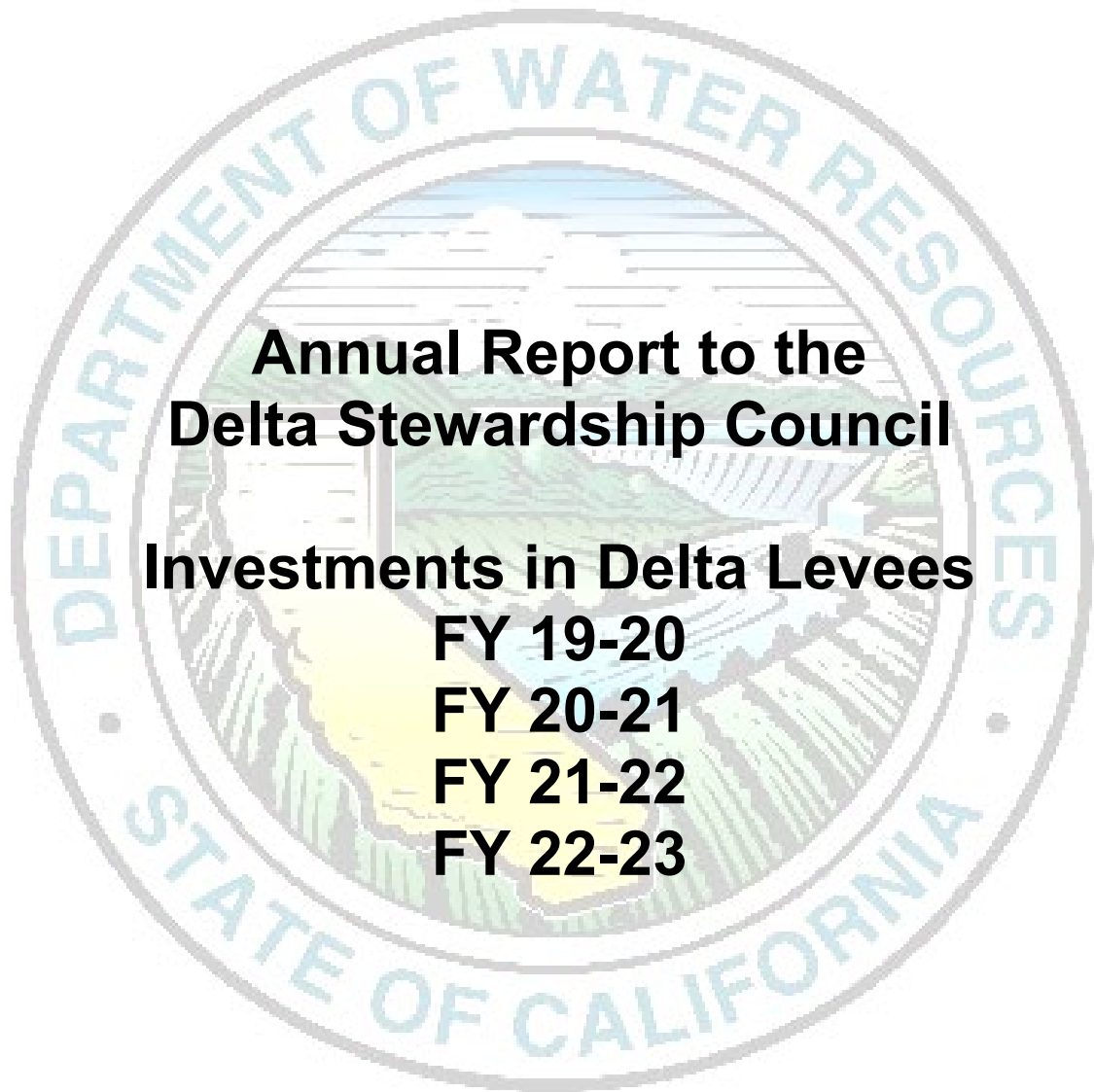


**State of California**  
**Natural Resources Agency**  
**Department of Water Resources**



**Annual Report to the  
Delta Stewardship Council**  
**Investments in Delta Levees**  
**FY 19-20**  
**FY 20-21**  
**FY 21-22**  
**FY 22-23**

**December 2023**



**Figure 1 - An aerial view of the Sacramento River in Sacramento, California. Photo taken March 17, 2010. U.S. Army photo by Michael J. Nevins.**

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## 1. Purpose

The purpose of this report is to inform the DSC of DWR's investment decisions regarding Delta levees in FY 19-20 thru FY 22-23, 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. 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 only 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



**Figure 2 - Colusa Weir is overtopped by Sacramento River on January 12, 2023. Central Valley Flood Protection Plan Update 2022 / January 2023.**

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 about 0.7 foot 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.



**Figure 3 - The massive flood of January 1997 forced a breach on the east levee of the Feather River in Yuba County. DWR / January 4, 1997.**

Levee failures and flooding have been common occurrences over the years. The frequency of flooding has been reduced, however, as levees have been improved (Figure 4). 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. In some past instances, the cost of recovery efforts exceeded the total value of assets on the island. For example, the Jones Tract flood recovery costs in 2004 totaled nearly \$90 million—substantially more than the value of the assets on the island. Through its programs, DWR plays an important role in protecting and enhancing the Delta, responding to the need for investments in flood risk management, and prioritizing maintenance, repair and improvements to the levees that make the Delta what it is today and increasing its resiliency for the future.

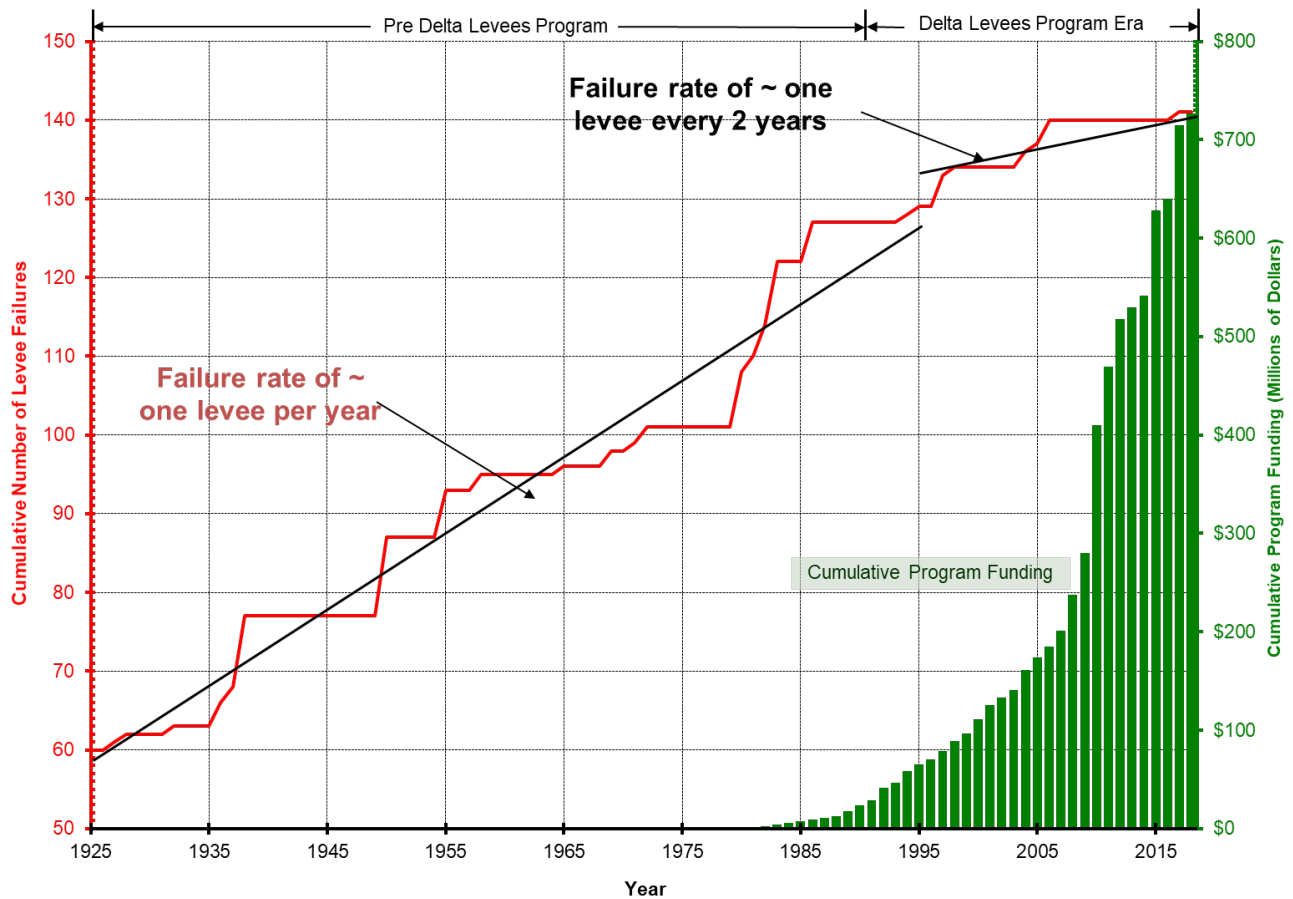


Figure 4 - Cumulative Delta Levee Failures (Source: DWR Delta Levees Program)



## 4. 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.



**Figure 5 - An east facing aerial view of a sinuous tidal channel near the Vogel Cache/Hass Levee on the southwestern side of the Lookout Slough Tidal Restoration Project within the southern part of the Yolo Bypass in unincorporated Solano County on May 5, 2023.**

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 United 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.

