Multi-Benefit Project on Sherman Island	Planning, engineering, and design of levee rehabilitation to the Delta Specific PL 84-99 Standard. Additionally, the Project will create approximately 1 acre of Riparian Forest and Scrub Shrub Habitat on the counterbalance berm.	Between Station 330+00 – 368+00, approximately ¾ of a mile	PL 84-99	Very High
799 Hotchkiss Tract	Hotchkiss Tract Perimeter Levee Improvement Project	Planning, engineering, and design of levee improvements that include raising the elevation on the crown to 105 feet while maintaining a minimum of 3H:1V landslide slope, maintaining the existing crown width at the minimum 16 feet to 20 feet where possible Create waterside habitat along the Little Dutch and Dutch Slough.	From Station 370+00 to 469+6399, and along Sandmound Slough Levee from Station 70+00 to 210+00	Bulletin 192-82	Very High
756 Bouldin Island	Reclamation District No 756 (Bouldin Island) Multi-Benefit Project	Planning, engineering, and design of levee rehabilitation for approximately 8,500 feet (16 miles) of levee with waterside bench width of approximately 20 feet and will support a variety of habitat including Shaded Riverine Aquatic, Scrub Shrub, and Riparian Forest.	Along the San Joaquin River from Stations 415+00 to 500+00	Bulletin 192-82	High

Note: These five projects were selected to receive funding as part of the 2023 Multi-Benefit PSP. The funding will be awarded in FY2024-25 once the work agreements have been executed and DWR will follow up with the DSC on additional geographical project locations.

(E) **If the California Department of Water Resources awards funds for any levee improvement project that is inconsistent with the prescribed priorities, the annual report shall identify for each project: how the funding is inconsistent with the priorities, describe why variation from the priorities is necessary, and explain how the funding nevertheless protects lives, property, or other State interests, such as infrastructure, agriculture, water supply reliability, Delta ecosystem, or Delta communities.**

Table 6 - List of Projects where Funding is Inconsistent with Priorities

Program	Location	Project Title	Project Description	DLIS Priority	Describe how the funding is inconsistent with the priorities, describe why variation from the priorities is necessary, and explain how the funding nevertheless protects lives, property, or other State interests, such as infrastructure, agriculture, water supply reliability, Delta ecosystem, or Delta communities
Delta Levees Special Projects	Bouldin Island	Phase 1 of District Multi-Benefit Project on Bouldin Island	Planning, engineering, and design of levee rehabilitation for approximately 8,500 feet (16 miles) of levee along the San Joaquin River, from Stations 415+00 to 500+00 with waterside bench width of approximately 20 feet and will support a variety of habitat including Shaded Riverine Aquatic, Scrub Shrub, and Riparian Forest.	High	**How the funding is inconsistent with priorities:** Bouldin Island is in the DLIS High Priority, not in the Very High Priority. **Why variation from priorities is necessary:** This project scored well in the 2023 Delta Levees Special Flood Control Projects Project Solicitation Package for Multi-benefit projects in the Delta evaluation process. This Project will provide opportunities for ecosystem restoration, flood control, water supply and water quality benefits, and conveyance while enhancing levee system integrity consistent with Water Code Section 79553. The project includes waterside levee habitat enhancement, which is a major component of the PSP criteria. The project protects HWY 12 and access to emergency supply locations. The project also protects a gas well and utility corridor. The project protects water supply corridor of San Joaquin River, Little Potato Slough, just above the Old/Middle River corridor. The project protects water quality, as a breach in this area has a potential to increase salinity in the central Delta.

(F) **A summary of the California Department of Water Resources' rationale for levee improvement project proposals submitted, but not awarded funding during the reporting year**

