

2017 CVFPP Update

As-Published Regional Portfolio of Management Actions

ID	Basin_ID	Project Name	Status (select one)	Hydrologic Region	Basin	County	RFMP	Lead Agency	Project Description	Estimated Cost Present Value (Provided by Source)	Adjusted Estimated Cost/Classification - for Investment Strategy			
											Investment Type	Adjusted Estimated Cost - Present Value (\$) *2016 Dollars	Adjusted Estimated Cost - Annualized (\$/year) *2016 Dollars	2017 Refined SSIA Portfolio Category
4	Sac_004	All-weather patrol road improvements	Complete	Sacramento River	Sacramento	Yuba	Feather River	Marysville Levee District	Project for improvements in the levee patrol road surface to assure all weather access during high water events.	\$ 50,000	Ongoing	\$ 50,000	\$ 2,551	Systemwide - Emergency management
49	Sac_049	Marysville Ring Levee Phase 2B Design & Construction	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Marysville Levee District	Strengthen the existing levee by constructing deep cut-off walls, seepage-berms and other measures	\$ 19,000,000	Capital	\$ -		Urban - Levee improvements
50	Sac_050	Marysville Ring Levee Phase 2C Design & Construction	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Marysville Levee District	Strengthen the existing levee by constructing deep cut-off walls, seepage-berms and other measures	\$ 13,000,000	Capital	\$ -		Urban - Levee improvements
51	Sac_051	Marysville Ring Levee Phase 3 Design & Construction	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Marysville Levee District	Strengthen the existing levee by constructing deep cut-off walls, seepage-berms and other measures	\$ 21,200,000	Capital	\$ -		Urban - Levee improvements
3	Sac_003	Address specific seepage, under seepage, erosion, and stability concerns for the Feather River levee	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Reclamation District 1001, Nicolaus	Address specific seepage, under seepage, erosion, and stability concerns for the Feather River levee, from the Natomas Cross Canal to the River Oaks Golf Course. This would include filling the land side scour hole created when this levee was breached near Verona to drain flood waters in December 1955. Original budget assumed 50% of 8.2 miles of seepage berm; seepage berm 80' X 4' w/collection pipe levee from the Natomas Cross Canal to the River Oaks Golf Course (Levee Unit 4, Levee Miles 5.2 to 13.4) and repairs to the Natomas Cross Canal downstream of Highway 99.	\$ 5,400,000	Capital	\$ -		Small Community - Levee repair and infrastructure improvements
8	Sac_008	Bear River south bank, Pleasant Grove Road to high ground	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Reclamation District 1001, Nicolaus	Phased improvements to the RD1001 levee system, Segment 246, to achieve 100-year FEMA levee protection. Reference: Non-Urban Levee Evaluations Project Remedial Alternatives and Cost Estimates Report (NULE RACER). No changes - <b>Not included in SCFRR study</b>	\$ 109,742,000	Capital	\$ 109,742,000		Small Community - Levee repair and infrastructure improvements

9	Sac_009	Bear River south bank, Yankee Slough to Pleasant Grove Road	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Reclamation District 1001, Nicolaus	Phased improvements to the RD1001 levee system, Segment 283, to achieve 100-year FEMA levee protection. Reference: Non-Urban Levee Evaluations Project Remedial Alternatives and Cost Estimates Report (NULE RACER). No changes - Not included in SCFRR study	\$ 75,148,000	Capital	\$ 75,148,000		Small Community - Levee repair and infrastructure improvements
18	Sac_018	Coon Creek Group Interceptor Canal Levee, Natomas Cross Canal to high ground	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Reclamation District 1001, Nicolaus	Phased improvements to the RD1001 levee system, Segment 285, to achieve 100-year FEMA levee protection. Reference: Non-Urban Levee Evaluations Project Remedial Alternatives and Cost Estimates Report (NULE RACER). No changes - Not included in SCFRR study	\$ 13,503,000	Capital	\$ 13,503,000		Small Community - Levee repair and infrastructure improvements
29	Sac_029	Feather River east levee, Cross Canal to River Oaks Golf Course	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Reclamation District 1001, Nicolaus	Phased improvements to the RD1001 levee system, Segment 247, to achieve 100-year FEMA levee protection. Reference: Non-Urban Levee Evaluations Project Remedial Alternatives and Cost Estimates Report (NULE RACER). SCFRR study recommends waterside rock slope protection and 80' deep cutoff wall. Cost estimate per 2020 SCFRR.	\$ 227,861,600	Capital	\$ 349,758,000		Small Community - Levee repair and infrastructure improvements