## 5. 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:

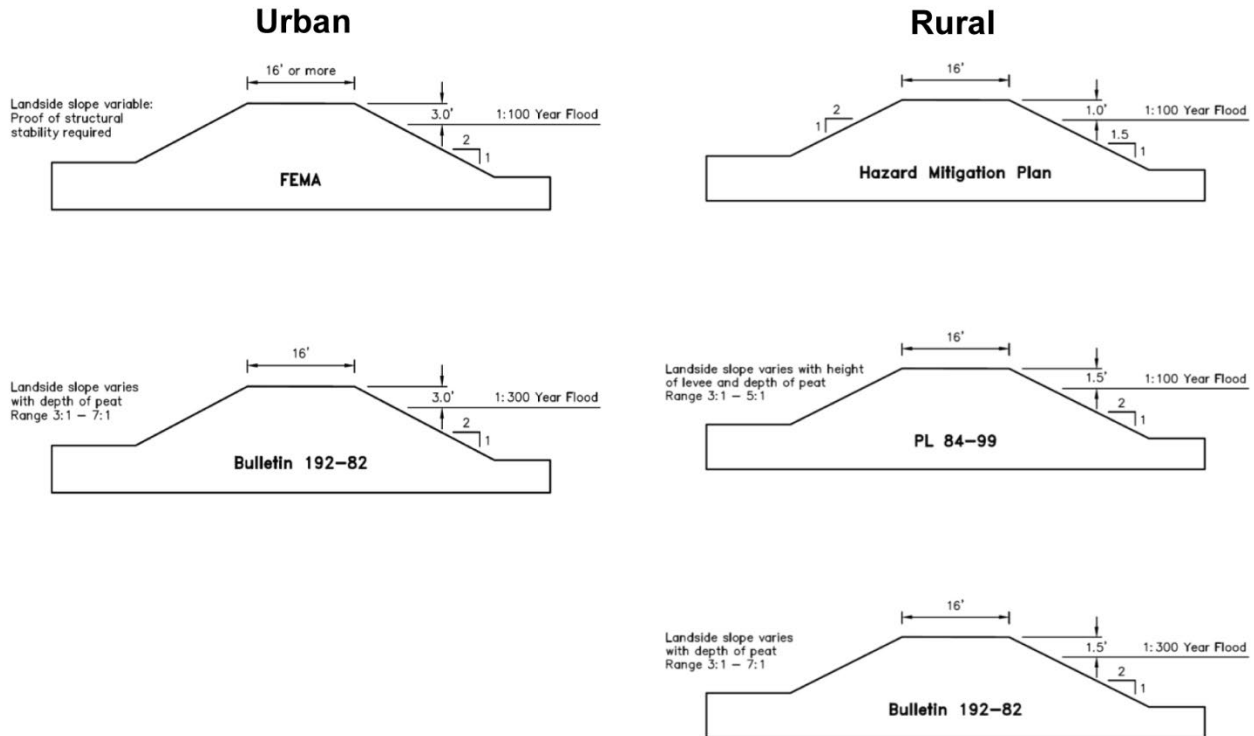
- a) **Hazard Mitigation Plan (HMP):** This local levee configuration has been widely used in the Delta since the flood of 1986. It is only a geometric standard, under which a levee must have a crest width of at least 16 feet, a waterside slope of 1.5 horizontal to 1.0 vertical (1.5H:1V) landside slope 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 3). 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 6: Delta Levee Protection Levels**



## 6. Legal Delta

The definition of the legal Delta is contained in Water Code §12220 (Delta Protection Act, 1959). Figure 8 illustrates the extent of Delta boundaries, island names, and location of SPFC (Project) and non-SPFC levees (non-Project).

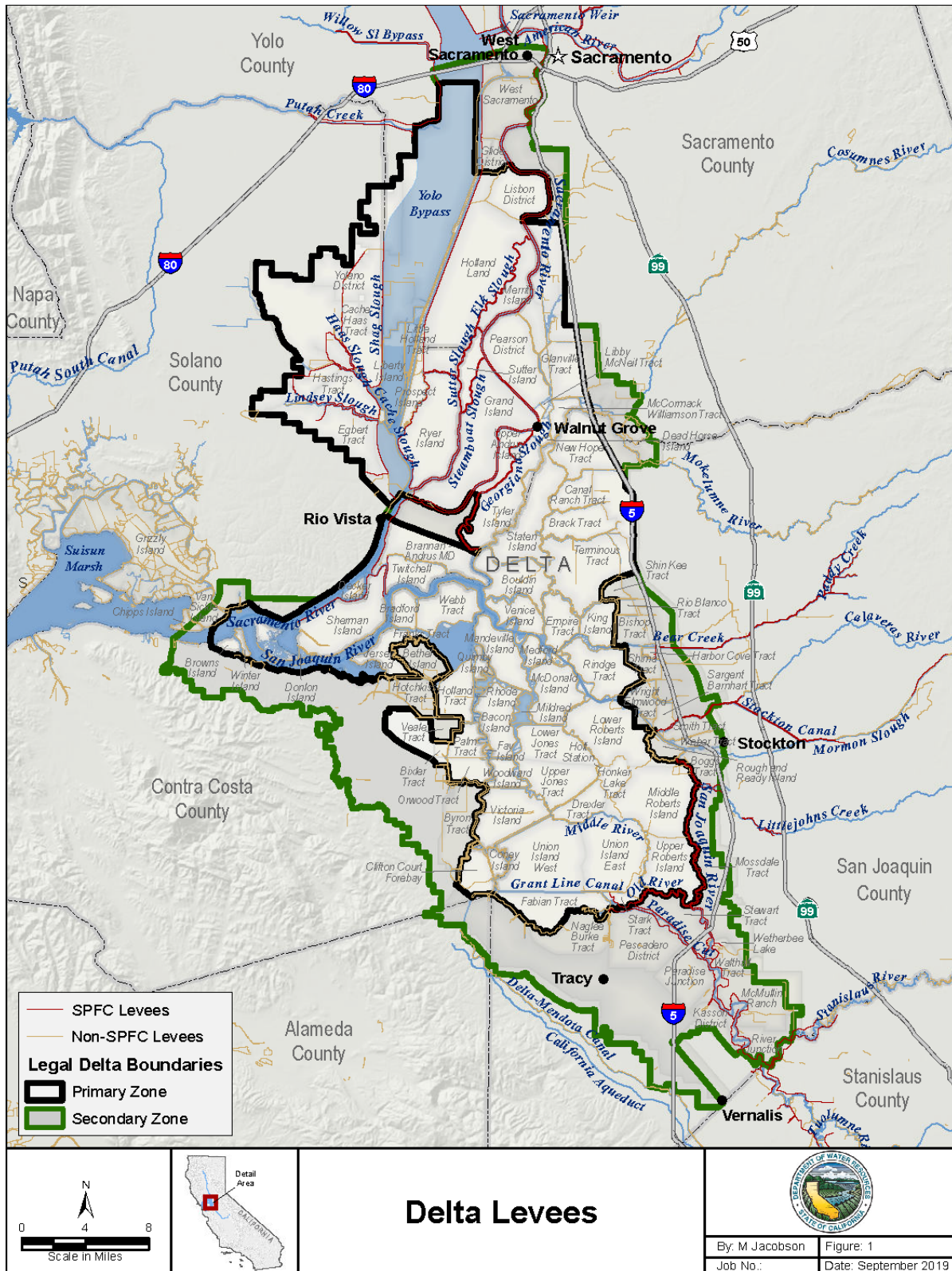
## 7. The *Delta Plan* Priority Islands

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. Figure 4 illustrates the DSC ranking of Delta Islands into "Very High", "High" and "Other" priority categories.