Table 7 - List of Proposals Submitted and Not Selected

Program	Location	Proposed Project Title	Proposed Project Description	DLIS Priority	Rationale for levee improvement project proposals submitted, but not awarded funding during the reporting year
Delta Levees Special Projects	Bacon Island	Bacon Island Levee Rehabilitation Project (Middle River)	The proposed project will rehabilitate a 15 mile stretch of exterior levee along Middle River from Stations 120+00 to 200+00. Engineering will be performed to develop a design cross section that will sustainably meet the Bulletin 192-82 standard. The proposed project will require engineering, planning, construction, and contract management. Aggregate base will be placed on the levee crown to facilitate all-weather access Quarry stone will be placed on the waterside slope above mean high water to armor the newly placed fill.	Very High	The District's project proposal did not score well enough to be awarded the limited funding made available for the 2023 Project Solicitation Package (PSP) for Multi-Benefit Projects. The project did not score well under the following PSP criteria: • Partnerships/Matching Funds • General Elements and Quality of Proposal • Ecosystem Enhancement
Delta Levees Special Projects	Bethel Island	Levee Improvement in the Bethel Island Urban Area	The proposed project consists of improvement work between Stations 200+00 and 550+00 by raising the elevation on the crown to 105 feet, increasing the width to a minimum of 16 feet and as wide as 22 feet where possible, with a minimum of 3H:1V landside slope. Improvement work in the areas where it is heavily constrained shall be limited to raising the crown elevation to 105 feet and increasing the crown width to a minimum of 16 feet; limit fill may be added on selected landside slope of the levee BIMID will construct a gravel all weather road will on the crown of the levee. The work on the waterside will be limited to enhancing the rip rap where needed BIMID will remove the excessive vegetation on the levee prism obstructing visual inspection and evaluations. BIMID doesn't anticipate significant and/or unavoidable impacts on the habitat and plans to mitigate for any project impacts. BIMID also plans to transform the pits created to borrow material for prior levee construction into a seasonal habitat. The is no opportunity to create waterside habitat in this project; however, transformation of the existing depression in the ground has presented an opportunity to enhance habitat and create wildlife connectivity on Bethel Island.	Very High	The District's project proposal did not score well enough to be awarded the limited funding made available for the 2023 Project Solicitation Package (PSP) for Multi-Benefit Projects. The project did not score well under the following PSP criteria: • Partnerships/Matching Funds • General Elements and Quality of Proposal • Ecosystem Enhancement

Program	Location	Proposed Project Title	Proposed Project Description	DLIS Priority	Rationale for levee improvement project proposals submitted, but not awarded funding during the reporting year
Delta Levees Special Projects	New Hope Tract	The Beaver Slough Multi-Benefit Project	The proposed project consists of rehabilitating the New Hope Tract levee system from Station 25+00 - 237+00, approximately 4 miles, to the Delta Specific PL 84-99 Standard. Where existing waterside slopes are steeper than 2:1, the levee section will be shifted landward and overbuilt to restore minimum waterside geometry. Additionally, the Project will create Delta Levee Waterside Habitat (DLWH) on overbuilt levee sections	Very High	The District's project proposal did not score well enough to be awarded the limited funding made available for the 2023 Project Solicitation Package (PSP) for Multi-Benefit Projects. The project did not score well under the following PSP criteria: • Partnerships/Matching Funds • General Elements and Quality of Proposal • Ecosystem Enhancement • Levee System Integrity
Delta Levees Special Projects	Terminous Tract	2023- Reclamation District 548 Multi-Benefit Project(s)	This project will complete the lower lift of the PL 84-99 slope along the North Levee (Phase 2), portions of the South levee (Phase 3), maintain the HMP levee sections that have minor deficiencies (Phase 1), and a habitat setback levee at the existing enhancement site owned by the District (Station 330+00 to 340+00). Seepage and stability berms are needed to construct the levee on native peat soils. The first component of the project would provide 700 ft of Shaded Riverine Habitat. The proposed project will require engineering, planning, construction, and contract management	Very High	The District's project proposal did not score well enough to be awarded the limited funding made available for the 2023 Project Solicitation Package (PSP) for Multi-Benefit Projects. The project did not score well under the following PSP criteria: • Partnerships/Matching Funds • Ecosystem Enhancement • Levee System Integrity