43	Sac_043	Improve erosion protection along the Bear River south levee	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Reclamation District 1001, Nicolaus	Project to improve erosion protection along the Bear River south levee for 12.6 mi. total. Project would provide 50% erosion protection with 2' thick protection measures.[UPDATED PROJECTS NOW INCLUDED IN SCFRR IMPROVEMENTS, SUGGEST DELETING THIS ITEM]	\$ 2,561,328	Capital	\$ -		Small Community - Levee repair and infrastructure improvements
52	Sac_052	Natomas Cross Canal north levee	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Reclamation District 1001, Nicolaus	Phased improvements to the RD1001 levee system, Segment 284, to achieve 100-year FEMA levee protection. Reference: Non-Urban Levee Evaluations Project Remedial Alternatives and Cost Estimates Report (NULE RACER). SCFRR recommends 20' wide drained stability berm along 28,480 feet. NCC SB&CHE project proposes a smaller berm that will reduce risk but will likely not remediate all issues required for certification. Cost estimate from 2020 SCFRR study.	\$ 153,971,800	Capital	\$ -		<del>Urban - Levee improvements</del> Small Community - Levee repair and infrastructure improvements
53	Sac_053	Nelson Weir removal or modification to reduce erosion and improve habitat	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Reclamation District 1001, Nicolaus	Project consists of 2200' of rock weir being removed at confluence of Feather River and Sutter Bypass. Weir estimate assumes 5' tall (60 CY/ LF of weir) weir removal to reduce erosion along the Feather River left bank and improve habitat.	\$ 2,640,000	Capital	\$ 2,640,000		Small Community - Levee repair and infrastructure improvements
71	Sac_071	Repair, replace, or abandon existing drains and pipes through the levees	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Reclamation District 1001, Nicolaus	Project for replacement and repair expected to be completed by farmer. District would only abandon. Grouting 2/mile. 14" pipe 70' total length. Assumed 10' below WSE. UPDATE: RD 1001 evaluated 32 pipes in DMP program which recommends: 14 be removed from the record as physical and geophysical explorations confirmed pipes no longer exist; 12 pipes were previously abandoned with no clear records and are recommended for removal; one pipe on Yankee Slough was slip lined to correct minor deficiencies; 3 pipes showed signs of failure and are recommended for replacement; and 2 pipes were determined to be in good condition. Estimate assumes 12 removals @ \$75,000 each and 3 replacements at \$250,000 each	\$ 1,650,000	Capital	\$ -		Small Community - Levee repair and infrastructure improvements

72	Sac_072	Replace or improve Main Drain pumping plant	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Reclamation District 1001, Nicolaus	The RD 1001 Main Drain Pumping Plant is an SPFC facility along the Natomas Cross Canal right bank. The levee and pumping plant were constructed in 1917 and require significant (60KV dedicated) power to operate. This project would upgrade the pumps, power supply, and add redundancy and backup power to the facility. The pumping plant is an SPFC facility installed when the NCC cutoff natural drainage to the Feather River.	\$	8,000,000	Ongoing	\$	8,000,000	\$	408,154	Rural - Risk awareness, floodproofing and land use planning
73	Sac_073	Re-Rock levee crown patrol roads	Complete	Sacramento River	Sacramento	Sutter	Feather River	Reclamation District 1001, Nicolaus	Project to re-rock levee crown patrol roads – AB for 75% of levees in district	\$	943,811	Ongoing	\$	943,811	\$	48,153	Systemwide - Emergency management
87	Sac_087	Floodproofing the Main Drain Pumping Plant	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Reclamation District 1001, Nicolaus	The RD 1001 Main Drain Pumping Plant is an SPFC facility along the Natomas Cross Canal right bank. The levee and pumping plant are below the Design Water Surface Elevation and requires sandbagging to avoid overtopping. Project would make improvements to raise the doors and windows above the DWSE. The pumping plant is an SPFC facility installed when the NCC cutoff natural drainage to the Feather River.	\$	500,000	Ongoing	\$	500,000	\$	25,510	Rural - Risk awareness, floodproofing and land use planning