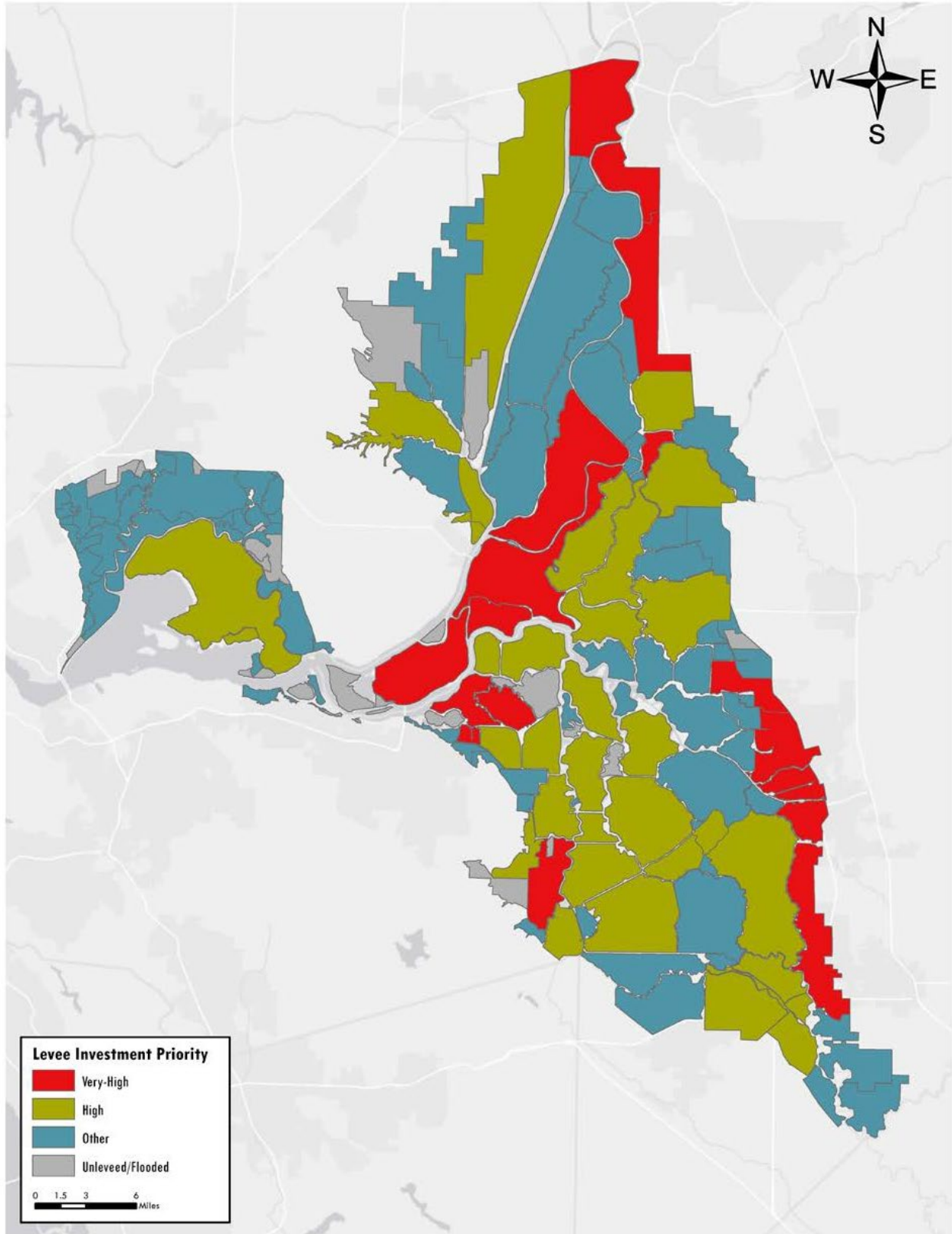
**Table 1: DSC Island Priority List (Source: *The Delta Plan*, 2018)**

| Priority Level            | Delta Islands by Priority Level  |
|---------------------------|--|
| <b>Very High Priority</b> | Bethel Island, Bishop/DLIS-14 (North Stockton), Brannan-Andrus, Byron Tract, Central Stockton, Dutch Slough, Grand Island, Jersey Island, Maintenance Area 9 North, Maintenance Area 9 South, McCormack-Williamson Tract, North Stockton, Reclamation District 17, Sherman Island, Twitchell Island, Upper Andrus Island, West Sacramento  |
| <b>High Priority</b>      | Bacon Island, Bouldin Island, Bradford Island, Clifton Court Forebay, DLIS-08 (Discovery Bay Area), DLIS-20 (Yolo Bypass), DLIS-22 (Rio Vista), DLIS-63 (Grizzly Island Area), Drexler Tract, Glanville, Hastings Tract, Holland Tract, Honker Bay, Honker Lake Tract, Hotchkiss Tract, Jones Tract (Lower And Upper), Little Egbert Tract, Mandeville Island, McDonald Island, Middle & Upper Roberts Island, Mossdale Island, New Hope Tract, Palm-Orwood, Paradise Cut, Paradise Junction, Pescadero District, Staten Island, Stewart Tract, Terminous Tract, Tyler Island, Union Island West, Victoria Island, Webb Tract, Woodward Island   |
| <b>Other Priority</b>     | Atlas Tract, Bixler Tract, Brack Tract, Cache Haas Area, Canal Ranch Tract, Chippis Island, Coney Island, Dead Horse Island, DLIS-01 (Pittsburg Area), DLIS-06 (Oakley Area), DLIS-07 (Knightsen Area), DLIS-10, DLIS-15, DLIS-17, DLIS-18, DLIS-19 (Grizzly Slough Area), DLIS-25, DLIS-26 (Morrow Island), DLIS-27, DLIS-28, DLIS-29, DLIS-30, DLIS-31 (Garabaldi Unit), DLIS-32, DLIS-33, DLIS-34, DLIS-35, DLIS-36, DLIS-37 (Chadbourne Area), DLIS-39, DLIS-40, DLIS-41 (Joice Island Area), DLIS-43 (Potrero Hills Area), DLIS-44 (Hill Slough Unit), DLIS-46, DLIS-47, DLIS-48, DLIS-49, DLIS-50, DLIS-51, DLIS-52, DLIS-53, DLIS-54, DLIS-55, DLIS-56, DLIS-57, DLIS-59, DLIS-62, Drexler Pocket, Egbert Tract, Ehrhardt Club, Empire Tract, Fabian Tract, Fay Island, Glide District, Holt Station, Kasson District, King Island, Libby Mcneil, Lisbon District, Lower Roberts Island, McMullin Ranch, Medford Island, Mein's Landing, Merritt Island, Netherlands, Pearson District, Peters Pocket, Pico-Nagle, Prospect Island, Quimby Island, Randall Island, Rindge Tract, Rio Blanco Tract, River Junction, Rough And Ready Island, Ryer Island, Shima Tract, Shin Kee Tract, Stark Tract, Sunrise Club, Sutter Island, Union Island East, Veale Tract, Venice Island, Walnut Grove, Walthall, Wetherbee Lake, Winter Island, Wright-Elmwood Tract, Yolano |

Figure 7: Delta Boundaries and Levees



**Figure 8: DSC Delta Levee Investment Strategy Priority Map (Source: *The Delta Plan*, 2018)**



## 8. DWR's Reporting Requirements

California Code of Regulations Title 23 § 5012 will require the California Department of Water Resources 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 the California Department of Water Resources within the legal Delta.

This report includes the following sections, as required by 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;
- (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 1 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 Conveyance
- Urban Flood Risk Reduction
- Small Communities Flood Risk Reduction Program (SCFRRP)
- State Plan of Flood Control System Improvements
- Delta Levees Maintenance Subventions
- Delta Levees Special Flood Control Projects
- Emergency Response
- West Delta
- North Delta Projects
- Flood System Repair Project (FSRP)
- 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 Annual Program Expenditures Excluding Delta Subventions (\$millions)**

| Program                                     | FY 19-20 | FY 20-21 | FY 21-22 | FY 22-23 |
|---|----------|----------|----------|----------|
| Special Projects, North Delta, Dutch Slough | 16.2     | 15.1     | 28.9     | 9.9      |
| Systemwide                                  | 21.9     | 0        | 4.2      | 0        |
| Flood Management                            | 62.6     | 48.2     | 203.4    | 49.1     |

**Delta Conveyance** – The Delta is vulnerable to climate change and earthquake risk. As sea levels continue to rise, the Delta will face increasing water levels and increased risk of saltwater intrusion.

As directed by Governor Newsom, DWR is pursuing a new environmental review and planning process for a single tunnel solution to modernize SWP infrastructure in the Delta. As the owner and operator of the SWP, DWR is leading the environmental review and permitting for the renewed Delta conveyance project. Under the direct supervision of DWR, the Delta Conveyance Design and Construction Authority (DCA) is conducting engineering work and field investigations to support the environmental review. DWR intends to build on work that has already been done and do additional design and engineering to avoid or minimize the project’s local impacts. This process will include significant engagement with the public, especially Delta communities.

**Urban Flood Risk Reduction** – This program provides funding for projects that contribute to achieving an urban level of flood protection (200-year, 0.5% 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 5096.805). 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** – 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.

Annual Expenditures for the Subventions program are shown in Table 3.

**Table 3 - Subventions Program Annual Expenditures**

| FY 19-20 | FY 20-21 | FY 21-22 | FY 22-23 |
|----------|----------|----------|----------|
| \$8.4M   | \$9.5M   | \$11.1M  | \$12.5M  |

**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.



**Figure 9 - The Dutch Slough Tidal Marsh Restoration Project site, located in the Sacramento-San Joaquin Delta near Oakley, California. Photo by Florence Low / California Department of Water Resources**

**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 prioritizes 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.
- Non-federally constructed, locally maintained systems (in PL 84-99 program): Will be repaired by the federal government at 80 percent federal/20 percent local cost share. Pending letter of request by maintaining authority and funding by Congress.

**Flood Maintenance Assistance Program (FMAP)** – Established in 2018 as a result of the increased awareness that operation and maintenance (O&M) of the SPFC facilities (levees, channels, and structures) has been chronically underfunded and ever evolving and often conflicting regulatory constraints have hampered efficient and timely O&M. Through new State appropriations, FMAP provides funds to LMAs and State-managed maintenance areas (MAs) for eligible maintenance activities. This program will help ensure SPFC facilities are properly maintained and LMAs have sufficient funding resources to meet applicable federal regulations and O&M manual requirements.