Program	Location	Proposed Project Title	Proposed Project Description	DLIS Priority	Rationale for levee improvement project proposals submitted, but not awarded funding during the reporting year
Delta Levees Special Projects	Van Sickle Island	Reclamation District 1607 Levee Improvement and Habitat Enhancement Project	The proposed project the levee system along the Sacramento River between District Stations 60+00 to Stations 155+00. The District's goal is to meet the highest level of flood protection obtainable under the US Army Corps of Engineers Regional General Permit 3 – Suisun Marsh Managed Wetlands Operations and Maintenance Project, RGP3. The proposed project is consistent with the Delta Levees Program goal to have projects that are considered multi-benefit, integrating levee improvements with habitat creation and enhancement.	Very High	The District's project proposal did not score well enough to be awarded the limited funding made available for the 2023 Project Solicitation Package (PSP) for Multi-Benefit Projects. The project did not score well under the following PSP criteria: • Partnerships/Matching Funds • Ecosystem Enhancement • Levee System Integrity • Public Water Supply
Delta Levees Special Projects	Webb Tract	Webb Tract Levee Rehabilitation (San Joaquin River)	The proposed project consists of levee rehabilitation of a 21 mile stretch of exterior levee along the San Joaquin River from Stations 320 to 432. The proposed levee rehabilitation will consist of placing fill material on the landside slope, landside toe and levee crown to achieve a sustainable levee cross section. Aggregate base will be placed on the levee crown to facilitate all-weather access Quarry stone will be placed on the waterside slope above mean high water to armor the newly placed fill. Existing siphons and pipes will be raised above the floodplain as necessary.	Very High	The District's project proposal did not score well enough to be awarded the limited funding made available for the 2023 Project Solicitation Package (PSP) for Multi-Benefit Projects. The project did not score well under the following PSP criteria: • Partnerships/Matching Funds • General Elements and Quality of Proposal • Ecosystem Enhancement

Program	Location	Proposed Project Title	Proposed Project Description	DLIS Priority	Rationale for levee improvement project proposals submitted, but not awarded funding during the reporting year
Delta Levees Special Projects	Simmons-Wheeler	Levee Improvement of the Suisun March Exterior Levee (Suisun Marsh)	The proposed project consists of levee improvement for District levees to meet and/or maintain the minimum HMP Standard height and levee cross section on RD 2127 in the Suisun Marsh. The proposed work will be divided into three phases. The primary purpose of separating the levee improvements into phases is to minimize the potential for slumps and subsidence. The issue of foundation and geotechnical stability specific to levee system is a primary consideration Historic levee work on the levee system shows that slumps and subsidence are a factor for levee design consideration. Anticipated work will incorporate counterbalancing and alternatives to spread load on potential peat soils. On-island borrow is a finite quantity that could be supplemented with imported fill or dredge material	Very High	The District's project proposal did not score well enough to be awarded the limited funding made available for the 2023 Project Solicitation Package (PSP) for Multi-Benefit Projects. The project did not score well under the following PSP criteria: • Partnerships/Matching Funds • Ecosystem Enhancement • Climate Change Vulnerability and Adaptation Assessment
Delta Levees Special Projects	Brack Tract	Brack Tract Levee Rehabilitation Project (South Mokelumne River Corridor)	The proposed project will rehabilitate a portion of the levee system along the South Mokelumne River corridor Approximately 9,900 lineal feet (19 miles) of levee would be rehabilitated to meet Bulletin 192-82 structural levee design, from Stations 0+00 to 4+00, and 70+00 to 105+00 on the north levee, as well as Stations 75+00 to 135+00 on the south levee An all-weather road will be constructed on the levee crown. The existing levee slope will be graded to achieve final design configuration. Newly placed fill will be armored with clean quarry stone on the waterside slope. The landside slope will be planted for erosion protection with a California Department of Fish and Wildlife-approved native grass seed mix. Due to the nature of setting back the levee, any encroachments currently within the levee footprint will require modification or relocation. Ecosystem enhancements are also proposed to be incorporated into the rehabilitation project. The current landowner of Sycamore Island has offered an easement on the 131-acre island to protect enhance and supplement line existing riparian and SRA habitats. The District is also considering expanding existing levee easements to construct stability berms and cap any future subsidence adjacent to the levee footprint. As a potential alternative to the Sycamore Island enhancement, the District has identified multiple locations within the project are on the south levee where the levee could be set back in a manner that could support a variety of habitat.	High	No rationale required for projects that are not in the DLIS Very High Priority.