90	Sac_090	Yankee Slough north and south bank, from confluence to Pleasant Grove Road	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Reclamation District 1001, Nicolaus	Phased improvements to the RD1001 levee system, Segment 144 & 145, to achieve 100-year FEMA levee protection. Reference: Non-Urban Levee Evaluations Project Remedial Alternatives and Cost Estimates Report (NULE RACER). SCFRR evaluated left bank and recommends 16' deep cutoff wall for 22,653 feet of levee (\$28,647,200). New estimate assumes approximately same costs for right bank levee.	\$	57,294,400	Capital	\$	57,547,000			Small Community - Levee repair and infrastructure improvements
2	Sac_002	Additional levee improvement projects to achieve 100-year flood protection for the southern portions of the basin	In-progress	Sacramento River	Sacramento	Butte	Feather River	Sutter Butte Flood Control Agency	Despite the ongoing improvements to the Feather River west levee, the Southern Sub-basin, with a population of 3,000 and valuable agricultural infrastructure, will continue to be imperiled by the low level of flood protection provided by the remaining levees surrounding the basin. These levees, including the lower Feather River west levee, the Sutter Bypass east levee and Wadsworth Canal levees are estimated to currently provide 10-year level of flood protection. While pursuing the long term goal of 100-year flood protection for the southern sub-basin that achieves the dual goals of reducing flood risk and regulatory/financial burden in the FEMA floodplain, SBFCA will concurrently pursue a two-track approach. First, SBFCA will prioritize limited improvements of critically deficient levees that provide the greatest risk reduction at least cost. Second, SBFCA and its partners will seek appropriate FEMA regulatory relief for the agricultural floodplain.	\$	220,000,000	Capital	\$	220,000,000			Rural - Levee repair and infrastructure improvements
30	Sac_030	Feather River West Levee Project (FRWLPI), Thermalito to Laurel Avenue	In-progress	Sacramento River	Sacramento	Butte	Feather River	Sutter Butte Flood Control Agency	A nearly 41-mile levee improvement project from Thermalito Afterbay to approximately Laurel Avenue. The goals of the project are to reduce flood risk and remove more than 34,000 properties from FEMA Special Flood Hazard Areas. This includes increasing public safety by providing 200-year flood protection to Biggs, Gridley, Live Oak, and Yuba City, and providing 100-year flood protection for the less populated areas south of Yuba City	\$	380,000,000	Capital	\$	-			Small Community - Levee repair and infrastructure improvements
38	Sac_038	Gridley Bridge Bank Erosion Repair Design, Permitting & Construction	Complete	Sacramento River	Sacramento	Butte	Feather River	Sutter Butte Flood Control Agency		\$	5,460,000	Capital	\$	5,460,000			Rural - Levee repair and infrastructure improvements

39	Sac_039	Gridley Open Space Restoration	Eliminated											
40	Sac_040	Hamilton Slough	Eliminated											
45	Sac_045	Laurel to Cypress Critical Repair	Complete	Sacramento River	Sacramento	Sutter	Feather River	Sutter Butte Flood Control Agency	Strengthen the existing levee by constructing deep cut-off walls, seepage-berms and other measures	\$ 13,500,000	Capital	\$ 13,500,000		Rural - Levee repair and infrastructure improvements
55	Sac_055	Oroville Wildlife Area Flood Stage Reduction Project (D-Unit) Design, Permitting & Construction	In-progress	Sacramento River	Sacramento	Butte	Feather River	Sutter Butte Flood Control Agency	Includes the design of weir improvements and ecosystem restoration to improve connectivity to historic floodway and reduce stages in main channel of the Feather River. The primary goal of the project is to divert water from the Feather River through the Oroville Wildlife Area to accommodate up to 80,000 cfs for a 200-year flood event. Project will fund project management, hydraulic modeling, feasibility, design, environmental documentation, and permitting. The site encompasses about 1,000 acres.	\$ 25,000,000	Ongoing	\$ 25,000,000		Rural - Studies and analysis
56	Sac_056	Oroville Wildlife Area Multi-Benefit (Robinson's Riffle) Project	In-progress	Sacramento River	Sacramento	Butte	Feather River	Sutter Butte Flood Control Agency	The Oroville Wildlife Area is managed by the CDFW and comprises approximately 11,000 acres west of Oroville that are managed for wildlife habitat and recreational activities. The FERC Agreement describes numerous multi-benefit habitat restoration actions that are required for this reach of the Feather River. These actions include excavation of the Feather River banks and lowering of adjacent, landside areas to re-connect the river with its disconnected floodplain. The FERC Agreement also requires the excavation of additional side channels that would provide important salmonid spawning habitat and refugia during high-water events as well as the restoration of riparian and wetland habitats to provide habitat for a variety of terrestrial species and shaded riverine aquatic habitat for fish.	\$ 50,000,000	Capital	\$ 50,000,000		Rural - Habitat restoration/reconnection