**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. Through discussions with USACE 408 personnel, DWR determined that implementation of the rehabilitation projects would fall under the Section 408 definition of maintenance and therefore not require a 408 permit, which would have greatly extended the timeframe of the repairs. DWR presented the projects as maintenance actions which was acceptable to USACE.

**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 the 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 be inspected on a five-yearly 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 of 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 4 - List of Levee Improvement Project Proposals Submitted to DWR**

| Program                       | Project Proposal Title   | Location                   | FY Proposal Submitted (FY 20, 21, 22, 23) | Awarded (Yes/No) |
|-------------------------------|--|----------------------------|---|------------------|
| Delta Levees Special Projects | Engineering and Design of District Levee Repair Project on Bacon Island                  | Bacon Island               | FY20                                      | Yes              |
| Delta Levees Special Projects | Engineering, Design, and Construction of District Levee Repair Project on Bouldin Island | Bouldin Island             | FY20                                      | Yes              |
| Delta Levees Special Projects | Engineering, Design, and Construction of District Levee Repair Project on Bouldin Island | Staten Island              | FY20                                      | Yes              |
| Delta Levees Special Projects | Twitchell Island San Joaquin River Setback Levee – Priority 1, Reach 6                   | Twitchell Island           | FY20                                      | No               |
| Delta Levees Special Projects | Mokelumne River Debris Removal Project   | New Hope Tract             | FY21                                      | No               |
| Delta Levees North Delta      | McCormack Williamson Tract Levee Modification and Habitat Restoration Project - Phase B  | McCormack Williamson Tract | FY22                                      | Yes              |
| Delta Levees North Delta      | Grizzly Slough Floodplain Project  | Grizzly Slough             | FY21                                      | Yes              |

| <b>Program</b>                       | <b>Project Proposal Title</b>                  | <b>Location</b>   | <b>FY Proposal Submitted (FY 20, 21, 22, 23)</b>       | <b>Awarded (Yes/No)</b> |
|--------------------------------------|--|---|--|-------------------------|
| Dutch Slough Tidal Marsh Restoration | Phase I Restoration Implementation             | Oakley--Dutch Slough  | FY18   | Yes                     |
| Urban Flood Risk Reduction           | West Sacramento Project                        | West Sacramento   | These are USACE projects. No proposals were submitted. | Yes                     |
| Urban Flood Risk Reduction           | West Sacramento Levee Improvement Project      | West Sacramento   | These are USACE projects. No proposals were submitted. | Yes                     |
| Urban Flood Risk Reduction           | American River Common Features 2016            | Pocket Area Along the Sacramento River                          | These are USACE projects. No proposals were submitted. | Yes                     |
| Urban Flood Risk Reduction           | Lower San Joaquin River (LSJR) Project         | Stockton  | These are USACE projects. No proposals were submitted. | Yes                     |
| Urban Flood Risk Reduction           | Smith Canal Gate Project                       | Confluence of Smith Canal and the San Joaquin River in Stockton | These are USACE projects. No proposals were submitted. | Yes                     |
| Urban Flood Risk Reduction           | RD-17 100-Year Seepage Project                 | RD-17 Mossdale Tract  | These are USACE projects. No proposals were submitted. | Yes                     |
| Urban Flood Risk Reduction           | Mossdale Tract Feasibility (State/Local) Study | RD-17 Mossdale Tract  | These are USACE projects. No proposals were submitted. | Yes                     |
| Urban Flood Risk Reduction           | Lathrop/Manteca Study (USACE)                  | RD-17 Mossdale Tract  | These are USACE projects. No proposals were submitted. | Yes                     |

| Program   | Project Proposal Title                           | Location                               | FY Proposal Submitted (FY 20, 21, 22, 23)  | Awarded (Yes/No) |
|---|--|--|--|------------------|
| Levee Operations, Maintenance, and Repair Program   | Flood System Repair Project (FSRP)               | SPFC Facilities and Levees             | State does not submit proposals. Local agencies submit proposals to DWR.   | Yes              |
| Levee Operations, Maintenance, and Repair Program   | Sacramento River Bank Protection Project         | Sacramento River Flood Control Project | USACE project. DWR does not submit proposals. No projects funded during these FY's   | N/A              |
| Levee Operations, Maintenance, and Repair Program   | Levee Repairs cost shared under Public Law 84-99 | PL 84-99 eligible SPFC LMAs            | Local agencies submit requests to USACE. DWR only cost-shares.   | Yes              |
| Levee Operations, Maintenance, and Repair Program   | Flood Maintenance Assistance Program (FMAP)      | SPFC Facilities and Levees             | State does not submit proposals. Local agencies submit proposals to DWR.   | Yes              |
| Levee Operations, Maintenance, and Repair Program   | Storm Damage DWR Emergency Rehabilitation        | SPFC Facilities and Levees             | State does not submit proposals. Local agencies submit proposals to DWR on an as-needed basis.   | Yes              |
| Levee Operations, Maintenance, and Repair Program   | Deferred Maintenance Project (DMP)-Pipes         | SPFC Facilities and Levees             | DWR does not submit proposals. Local agencies conduct inspections and DWR or local agencies conduct inspections and repairs or replacements. | Yes              |
| Floodplain Management Protection and Risk Awareness | RD 369 -- Libby McNeil                           | Libby McNeil                           | FY 22  | Yes              |

**(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, 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**

**Table 5 - List of Projects and Funding**

| Program          | Location       | Project Title  | Total Project Cost (\$) | State Cost Share (\$) | Federal or Local Cost Share (\$) | Funding Level Awarded FY19-20 | Funding Level Awarded FY20-21 | Funding Level Awarded FY21-22 | Funding Level Awarded FY22-23 | Project Status               | DLIS Priority |
|------------------|----------------|--|-------------------------|-----------------------|----------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|---------------|
| Special Projects | Bacon Island   | Engineering, Design, and Construction of District Levee Repair Project on Bacon Island   | 14,368,421              | 13,650,000            | 718,421                          | 1,000,000                     | -                             | 4,660,000                     | -                             | In Progress                  | Very High     |
| Special Projects | Bethel Island  | Design and Construction of District Multi-Benefit Project on Bethel Island               | 5,280,851               | 4,964,000             | 316,851                          | 8,250                         | -                             | -                             | -                             | Completed 12/28/20 (FY20-21) | Very High     |
| Special Projects | Bethel Island  | Design and Construction of District Multi-Benefit Project on Bethel Island               | 10,442,903              | 9,711,900             | 731,003                          | 3,000,000                     | 2,397,000                     | 1,674,000                     | 896,900                       | In Progress                  | Very High     |
| Special Projects | Bouldin Island | Design and Construction of District Multi-Benefit Project on Bouldin Island              | 10,042,105              | 9,540,000             | 502,105                          | -                             | 1,000,000                     | -                             | -                             | In Progress                  | High          |
| 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                        | 1,000,000                     | -                             | 5,450,000                     | -                             | In Progress                  | High          |

| Program          | Location               | Project Title   | Total Project Cost (\$) | State Cost Share (\$) | Federal or Local Cost Share (\$) | Funding Level Awarded FY19-20 | Funding Level Awarded FY20-21 | Funding Level Awarded FY21-22 | Funding Level Awarded FY22-23 | Project Status              | DLIS Priority |
|------------------|------------------------|---|-------------------------|-----------------------|----------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|---------------|
| Special Projects | Brannan Island         | Design and Construction of District Multi-Benefit Project on Brannan Island | 20,942,570              | 19,686,016            | 1,256,554                        | -                             | 860,000                       | -                             | 5,548,664                     | In Progress                 | Very High     |
| Special Projects | Brannan Island         | Design and Construction of District Multi-Benefit Project on Brannan Island | 2,676,706               | 2,275,200             | 401,506                          | 51,670                        | -                             | -                             | -                             | In Progress                 | Very High     |
| Special Projects | Sherman Island         | Construction of District Levee Repair Project on Sherman Island             | 5,300,000               | 5,300,000             | -                                | 20,954                        | -                             | -                             | -                             | Completed 7/22/2020 (FY 21) | Very High     |
| Special Projects | Sherman Island         | Construction of District Levee Repair Project on Sherman Island             | 4,166,000               | 4,166,000             | -                                | -                             | 1,169,114                     | 720,000                       | 796,500                       | In Progress                 | Very High     |
| Special Projects | Sherman Island         | Design and Construction of District Multi-Benefit Project on Sherman Island | 10,133,211              | 9,626,550             | 506,660.53                       | -                             | -                             | -                             | -                             | In Progress                 | Very High     |
| Special Projects | Simmons-Wheeler Island | Construction of District Levee Repair Project on Simmons Wheeler Island     | 937,000                 | 843,300               | 93,700                           | 135,000                       | -                             | 200,000                       | -                             | In Progress                 | Very High     |