Program	Location	Proposed Project Title	Proposed Project Description	DLIS Priority	Rationale for levee improvement project proposals submitted, but not awarded funding during the reporting year
Delta Levees Special Projects	Holland Tract	Holland Tract Waterside Slope Armoring (Holland Cut)	The purposed project is to armor approximately 19,500 lineal feet (37 miles) of levee along Holland Cut waterside slope from Stations 555+00 to 578+56 and 0+00 to 171+00, using a design that incorporates DLWH features. A portion of the proposed project would be identified as "Delta Levee Waterside Habitat" shown in the PSP. The waterside levee slope would be excavated, armored with riprap, and then covered with soil to promote vegetation establishment. The elevation of the waterside bench could potentially fluctuate throughout the site. The waterside would likely be built above mean high water, and that the specifics of the various configurations would be finalized during the design process. The proposed project is consistent with the Delta Levees Program goal to have projects that are considered multi-benefit, integrating levee improvements with habitat creation and enhancement.	High	No rationale required for projects that are not in the DLIS Very High Priority.
Delta Levees Special Projects	King Island	King Island Disappointment Slough Levee Rehabilitation and Multi Benefit Project	The District proposes to rehabilitate a portion of the levee system along the Disappointment Slough between District Stations 375+00 to 425+00. From Stations 375+00 to 400+00, the District will set back the levee 15-feet to create a waterside berm, and rehabilitate the setback levee to the Bulletin 192-82 standard. The levee between Stations 400+00 to 425+00 will also be improved to meet the Bulletin 192-82 levee standard.	Other	No rationale required for projects that are not in the DLIS Very High Priority.
Delta Levees Special Projects	Medford Island	Medford Island San Joaquin River Levee Rehabilitation Project (San Joaquin River-Middle River)	The proposed project will set back the levee to create a waterside berm that will support Delta Waterside Habitat along Stations 40+00 to 75+00 (North Levee). The landside levee slope will be improved to a Bulletin 192-82 levee standard with a 4:1 slope and 120-foot toe berm to increase stability Rip rap would be used to provide erosion protection along the waterside slope. The levees along Stations 75+00 to 150+00 (West Levee) will be improved to meet the Bulletin 192-82 levee standard. The project will include increasing the levee height to have freeboard of 15 feet above the 300-year flood elevation, maintaining a landside slope between 3:1 and 5:1, and create a 120-foot toe stability berm.	Other	No rationale required for projects that are not in the DLIS Very High Priority.

Program	Location	Proposed Project Title	Proposed Project Description	DLIS Priority	Rationale for levee improvement project proposals submitted, but not awarded funding during the reporting year
Delta Levees Special Projects	Pico-Naglee Tract	2023-Reclamation District 1007 Multi-Benefit Project(s)	This project will finish the 2012 Special Project that the District failed to finish due to time and funds constraints. Completion of this project will widen the levee crown to 22 feet wide and provide a 16-foot-wide all-weather road to improve emergency response measures in various locations between Sta 0+00 to 315+00 and 388+00 to 448+00. The waterside slope and islands of the project will provide habitat. The waterside rehabilitation will include Shaded Riparian Forest and the potential to create a tidal bench near or below Ordinary High-water Mark (OHWM), although the total area and locations are to be determined. The proposed project will require engineering, planning, construction, and contract management.	Other	No rationale required for projects that are not in the DLIS Very High Priority.

Note: Per Delta Stewardship Council, no rationale required for projects that are not in the DLIS Very High Priority.

(G) **A summary of all previous California Department of Water Resources funded levee improvement project activities completed during the reporting year and location of those activities**

Table 8 - Project Information for Completed Projects

Program	Project Title	Description of Changes	Specific Location	Protection Objective
Delta Levees Special Projects	Design and Construction of District Multi-Benefit Project on Bethel Island	Fill placement to improve the levee to Bulletin 192-82 standards from Stations 22+00 to 130+00 with a minimum 5H:1V landside slope and a 22-foot-wide levee crown, and from Stations 0+00 to 22+00 with a minimum 3H:1V landside slope and 18-foot wide levee crown, with new or additional riprap from Station 0+00 to 130+00 as needed Geotechnical stability remediation measures will be implemented from Station 54+50 to 63+50, Station 68+50 to 85+50, and Station 102+50 to 110+50, and existing levee toe drains will be improved from Stations 340+00 to 450+00. The work will also provide habitat enhancement, with a 10-ft wide waterside bench to be constructed from Station 54+50 to 63+50, Station 68+50 to 85+50, and Station 102+50 to 110+50, to create 3,400 linear feet of Shaded Riverine Aquatic habitat, and a 15-ft wide landside section at various locations between Stations 0+00 to 60+00 to create 4,600 linear feet of lowland habitats with native plant species, with any deficits to be planted on the BIMID owned parcel to fully satisfy the completion of 4,600 linear feet of landside habitat.	Stations 0+00 to 130+00 and 340+00 to 450+00	Bulletin 192-82