76	Sac_076	Small Community Flood Risk Reduction Feasibility Studies	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Sutter Butte Flood Control Agency	Studies to evaluate risk reduction alternatives for small communities of Sutter and Tudor in Sutter County. Small Community Study. Communities are protected by SPFC Facilities.	\$ 995,000	Ongoing	\$ 995,000	\$ 50,764	Small Community - Studies and analysis
		Sutter Levee Improvements	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Sutter Butte Flood Control Agency	Design, permitting, and construction of the preferred alternative identified in the Sutter feasibility studies.	\$ 74,000,000		\$ 74,000,000		

79	Sac_079	Star Bend to Oak Avenue	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Sutter Butte Flood Control Agency	Federal Project		\$	60,000,000	Capital	\$	60,000,000		Rural - Levee repair and infrastructure improvements
82	Sac_082	Sutter Bypass/Wadsworth Critical Repairs	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Sutter Butte Flood Control Agency	Design, permitting, and construction of the preferred alternatives identified in the Tudor feasibility study.		\$	75,000,000	Capital	\$	75,000,000		Rural - Levee repair and infrastructure improvements
46	Sac_046	LD1 Star Bend Levee Setback Ecosystem enhancement	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Sutter Butte Flood Control Agency, Levee District 1	Levee District 1 (LD 1) constructed an approximately 3,400-ft-long setback levee on the right bank of the Feather River at Star Bend. In addition to providing 200-yr flood protection, construction of the setback area created opportunities for restoration of approximately 45 acres of riparian habitat to benefit terrestrial wildlife and to provide SRA habitat that would enhance fish habitat in the Feather River. LD 1 has already planted approximately 20 acres of riparian habitat as mitigation for construction of the setback levee. SBFCA recently initiated a project to plant another 20 acres in accord with FRWLP mitigation requirements and CVFPP goals.		\$	650,000	Capital	\$	650,000		Rural - Habitat restoration/reconnection
83	Sac_083	Sutter Main Canal relocation to enhance salmonid temperature control and improve maintenance efficiency (FERC Process)	In-progress	Sacramento River	Sacramento	Sutter	Feather River	DWR or Nat Resources Lead, Sutter Butte Flood Control Agency, Yuba County Water Agency, Three Rivers Levee	Project to relocate of the this canal along the Feather River right bank levee that poses seepage risk, causes frequent levee sloughing, and impedes maintenance and flood fighting activities. In addition to flood benefits, relocation of the Sutter Canal as proposed by DWR would move the intake to Thermalito therefore eliminating the need for an intake on the river which would also result in improvements to fish passage and recreation due to the elimination of the existing weir diversion. Project provides multiple benefits along the Feather River right bank levee near the City of Live Oak.		\$	-	Capital	\$	-		Rural - Levee repair and infrastructure improvements
11	Sac_011	Cherokee Canal Bridge Crossing Improvement	In-progress	Sacramento River	Sacramento	Butte	Feather River	Butte County, Sutter Butte Flood Control Agency	Bridge crossings pose flood conveyance problems due to capacity constraints and floating debris accumulation. From upstream to downstream, the main bridge crossings include: 1. Nelson Road Bridge 2. Nelson-Shippee Road Bridge 3. Richvale Road Bridge 4. UPRR Bridge 5. Highway 162 Bridge		\$	-	Capital	\$	-		Rural - Levee repair and infrastructure improvements
81	Sac_081	Sutter Bypass Wildlife Area	In-progress	Sacramento River	Sacramento	Sutter	Feather River	California Department of Fish and Wildlife, Sutter Butte Flood Control Agency	Opportunities to improve aquatic habitat, restore riparian woodland, or create other habitats are limited by the narrow strips of State-owned land that characterize much of the wildlife area. However, selective planting of riparian vegetation could occur in locations that currently lack riparian habitat to provide a continuous corridor of habitat along the Sutter Bypass levees, so long as the vegetation does not reduce the conveyance capacity of the bypass. Additionally, there are significant opportunities to encourage wildlife-friendly farming practices within the Sutter Bypass since the majority of the Bypass is privately-owned and actively farmed.		\$	3,000,000	Capital	\$	3,000,000		Rural - Habitat restoration/reconnection