| Program                              | Location                   | Project Title   | Total Project Cost (\$) | State Cost Share (\$) | Federal or Local Cost Share (\$)                     | Funding Level Awarded FY19-20 | Funding Level Awarded FY20-21 | Funding Level Awarded FY21-22 | Funding Level Awarded FY22-23 | Project Status  | DLIS Priority |
|--------------------------------------|----------------------------|---|-------------------------|-----------------------|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|---------------|
| 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  | 1,890,000                     | -                             | 6,800,000                     | 1,810,000                     | In Progress   | Very High     |
| Special Projects                     | Terminus Tract             | Construction of District Levee Repair Project on Terminus Tract                         | 2,072,175               | 1,968,566             | 103,609  | 1,671,709                     | -                             | -                             | -                             | Completed 1/10/23 (FY 23)   | Very High     |
| Delta Levees North Delta             | McCormack Williamson Tract | McCormack-Williamson Tract Levee Modification and Habitat Restoration Project - Phase B | 36,200,000              | 32,200,000            | 4,000,000 approximately                              | 0                             | 0                             | 0                             | 0                             | Project start delayed by flooding and modification of plan; funds encumbered but not advanced | Very High     |
| Delta Levees North Delta             | Grizzly Slough             | Grizzly Slough Floodplain Project   | 11,200,800              | 11,200,800            | 8,700,800 Delta Conservancy, Prop 1<br>2,500,000 DWR | 0                             | 0                             | 2,500,000                     | 0                             | Project start delayed by flooding and CDFW Phase 1 Mitigation Site proximity                  | Other         |
| Dutch Slough Tidal Marsh Restoration | Oakley Dutch Slough        | Phase I implementation  | 42,355,977              | DWR 28,405,977        | 2,900,000 Delta Conservancy Prop 1                   | 7,433,229                     | 9,722,980                     | 6,858,126                     | 869,050                       | Completed   | Very High     |

| Program                         | Location        | Project Title                              | Total Project Cost (\$) | State Cost Share (\$) | Federal or Local Cost Share (\$) | Funding Level Awarded FY19-20 | Funding Level Awarded FY20-21 | Funding Level Awarded FY21-22 | Funding Level Awarded FY22-23 | Project Status | DLIS Priority     |
|---------------------------------|-----------------|--|-------------------------|-----------------------|----------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|----------------|-------------------|
| Systemwide Flood Risk Reduction | RD 2098         | Lookout Slough-Flood Portion               | 21,865,000              | -                     | -                                | 21,865,000                    | -                             | -                             | -                             | In Progress    | Other / Unleveled |
| Systemwide Flood Risk Reduction | RD 2084         | Little Egbert MultiBenefit Project         | 300,000,000             | -                     | -                                | -                             | -                             | 352,444                       | -                             | In Progress    | High              |
| Systemwide Flood Risk Reduction | RD 536          | Lindsey Slough All-Weather Roadway Project | 400,000                 | -                     | -                                | -                             | -                             | 400,000                       | -                             | Completed      | Other             |
| Systemwide Flood Risk Reduction | RD 2060         | RD 2060 Pipe Replacement                   | 1,750,000               | -                     | -                                | -                             | -                             | 1,750,000                     | -                             | In Progress    | High              |
| Systemwide Flood Risk Reduction | RD 2068         | RD 2068 Levee Rehabilitation Project       | 1,725,000               | -                     | -                                | -                             | -                             | 1,725,000                     | -                             | In Progress    | High              |
| Urban Flood Risk Reduction      | West Sacramento | West Sacramento Project                    | 1,173,819,000           | 287,585,655           | 886,233,345                      | 475,602                       | 237,100                       | 259,986                       | 210,533                       | In Progress    | Very High         |

| Program                    | Location                                    | Project Title                                  | Total Project Cost (\$) | State Cost Share (\$) | Federal or Local Cost Share (\$) | Funding Level Awarded FY19-20 | Funding Level Awarded FY20-21 | Funding Level Awarded FY21-22 | Funding Level Awarded FY22-23 | Project Status | DLIS Priority |
|----------------------------|---|--|-------------------------|-----------------------|----------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|----------------|---------------|
| Urban Flood Risk Reduction | West Sacramento                             | West Sacramento Levee Improvement Project      | 262,037,033             | 227,112,896           | 34,924,137                       | 9,546,424                     | 10,508,012                    | 2,072,001                     | 3,480,691                     | In Progress    | Very High     |
| Urban Flood Risk Reduction | Pocket Area Along the Sacramento River      | American River Common Features 2016            | 1,851,993,000           | 569,578,100           | 1,282,414,900                    | 11,388,292                    | 13,676,031                    | 151,665,565                   | 7,304,437                     | In Progress    | Very High     |
| Urban Flood Risk Reduction | Stockton                                    | Lower San Joaquin River (LSJR) Project         | 1,385,283,000           | 339,394,335           | 1,045,888,665                    | 1,954,830                     | 2,604,743                     | 2,292,157                     | 1,056,358                     | In Progress    | Very High     |
| Urban Flood Risk Reduction | Smith Canal & San Joaquin River in Stockton | Smith Canal Gate Project                       | 95,121,490              | 58,284,258            | 36,837,232                       | 14,862,500                    | 197,908                       | 17,094,178                    | 1,861,892                     | In Progress    | Very High     |
| Urban Flood Risk Reduction | RD-17 Mossdale Tract                        | RD-17 100-Year Seepage Project                 | 70,351,000              | 48,239,000            | 22,112,000                       | 8,090,369                     | 4,358,279                     | 13,530,391                    | 10,682,322                    | In Progress    | Very High     |
| Urban Flood Risk Reduction | RD-17 Mossdale Tract                        | Mossdale Tract Feasibility (State/Local) Study | 10,000,000              | 5,000,000             | 5,000,000                        | 259,215                       | 227,355                       | 390,036                       | 3,710,916                     | In Progress    | Very High     |
| Urban Flood Risk Reduction | RD-17 Mossdale Tract                        | Lathrop/Manteca Study (USACE)                  | 7,000,000               | 1,750,000             | 5,250,000                        | -                             | -                             | -                             | 458,297                       | In Progress    | Very High     |



| Program   | Location                    | Project Title                                    | Total Project Cost (\$) | State Cost Share (\$) | Federal or Local Cost Share (\$) | Funding Level Awarded FY19-20 | Funding Level Awarded FY20-21 | Funding Level Awarded FY21-22 | Funding Level Awarded FY22-23 | Project Status | DLIS Priority |
|---|-----------------------------|--|-------------------------|-----------------------|----------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|----------------|---------------|
| Levee Operations, Maintenance, and Repair Program | SPFC Facilities and Levees  | Flood System Repair Project (FSRP)               | 29,500,000              | 25,500,000            | 4,000,000                        | 7,375,000                     | 7,375,000                     | 7,375,000                     | 7,375,000                     | In Progress    | NA            |
| Levee Operations, Maintenance, and Repair Program | PL 84-99 eligible SPFC LMAs | Levee Repairs cost shared under Public Law 84-99 | 3,500,000               | 3,500,000             | -                                | -                             | -                             | -                             | 3,500,000                     | In Progress    | NA            |
| Levee Operations, Maintenance, and Repair Program | SPFC Facilities and Levees  | Flood Maintenance Assistance Program (FMAP)      | 8,058,000               | 8,058,000             | -                                | 1,970,000                     | 2,318,000                     | 2,022,000                     | 1,748,000                     | In Progress    | NA            |
| Levee Operations, Maintenance, and Repair Program | SPFC Facilities and Levees  | Storm Damage DWR Emergency Rehabilitation        | 26,900,000              | 26,900,000            | -                                | 6,725,000                     | 6,725,000                     | 6,725,000                     | 6,725,000                     | In Progress    | NA            |
| Levee Operations, Maintenance, and Repair Program | SPFC Facilities and Levees  | Deferred Maintenance Project (DMP) -Pipes        | -                       | -                     | -                                | -                             | -                             | -                             | -                             | In Progress    | NA            |

| Program   | Location     | Project Title   | Total Project Cost (\$) | State Cost Share (\$) | Federal or Local Cost Share (\$) | Funding Level Awarded FY19-20 | Funding Level Awarded FY20-21 | Funding Level Awarded FY21-22 | Funding Level Awarded FY22-23 | Project Status | DLIS Priority |
|---|--------------|---|-------------------------|-----------------------|----------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|----------------|---------------|
| Floodplain Management Protection and Risk Awareness | Libby McNeil | RD 369 -- Libby McNeil Tract: Planning and Monitoring | 3,691,000               | 938,000               | -                                | -                             | -                             | -                             | 938,000                       | In Progress    | Other         |

(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 6 - Project Information for Awarded Projects**