Note: DWR will follow up with the DSC on additional geographical project locations and as-built drawings.

7. Current FY2024-25 Efforts for Future Report

The California Department of Water Resources Delta Levees Special Flood Control Projects Program Section (Program) released a 2023 Project Solicitation Package (PSP) for Multi-Benefit Projects on February 3, 2023. The goal for this PSP was to receive applications for Multi-Benefit projects that promoted levee improvements, habitat enhancement, seismic resiliency, and export water supply reliability. Funding for the selected Multi-Benefit PSP projects will not be awarded until FY2024-25. Thirty-seven million dollars is available for projects selected under this Multi-Benefit PSP, with no individual project grant award exceeding $15 million.

Process

Section XI of the Special Projects Guidelines outlines a two-phase submittal process that DWR used to evaluate proposals. Phase 1 funding is for project planning, design, and permitting. Phase 2 funding is for construction. Phase 1 completion will not guarantee Phase 2 funding and will be available on a first come first served basis, depending upon available funding. Any selected project not funded through this PSP for Phase 2 can apply in the future for a Directed Action or the next PSP to complete construction.

Proposals

The 2023 PSP requesting Multi-Benefit Projects received 17 concept proposals, with an estimated cost of over $135 million. The concept proposals were evaluated, and the following concept proposals were selected, four for Phase 1 and one for Phase 2:

Table 9 - Concept Proposals Selected

Reclamation District Number	Reclamation District Name	Estimated Total Cost	Total Phase 1 Cost	Total Phase 2 Cost	Preliminary Phase 2 Cost*
38	Staten Island	$15,787,021	$1,516,854	$0	$14,270,167
341	Sherman Island	$8,966,554	$898,876	$0	$8,067,678
756	Bouldin Island	$7,500,000	$1,000,000	$0	$6,500,000
799	Hotchkiss Tract	$3,374,800	$591,954	$0	$2,782,846
1601	Twitchell Island	$17,526,400	$0	$17,526,400	$0
	Total:	**$53,154,775**	**$4,007,684**	**$17,526,400**	**$31,620,691**

*The Preliminary Phase 2 Cost: based on the Phase 1 design projects being selected for Phase 2 construction funding.

Current Status (FY2024-25)
The Funding Agreements under this PSP have been executed, and work has begun for the following four projects selected for Phase 1 funding:

Table 10 - Projects Selected for Phase 1 Funding

Reclamation District Number	Reclamation District Name	Project Title	Total State Cost Share (%)	Total Phase 1 State Cost Share ($)
38	Staten Island	Mokelumne River Confluence Multi-Benefit Project on Staten Island	89%	$1,350,000
341	Sherman Island	San Joaquin River Multi-Benefit Project on Sherman Island	89%	$800,000
756	Bouldin Island	Reclamation District No 756 (Bouldin Island) Multi-benefit Project	90%	$900,000
799	Hotchkiss Tract	Hotchkiss Tract Perimeter Levee Improvement Project	87%	$515,000
			Total:	**$18,565,000**

Twitchell Island was shovel-ready and awarded a Phase 2 Agreement A Funding Agreement has been executed, and work has begun for Phase 2 funding under this PSP:

Table 11 – Projects Selected for Phase 2 Funding

Reclamation District Number	Reclamation District Name	Project Title	Total State Cost Share (%)	Total Phase 2 State Cost Share ($)
1601	Twitchell Island	Reclamation District No 1601 – Twitchell Island San Joaquin River Setback Levee – Reach 6	95%	$15,000,000
			Total:	**$15,000,000**