**DWR Projects for Fiscal Years 19-20, 20-21, 21-22, 22-23**

| Program          | Project Title  | Description of Changes   | Specific Location  | Protection Objective |
|------------------|--|--|--|----------------------|
| Special Projects | Engineering, Design, and Construction of District Levee Repair Project on Bacon Island | Fill placement on the landside slope and levee crest to improve and rehabilitate about 3.45 miles of the District’s levees to sustainably meet the Bulletin 192-82 levee standard from Stations 200+00 to 300+00 along Connection Slough and Stations 625+00 to 707+00 along Santa Fe Cut, with an all-weather roadway, and the landside slope hydroseeded with a Department of Fish and Wildlife (CDFW) approved native grass seed mix  | Stations 200+00 to 300+00 along Connection Slough and Stations 625+00 to 707+00 along Santa Fe Cut | Bulletin 192-82      |
| Special Projects | Design and Construction of District Multi-Benefit Project on Bethel Island             | Constructing the levee to Bulletin 192-82 standards with a 22-ft crest width, 2H:1V waterside slope, and 5H:1V landside slope using onsite borrow material, and placing a 6-inch Class 2 Aggregate Base all-weather road on the crest from Stations 130+00 to 180+00, constructing a landside berm extending no more than 180-feet from the levee centerline from Stations 145+00 to 155+00 for levee stability and seepage control, constructing a 15-ft wide waterside bench with submerged riprap for fish-friendly and shaded riverine aquatic habitat from Stations 145+00 to 165+00, placing new riprap and building up existing riprap throughout the levees reach as needed from Stations 130+00 to 145+00 and 165+00 to 180+00, constructing seepage mitigation/control measures from Stations 155+00 to 165+00 | Stations 130+00 to 180+00  | Bulletin 192-82      |

| Program          | Project Title  | Description of Changes   | Specific Location   | Protection Objective |
|------------------|--|--|---|----------------------|
| 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      |
| Special Projects | Design and Construction of District Multi-Benefit Project on Bouldin Island              | Constructing a setback levee to sustainably meet the HMP standard from Stations 500+00 to 550+00 to improve levee stability and create or expand waterside benches that will support a variety of habitat. The setback levee will have a 2:1 waterside slope, a 3:1 landside slope, and a minimum crown width of 21 feet. The waterside slope and a portion of the benches will be armored with riprap, overlain with soil to support planting and habitat creation. The work will also include the removal of the Camp 5 Pump Station from the levee footprint.   | Stations 500+00 to 550+00   | HMP                  |
| Special Projects | Engineering, Design, and Construction of District Levee Repair Project on Bouldin Island | Fill placement on the landside slope and levee crest to improve and rehabilitate about 4.3 miles of the District's levees to sustainably meet Bulletin 192-82 standards from Stations 665+00 to 726+00 and 781+00 to 946+77 along the South Mokelumne River corridor, with an all-weather roadway, and the landside slope hydroseeded with a Department of Fish and Wildlife (CDFW) approved native grass seed mix   | Stations 665+00 to 726+00 and 781+00 to 946+77 along the South Mokelumne River corridor | Bulletin 192-83      |

| Program          | Project Title   | Description of Changes   | Specific Location  | Protection Objective |
|------------------|---|--|--|----------------------|
| Special Projects | Design and Construction of District Multi-Benefit Project on Brannan Island | Revetment protection and development of a vegetated bench with a planted terrawall and gripper lock system along the Sacramento River left levee at three different sites. The vegetated bench will be accompanied by a rip rap base that will support the bench, enhance protection, and fill in voids. Additional 6-inch minus fill will be placed and vegetated above the bench to provide additional erosion protection during high water flows. The three different sites are located between Stations 292+00 and 321+00, 197+00 and 230+00, and 179+00 and 189+00  | between Stations 292+00 and 321+00, 197+00 and 230+00, and 179+00 and 189+00 | Erosion Control      |
| Special Projects | Design and Construction of District Multi-Benefit Project on Brannan Island | Landside slope and crown fill placement and waterside slope erosion remediation to PL84-99 standards from Stations 290+00 to 306+00. The work will result in an armored waterside slope and a vegetated bench at Mean High Water protected by a soil-filled geotextile erosion protection system, a 2:1 landside slope, and a 20-foot wide crown. The waterside bench and slope within the tidal zone will be planted with Shaded Riverine Aquatic habitat and native grasses. The work will also include planting the upper landside slope with native grasses  | Stations 290+00 to 306+00  | PL 84-99             |
| Special Projects | Construction of District Levee Repair Project on Sherman Island             | Raising various sections of the levee between Stations 368+00 through 700+00 to meet PL 84-99 standards and constructing a landside toe berm from Station 525+00 to Station 545+00   | Stations 368+00 to 700+00  | PL 84-99             |
| Special Projects | Construction of District Levee Repair Project on Sherman Island             | Construction of a drainage system to the levee between Stations 870+00 and 940+00  | Stations 870+00 and 940+00   | Drainage             |
| Special Projects | Design and Construction of District Multi-Benefit Project on Sherman Island | Constructing a setback levee and counterbalance berm to PL84-99 standards from Stations 175+00 to 199+00 to improve levee stability and create waterside benches that will support a variety of habitats. The setback levee will have a 2:1 waterside slope, a 4:1 landside slope, and a 28-foot crown width. The waterside slope and a portion of the benches will be armored with riprap, overlain with soil to support intertidal emergent marsh and Shaded Riverine Aquatic habitats. Native grasses will be planted on the landside slope and upper reaches of the waterside slope. The work will also include construction of an asphalt concrete road on the levee crown. | Stations 175+00 to 199+00  | PL 84-99             |

| Program                  | Project Title   | Description of Changes   | Specific Location  | Protection Objective  |
|--------------------------|---|--|--|---|
| Special Projects         | Construction of District Levee Repair Project on Simmons Wheeler Island                 | Improving the levee to provide 100-year flood protection at various locations from levee Stations 70+50 to 309+00, by placing fill on the landside slope and the levee crown.  | Stations 70+50 to 309+00   | RPG3  |
| Special Projects         | Engineering, Design, and Construction of District Levee Repair Project on Staten Island | Fill placement on the landside slope, waterside slope, and levee crest, to improve and rehabilitate about 16,000 linear feet of the District's levees to the Delta Specific PL 84-99 Standard with an 18-foot-wide levee crest, 2:1waterside slope, 3:1 landside slope, a toe berm, and seven riparian benches totaling 6,125 linear feet, from Stations 1040+00 to 1200+00,along the North Mokelumne River corridor, with an all-weather roadway, and the landside slope hydroseeded with a Department of Fish and Wildlife (CDFW) approved native grass seed mix | Stations 1040+00 to 1200+00, along the North Mokelumne River corridor  | PL84-99   |
| Special Projects         | Construction of District Levee Repair Project on Terminous Tract                        | Placing fill on the landside of the levee and the levee crown to improve levees to the minimum HMP requirements with no more than half of a foot of elevation of overbuild and an all-weather road between Stations 520+00 and 583+00  | Stations 520+00 and 583+00   | HMP   |
| Delta Levees North Delta | McCormack-Williamson Tract Levee Modification and Habitat Restoration Project - Phase B | Engineered levee design to lower an approximately 900-ft segment of the MWT East Levee to an elevation of 11.1 ft. Engineered levee design to lower an approximately 300-ft segment of the Mokelumne River Levee. Engineered levee design to lower an approximately 1,500-ft or 1,000-ft segment of the MWT Southwest Levee.   | Stations ~435+75 to 446+35 along Northeast Levee, Stations ~25+50 to 30+50 along the Mokelumne River Levee and Stations ~191+00 to 200+00 along the Southeast Levee along Deadhorse Cut. | Flood Management Bypass creation, AB 360 net habitat enhancement.     |
| Delta Levees North Delta | Grizzly Slough Floodplain Project   | A breach will be excavated to approximately 3 feet below low tide to hydrologically connect the Cosumnes River and the new channel network at all water levels. As discussed above, the channels and breach will be graded to allow flows year-round, including tidal flows in the dry season, and to minimize stranding potential for salmonids. A new dryland setback levee will be constructed along the south property boundary to provide equivalent flood protection after the current levee system along Grizzly Slough is breached.                        | Levee breach to allow on island flow from Stations 2+00 to 10+00.  | Flood Management Floodplain Creation, AB 360 net habitat enhancement. |

| Program                              | Project Title                              | Description of Changes   | Specific Location  | Protection Objective  |
|--------------------------------------|--|--|--|---|
| Dutch Slough Tidal Marsh Restoration | Phase I Restoration Implementation         | The project site underwent approximately 700 acres of major grading, channel creation, interior levee construction and construction of a new flood protection levee along the southern property boarder. The new levees were designed and constructed to meet or exceed the Urban Levees Design Criteria. Approximately 1.6 miles of new levee were constructed with a crown elevation of 10.6 feet (NGVD 29). The existing levees previously provided flood protection for the parcels were breached to create tidal marsh. Breaches range in with from approximately 100-150 feet depending on location. The project also executed wetland habitat plantings and tules cultivated before site was breached in 5 locations to connect interior marsh habitat to tidal sloughs. Two pedestrian bridges were installed over 2 of the breaches to facilitate shoreline access. | New stationing for flood protection levee 0+00 to 55+73 (Emerson) and 0+00 to 31+16 (Gilbert).           | AB 360 Net Habitat Enhancement in Delta, multibenefit project including flood protection levee, habitat enhancement, restoration science and education, and shoreline access. |
| Systemwide Flood Risk Reduction      | Lookout Slough-Flood Portion               | The Lookout Slough project constructs a setback levee and degrades portions of the RD 2098 Shag Slough Levee and restore approximately 3,000 acres of tidal wetland, creating habitat that is beneficial to native fish and wildlife. The new setback levee will provide 100-year flood protection with additional height for climate change and sea level rise resiliency. Breaching and degrading the existing levees will restore historical tidal influence on the site, providing food web and other benefits to Delta smelt and increasing seasonal floodplain rearing habitat for salmonids.  | Reclamation District 2098  | Increased Yolo Bypass Capacity and 100-year flood protection.   |
| Systemwide Flood Risk Reduction      | Little Egbert Multi-Benefit Project        | The proposed Little Egbert Multi-Benefit Project (LEMBP) aims to achieve 3 main objectives: enhance public safety through flood risk reduction, restore native habitat, and provide new recreation opportunities in the north delta region. LEMBP is located at the southern end of the Yolo Bypass, immediately north of Rio Vista, CA. The project footprint is estimated at around 3150 acres, with about 2970 acres of habitat being generated. The project includes improving the Mellin Levee, Mellin Levee Extension, County Levee 44, and the RD 536 Levee to meet Bypass Levee design standards.  | Reclamation District 2084  | 100-year flood protection   |
| Systemwide Flood Risk Reduction      | Lindsey Slough All-Weather Roadway Project | The project constructs an all weather access road for patrolling and flood fighting purposes.  | Levee Mile 0.00 to Levee Mile 0.76 and Levee Mile 1.70 to Levee Mile 5.3 along the Lindsey Slough levee. | All weather access  |

| Program                         | Project Title                             | Description of Changes  | Specific Location                                     | Protection Objective             |
|---------------------------------|---|---|---|----------------------------------|
| Systemwide Flood Risk Reduction | RD 2060 Pipe Replacement                  | Replacement and relocation of two 48-inch diameter tide gates and pipes from the Unit 3 Cache Slough Levee to the Unit 1 Lindsey Slough Levee.  | Unit 3 Cache Slough Levee/Unit 1 Lindsey Slough Levee | Replacement of pipe penetrations |
| Systemwide Flood Risk Reduction | RD 2068 Levee Rehabilitation Project      | Rehabilitation of 2.3 miles of the Unit 1 Bypass Levee to address design and structural deficiencies related to seepage, embankment stability, freeboard, and erosion protection.   | Levee Mile 3.2 to Levee Mile 5.5                      | Rehabilitation of levee          |
| Urban Flood Risk Reduction      | West Sacramento Project                   | Authorized in 2016, this USACE project received federal funding in 2022 to initiate design and construction activities for this \$1.1B project that will improve 39 miles of levee and reduce risk for 48K people and \$4.2B of assets. The project improvements encompass 17.5 miles of cutoff wall, 1 mile of seepage berm, 23.75 miles of erosion repair, 5.5 miles of setback levee, and 9 miles of levee geometry improvements. Due to the overlap of these repairs, the total length of levee repair is approximately 39 miles.   | West Sacramento                                       | 200 Year Level of Protection     |
| Urban Flood Risk Reduction      | West Sacramento Levee Improvement Project | As a component of the authorized West Sacramento Project, this project includes fix-in-place improvements to CHP, the Rivers, and I Street levees and 4 miles of setback levee in Southport.  | West Sacramento                                       | 200 Year Level of Protection     |
| Urban Flood Risk Reduction      | American River Common Features 2016       | Authorized in 2016, the American River Common Features (ARCF) 2016 USACE Project is currently constructing slurry walls that are 30' to 60' deep near the Pocket Area. ARCF 2016 is a \$1.8B USACE project that reduces risk for 514K people and \$56B of assets. Besides the Sac Weir and Bypass improvements, this project includes 31 miles of levee improvements along the American and Sacramento Rivers. Particularly in the South Sacramento Basin along the Sacramento River East Levee (part of levee system in the "Delta"), the proposed project cost is estimated to be \$332M, with the State shared cost of \$81M. In the South Sacramento Basin (ARS), the project plans to reduce flood risk for approximately 200,000 people, 110,000 structures, and \$10.0B in assets. | Sacramento Urban Area                                 | 200 Year Level of Protection     |



| Program   | Project Title                                  | Description of Changes  | Specific Location            | Protection Objective         |
|---|--|---|------------------------------|------------------------------|
| Urban Flood Risk Reduction                        | Lower San Joaquin River (LSJR) Project         | Authorized in 2018, the Lower San Joaquin River USACE Project is \$1.4B project (cost-shared 65% Federal, 24.5% State, and 10.5% Local) that includes 24 miles of levee improvements, 1 mile of new levee extension and 2 closure structures. The construction phase was initiated in 2021 when the project received \$22.8M in the Federal 2020 Work Plan for construction of the first reach of levee improvement and seepage cut-off walls at an estimated cost of \$30M.  | Stockton Area                | 200 Year Level of Protection |
| Urban Flood Risk Reduction                        | Smith Canal Gate Project                       | The Smith Canal Gate Project is one of the 2 gate structures approved as part of the LSJR. Construction is anticipated to be substantially complete by late 2023. This project alone protects 24,000 people and \$3.6B of assets.   | Stockton Area                | 200 Year Level of Protection |
| Urban Flood Risk Reduction                        | RD-17 100-Year Seepage Project                 | The project was initiated in February 2010 under the Early Implementation Program (EIP). Construction of 11 of the 19 miles of levee improvements have been completed and the remaining 8 miles will be completed by 2024.  | Lower San Joaquin River Area | 100 Year Level of Protection |
| Urban Flood Risk Reduction                        | Mossdale Tract Feasibility (State/Local) Study | The purpose of the Mossdale Tract Area Urban Flood Risk Reduction (UFRR) Study and Preliminary Design is to formulate alternatives that meet the 200-year level of protection (LOP) for the Mossdale Tract Area and satisfy State and Federal policies. Total estimated cost of the study is \$10M (cost-shared 50% State and 50% Local). A preferred alternative has been selected jointly between SJAFCA and the State. CEQA analysis and Preliminary Engineering is currently underway.  | Lower San Joaquin River Area | 200 Year Level of Protection |
| Urban Flood Risk Reduction                        | Lathrop/Manteca Study (USACE)                  | The purpose of the USACE Feasibility Study is to formulate alternatives and determine federal interest in flood risk reduction improvements in the area. Total estimated cost of the study is \$7M (cost-shared 50% Federal, 25% State and 25% Local). The study was initiated in late 2022 after the signing of the Feasibility Cost-Share Agreement (FCSA).   | Lathrop                      | 200 Year Level of Protection |
| Levee Operations, Maintenance, and Repair Program | Flood System Repair Project (FSRP)             | FSRP is a repair and rehabilitation program focused on addressing the levee performance problems throughout the SPFC in partnership with LMAs. FSRP evaluates and prioritizes the levee performance problems identified by DWR, United States Army Corps of Engineers (USACE), and LMA inspections on annual basis and cost-shares with the LMAs to repair the levee damages (erosion, stability, and localized seepage) that are beyond routine maintenance capabilities. To help emergency flood fight response to manage the residual flood risks, FSRP funds the repair of levee crown road rehabilitation to allow all weather access. | Central Valley SPFC          | PL 84-99                     |

| Program   | Project Title                                    | Description of Changes   | Specific Location   | Protection Objective |
|---|--|--|---------------------|----------------------|
| Levee Operations, Maintenance, and Repair Program | Sacramento River Bank Protection Project         | Sacramento River Bank Protection Project – SRBPP is a federal continuing long-term bank erosion protection effort that implements repairs to identified critically threatened levees of the Sacramento River Flood Control Project (SRFCP). SRBPP corrects levee erosion problems while ensuring the sustainable integration of environmental mitigation features. The program is led by USACE with the Central Valley Flood Protection Board (CVFPB) as the local sponsor. DWR supports SRBPP with project management and LERRDs support  | Sacramento River    | N/A                  |
| Levee Operations, Maintenance, and Repair Program | Levee Repairs cost shared under Public Law 84-99 | Public Law (PL) 84-99 Rehabilitation Assistance – PL 84-99 repairs eligible levees damaged from specific flood events covered under emergency declarations by the federal or State governments. Under federal statute, USACE and DWR are authorized to conduct emergency repairs to flood management works threatened or destroyed by high-water events, such as the 2017 flood event. PL 84-99 sites are prioritized by urgency, and repairs and all construction costs are paid through 100% federal funding, with the State pays for lands and Rights-of-Way, encroachments relocation and borrow materials. Currently, FSSS is supporting PL 84-99 repairs associated with the 2017 and 2019 storm events. | Central Valley SPFC | PL 84-99             |
| Levee Operations, Maintenance, and Repair Program | Flood Maintenance Assistance Program (FMAP)      | FMAP is a local assistance grant program for LMAs to meet or maintain compliance and eligibility with USACE Public Law 84-99 (PL 84 99) for federally authorized levees within the SPFC. FMAP is annually appropriated and provides funding to LMAs for general costs associated with Operations, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R). With an estimated \$130 million shortfall in annual spending for OMRR&R activities, FMAP serves to mitigate these deficiencies.   | Central Valley SPFC | PL 84-99             |
| Levee Operations, Maintenance, and Repair Program | Storm Damage DWR Emergency Rehabilitation        | Storm Damage, DWR Emergency Rehabilitation – This project was initiated after the high water of 2017 damaged many portions of the SPFC. SDDER is a State-led emergency rehabilitation program that evaluates and implements repairs specific to damages from the emergency events of 2017.   | Central Valley SPFC | PL 84-99             |

| Program   | Project Title                             | Description of Changes   | Specific Location            | Protection Objective |
|---|---|--|------------------------------|----------------------|
| Levee Operations, Maintenance, and Repair Program   | Deferred Maintenance Project (DMP) -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 the 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 be inspected on a five-yearly basis | Central Valley SPFC          | PL 84-99             |
| Floodplain Management Protection and Risk Awareness | RD 369 -- Libby McNeil                    | DWR is providing funding for geotechnical evaluations to support the development of future flood risk reduction alternatives for the DAC of Locke. DWR provided only partial funding and worked with State Parks to prioritize the cross-sections that the project grantee would complete in order to protect State owned land. No permanent construction is authorized in this planning grant.  | Delta Legacy Community-Locke | NA                   |