Appendix A - Delta Levees Background

The Sacramento-San Joaquin Delta (Delta) lies at the confluence of the Sacramento and San Joaquin rivers, adjacent to San Pablo Bay. Here, the freshwater flows of these rivers and local streams meet seawater in numerous waterways, creating a rich and diverse landscape and ecosystem. While most of the vast expanses of tule marsh that once characterized the Delta have been converted to agricultural uses, remnant natural and managed marshes still support a variety of native and introduced fish, wildlife, and waterfowl. The Delta is a significant stopover for birds migrating along the Pacific Flyway and a migration corridor for millions of salmon annually. Because of its geographic location – stretching from Sacramento to the confluence of the San Joaquin and Stanislaus rivers, from Stockton to the Suisun Bay – the Delta is also an infrastructure hub laced with highways, railroads, aqueducts, oil and gas pipelines, powerlines, and other important infrastructure. With its legacy communities reflecting the rich cultural heritage and history of the region, as well as its natural and recreational resources, the Delta is a National Heritage Area and has been recognized in statute as a unique place that has immense value and must be protected. The Delta is also a key component of California's water infrastructure, providing a critically important source of water for Californians.

A defining feature of the Delta is its 1,100 miles of levees that have facilitated reclamation and development of the islands they protect. However, unlike typical river levees that are stressed by high water during floods, Delta levees constantly have water against them and must continuously withstand the pressures and erosive forces of river flows, tides, and wind waves. Many of these levees were built over 150 years ago with readily available borrow material from adjacent lands or channels and are underlain with low strength/stability organic peat soil and alluvial sands. Current and future threats to the integrity of Delta levees include subsidence, climate change, and sea level rise.

Subsidence in the Delta increases flood risk by lowering the elevation of lands protected by levees and threatening the stability of levees. Many Delta islands have subsided to 15 feet or more below sea level. Due to this subsidence, levees must withstand greater hydraulic pressure as the supporting soil on the landside of the levee sinks. Because peat soils oxidize when exposed to the air, subsidence is expected to continue. Peat soils bacterial oxidation and subsidence are not uniform throughout the Delta but nevertheless pose a major challenge to the sustainability of the Delta under current and projected conditions.

The California Department of Water Resources (DWR) has long recognized this concern. One of the key impacts of global warming and climate change on California's water resources is expected to be storms that produce more rain and less snow. Water that is now held in frozen reserve until summer will fall as rain and flow into streams and rivers, increasing flood risk and flood flows through the Delta. In the future, reservoirs may fill earlier due to changing runoff patterns, and operators will need to release water earlier in the season to make space for flood storage. Sea level rise, which is currently occurring at the rate of approximately 0.7 feet per century, is expected to accelerate, adding to the stress and need for levee strengthening and

raising. Although a body of legislation has been enacted over many decades to address several of these issues, securing necessary funding to sustain and improve the Delta has continued to be a challenge for local agencies and the State.

Levee failures and flooding have been common occurrences over the years. The frequency of flooding has been reduced as levees have been improved. Since many of the lands protected are near or below sea level, when a levee fails and lands are flooded, recovery can be very difficult, time-consuming, and expensive. While recovery costs often exceed the total value of the island's assets, the intrinsic value of the Delta islands extends well beyond this, offering vital benefits for water quality, flood control, agricultural productivity, and environmental health. Through its programs, DWR plays a key role in protecting and enhancing the Delta, addressing the need for investments in flood risk management, prioritizing maintenance, repair, and improvements of the levees that are essential to the Delta's current function and its resilience moving forward.

Appendix B - Types of Levees and Terminology

Levees are structures that direct the flow of water and hold it back from flowing to adjacent floodplains. Over time, there have been various standards established for the Delta which define levee geometry and maintenance requirements. These levee standards include those governed by federal flood control regulations, specifically Title 33 of the Code of Federal Regulations, Section 208.10, and the USACE's Rehabilitation and Inspection Program established under Public Law 84-99 (PL 84-99). General characteristics (see Figure 2), standards, and existing requirements for Delta levees are discussed below:

a) **Hazard Mitigation Plan (HMP):** This local levee configuration has been widely used in the Delta since the flood of 1986. It is only a geometric standard, under which a levee must have a crest width of at least 16 feet, a waterside slope of 1.5 horizontal to 1.0 vertical (1.5H:1V) landside slope of 2H:1V or less, and at least 1 foot of freeboard above 100-year stage. The HMP configuration was originally established as the minimum standard of maintenance under which Delta levees would be eligible for Federal Emergency Management Agency (FEMA) emergency response and recovery assistance. FEMA no longer offers assurances of such assistance based on the HMP standard.