(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 7 - List of Projects where Funding is Inconsistent with Priorities**

FY 19-20

| 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  |
|------------------|----------------|---|--|---------------|---|
| Special projects | Bouldin Island | Engineering, Design, and Construction of District Levee Repair Project on Bouldin Island, | Fill placement on the landside slope and levee crest to improve and rehabilitate about 4.3 miles of the District’s levees to sustainably meet Bulletin 192-82 standards from Stations 665+00 to 726+00 and 781+00 to 946+77 along the South Mokelumne River corridor, with an all-weather roadway, and the landside slope hydroseeded with a Department of Fish and Wildlife (CDFW) approved native grass seed mix | High          | Bouldin Island is in the DLIS High Priority, not in the Very High Priority. The Bouldin Island levees along the South Mokelumne River corridor has had a history of being susceptible to erosion during high water events, sustained heavy damage during the 2017 flood and several emergency flood fights, and is in need of rehabilitation. A catastrophic failure of the District's levee in this area would result in property damage, environmental impacts, impacts to a State highway, and impacts to state water supply and water quality. 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. State funding for the District's Project is consistent with the objectives of the Special Flood Control Project Program, and is consistent with the Delta ecosystem restoration strategy of the CALFED Bay-Delta Program (Water Code Section 12300 (d) and (b)) |

**FY 20-21 & FY 21-22**

| 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 |
|-----------------------|----------|---------------|---------------------|---------------|--|
| No projects to report | N/A      | N/A           | N/A                 | N/A           | N/A  |

**FY 22-23**

| 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  |
|---|--------------|-----------------------|--|---------------|---|
| Floodplain Management Protection and Risk Awareness | Libby McNeil | RD 369 - Libby McNeil | DWR is providing funding for geotechnical evaluations to support the development of future flood risk reduction alternatives for the DAC of Locke. DWR provided only partial funding and worked with State Parks to prioritize the cross-sections that the project grantee would complete to protect State owned land. No permanent construction is authorized in this planning grant. | Other         | This is a statewide grant program, with criteria developed across the entire state. The project provides flood risk reduction and ecosystem protection for an underserved community and was consistent with the Prop 68 based competitive guidelines. It was only one of 5 projects provided an award. Due to limited funding this project (which scored second) was only provided partial funding. |



**(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 8 - List of Proposals Submitted and Not Awarded**

**FY 19-20**

| 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   |
|------------------|------------------|--|---|---------------|--|
| Special Projects | Twitchell Island | Twitchell Island San Joaquin River Setback Levee – Priority 1, Reach 6 | Constructing a new setback levee along the San Joaquin River between Stations 482+00 and 508+80 on top of a new foundation toe berm immediately behind the existing levee, with a levee crown elevation equal to the 100-year base flood elevation plus 4.7 foot estimated wave run-up plus 0.5 feet for future consolidation. Upon completion, the new levee prism will have 2:1 waterside slope, 3:1 landside slope, and a minimum crown width of 20 feet. The waterside of the existing levee will be modified to create a mosaic of three different habitat types (Tule marsh and mudflat; riparian forest and scrub shrub; and upland scrub shrub and grassland) | Very High     | The Program’s current funding is limited, making it extremely difficult to fund a new project at this time. This is likely to be further impacted due to the effects of the COVID- 19 (2019 Novel Coronavirus) pandemic on the State of California’s budget and fiscal outlook. Therefore, we have determined we are not able to not fund the project as a Directed Action. The Program, in consultation with Department of Water Resources’ management, has reviewed the District’s request and considers the proposed project a very good candidate for the next Projects Solicitation Package (PSP), and encourages the District to submit it when the PSP is released. |

**FY 20-21**

| Reclamation District Name | Reclamation District Name | Proposed Project Title                 | Proposed Project Description  | DLIS Priority | Rationale for levee improvement project proposals submitted, but not awarded funding during the reporting year  |
|---------------------------|---------------------------|--|---|---------------|---|
| New Hope Tract            | New Hope Tract            | Mokelumne River Debris Removal Project | Removing large debris from the Mokelumne River adjacent to New Hope Tract that were deposited in the channel during the 2017 storms | Very High     | Delta Levees Special Flood Control Projects Program (Program) staff have reviewed the Proposal and its exhibits but is unable to recommend the proposed project for funding under the Program. While we appreciate the District's concerns related to diminished channel capacity and the potential for flooding, the Program is constrained by the California Water Code and the Program's 2014 Guidelines for Providing funding to Local Public Agencies. |

**FY 21-22 & FY 22-23**

| Reclamation District Name | Reclamation District Name | Proposed Project Title | Proposed Project Description | DLIS Priority | Rationale for levee improvement project proposals submitted, but not awarded funding during the reporting year |
|---------------------------|---------------------------|------------------------|------------------------------|---------------|--|
| No Projects to report     | N/A                       | N/A                    | N/A                          | N/A           | N/A  |



## 9. Current Efforts for Future Report

The California Department of Water Resources Delta Levees Special Flood Control Projects Program Section (Program) released the 2023 Project Solicitation Package for Multi-Benefit Projects (PSP) on February 3, 2023. The goal for this PSP is to receive applications for Multi-Benefit projects that promote levee improvements, habitat enhancement, seismic resiliency, and export water supply reliability. This solicitation makes up to \$37 million available for selected projects. Per the PSP, individual project grant awards will not exceed \$15 million for Multi-Benefit projects.

### Process

Section XI of the Special Projects Guidelines outlines a two-phase submittal process that DWR used to evaluate proposals. The first phase is abbreviated and consists of Concept Proposals only. Applicants with Concept Proposals determined by DWR to meet the PSP requirements were invited to provide a second phase submission of a Full Application for funding consideration. The deadline for Concept Proposal submittals was March 3, 2023. Full applications were due on June 23, 2023, 60 days after successful applicants were invited by letter to continue to the full application phase.

### Proposals

During the first phase, a total of 17 concept proposals, with an estimated cost of about \$135 million were received. The concept proposals were evaluated, and the following 6 concept proposals were chosen to move forward to the second (full application) phase:

□

| Reclamation District Number | Reclamation District Name | Preliminary Cost Estimation |
|-----------------------------|---------------------------|-----------------------------|
| <b>BIMID</b>                | <b>Bethel Island</b>      | <b>\$5,000,000.</b>         |
| <b>756</b>                  | <b>Bouldin Island</b>     | <b>\$7,500,000.</b>         |
| <b>799</b>                  | <b>Hotchkiss Tract</b>    | <b>\$3,375,000.</b>         |
| <b>341</b>                  | <b>Sherman Island</b>     | <b>\$9,000,000.</b>         |
| <b>38</b>                   | <b>Staten Island</b>      | <b>\$15,790,000.</b>        |
| <b>1601</b>                 | <b>Twitchell Island</b>   | <b>\$17,000,000.</b>        |
|                             | <b>Total:</b>             | <b>\$57,665,000.</b>        |

### Current Status

Program team completed the review and evaluation of the full applications. The following 5 projects were selected for Phase 1 funding under this PSP:

| <b>Reclamation District Number</b> | <b>Reclamation District Name</b> | <b>Project Title</b>   | <b>Total Recommended State Cost Share (%)</b> | <b>Total Recommended Phase 1 State Cost Share (\$)</b> |
|------------------------------------|----------------------------------|--|---|--|
| <b>1601</b>                        | <b>Twitchell Island</b>          | Reclamation District No. 1601 – Twitchell Island San Joaquin River Setback Levee – Reach 6 | 95%   | <b>\$15,000,000. (*)</b>                               |
| <b>756</b>                         | <b>Bouldin Island</b>            | Reclamation District No. 756 (Bouldin Island) 2023 Multibenefit Project                    | 90%   | <b>\$900,000.</b>                                      |
| <b>799</b>                         | <b>Hotchkiss Tract</b>           | Hotchkiss Tract Perimeter Levee Improvement Project  | 87%   | <b>\$515,000.</b>                                      |
| <b>341</b>                         | <b>Sherman Island</b>            | San Joaquin River Multi-Benefit Project on Sherman Island                                  | 89%   | <b>\$800,000.</b>                                      |
| <b>38</b>                          | <b>Staten Island</b>             | Mokelumne River Confluence Multi-Benefit Project on Staten Island                          | 89%   | <b>\$1,350,000.</b>                                    |
| <b>Total:</b>                      |                                  |  |   | <b>\$18,565,000.</b>                                   |

(\*) The amount reflects Phase 2 because Twitchell Island is shovel ready and will forgo a Phase 1 Agreement.