b) **Delta-Specific Public Law (PL) 84-99:** Most levees in the Delta meet the PL 84-99 standard. PL 84-99 guidance provides for somewhat better flood protection than the HMP standard. The PL 84-99 guidance flattens the levee side slope (3H:1V to 5H:1V landside and 2H:1V waterside) from those used for the HMP configuration and increases freeboard above the one-percent annual chance (100-year flood) water level to 1.5 feet; however, the PL 84-99 freeboard is still less than that required for FEMA accreditation.

c) **DWR Bulletin 192-82:** Bulletin 192-82 levee guidance was developed and recommended for major central Delta islands that protect significant State interests. This standard is appropriate where tides are the major consideration for establishing design flood elevations. Bulletin 192-82 recommendations produce a levee that is like one built per the PL 84-99 guidelines, except that the design water level has a 0.33-percent (1 in 300) annual chance of occurrence. Under Bulletin 192-82 standards, freeboard for levees protecting rural areas is 1.5 feet and freeboard for levees protecting urban areas is 3 feet. For much of the Delta, there is little difference (a few inches) between the 1.0-percent (1 in 100) and the 0.33-percent annual chance of occurrence.

d) **Rural State Plan of Flood Control (SPFC) Levees:** SPFC levees generally provide 3 feet of freeboard above the design water surface (USACE 1957 profiles from in the Sacramento River basin and 1955 profiles for the San Joaquin River basin) and 6 feet of freeboard above the design water surface for bypasses. Some rural levees generally do not meet FEMA accreditation standards, which affects the eligibility of landowners for flood insurance.

e) **Urban SPFC Levees:** Urban SPFC levees fall under DWR's *Urban Levee Design Criteria* (ULDC) developed pursuant to Senate Bill 5 (i.e., Government Code [GC] §65007(l)), which provides criteria and guidance for design, evaluation, operation, and maintenance of levees and floodwalls in urban and urbanizing areas (population over 10,000), protecting against floods that have a 1-in-200 chance of occurrence in any given year. The ULDC provides criteria for two types of levees: 1) intermittently loaded, and 2) frequently loaded. A frequently loaded levee is defined as a levee that experiences a water surface elevation of one foot or higher above the elevation of the landside levee toe at least once a day for more than 36 days per year, on average. More stringent requirements apply to the design of frequently loaded levees, with regards to slope stability and seismic vulnerability. The ULDC establishes criteria for levee resilience by requiring factors of safety for slope stability and under-seepage for a water surface elevation that is higher than the 200-year design water surface elevation.

f) **FEMA Accredited Levees:** These levees provide three feet of freeboard above water levels expected with a one percent chance of occurrence event (100-year flood). These levees include geotechnical designs to control through-seepage and under-seepage.

g) **Small Communities:** Small communities are defined by DWR as cities and towns with a population of less than 10,000. Some small communities are protected by SPFC levees (Figure 2). DWR intends to assist local agencies with flood control projects for small communities consistent with the CVFPP. The CVFPP identifies the 100-year flood event as the targeted level of flood protection for small communities, where feasible.

h) **Urban Levees:** Urban levees are referred to in DWR Bulletin 192-82 as protecting urban development associated with Andrus-Brannan, Bethel, Byron, Hotchkiss and New Hope. Delta urban areas currently receive various levels of protection. The goal for urban area levees protecting 10,000 or more people is to provide a minimum of 200-year level of protection, which is now mandated in California under the Central Valley Flood Protection Act of 2008.

i) **Project Levees:** Project levee as defined by CWC §9110(e) means any levee that is part of the facilities of the SPFC as defined by CWC §9110(F). These are levees for which the State has given assurances to the federal government that we will operate and maintain. Because the State provided assurances to the federal government regarding the standard to which Project levees would be maintained, Project levees will always be a priority for DWR.

Figure 2 - Delta Levee Protection Levels