31	Sac_031	Feather River Wildlife Area – Abbot Lake Unit	In-progress	Sacramento River	Sacramento	Sutter	Feather River	California Department of Fish and Wildlife, Sutter Butte Flood Control Agency	The Feather River Wildlife Area -Abbot Lake Unit is a 439-acre CDFW-managed property. The wildlife area is managed to provide riparian habitat for migratory birds and special-status species and public opportunities for wildlife-oriented recreation. A variety of ecosystem restoration actions have been planned for the Abbot Lake Unit (e.g., River Partners 2010). These actions include strategically lowering the banks of the Feather River and creating side channels within the Abbot Lake Unit that would become inundated during frequent high-flow events, providing spawning habitat and high-water refugia for anadromous fish. These side channels would also improve floodwater conveyance. Along with the side channels, strategic grading could create benches and shelves that would provide		\$	944,480	Capital	\$	944,480		Rural - Habitat restoration/reconnection
47	Sac_047	Live Oak Park		Sacramento River	Sacramento	Sutter	Feather River	Sutter County, RFMP Agency is TBD	Restoration actions could include planting riparian vegetation downstream from the boat ramp to create a wider strip of habitat and replacing some or all turf grass and other non-native species with appropriate native plants to increase wildlife habitat values.		\$	750,000	Capital	\$	750,000		Small Community - Levee setbacks, land acquisitions and habitat restoration
27	Sac_027	Feather River Advance Mitigation Bank Design & Construction	Eliminated	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority	TRLIA/DWR advance 502 acre mitigation bank		\$	6,200,000	Capital	\$	5,360,000		Rural - Habitat restoration/reconnection

28	Sac_028	Feather Restoration Site - Phase 2 Design & Construction	Eliminated	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority		\$	18,200,000	Capital	\$	18,200,000		Rural - Habitat restoration/reconnection	
34	Sac_034	Flood Control O&M Consolidation Study	Eliminated	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority	Duplicate of YWA consolidation study	\$	200,000	Ongoing	\$	200,000	\$	10,204	Rural - Studies and analysis
54	Sac_054	Incorporate Oliverhurst Detention Basin into the SPFC to adequately tie the project levee into high ground.	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority	The Olivehurst Detention basin and Ring levee were constructed in 2006 to mitigate the fact that the SRFCP levee on the right (west) bank of the WPIC terminated into a railroad embankment, not in to high ground. As a result, the SRFCP induced flooding in South Olivehurst. TRLIA, as part of its program to improve the levees in RD 784 to provide 200-year protection, constructed the ring levee and detention basin to mitigate this flooding, provide GGS habitat, and alleviate this system deficiency. The ODB project needs to be incorporated into the SPFC and consideration should be given to incorporating these features into the Federally Authorized project. In this way the federal and State authorizations will appropriately reflect the functional system as it now exists.	\$	50,000	Ongoing	\$	50,000	\$	2,551	Systemwide - State operations, planning and performance tracking
57	Sac_057	Phase IV—Complete WPRR levee improvements	Complete	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority	Project for additional work that needed to be completed along the Western Pacific Railroad Canal levee to meet the State 200-year levee design criteria.	\$	15,228,000	Capital	\$	-		Urban - Levee improvements	
68	Sac_068	RD 784 Site 7 Relief Well Rehabilitation Construction	Eliminated	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority		\$	100,000	Capital	\$	100,000		Rural - Levee repair and infrastructure improvements	
74	Sac_074	Resolve ROW and encroachment issues for levees protecting urban areas	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority	Project to resolve ROW and encroachment issues for levees protecting urban areas.	\$	10,000,000	Ongoing	\$	10,000,000	\$	510,193	Systemwide - State operations, planning and performance tracking
86	Sac_086	TRLIA Feather River Levee Setback Ecosystem enhancement	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Three Rivers Levee Improvement Authority	The new levee created 200-year flood protection for surrounding communities by setting back approximately 4 miles of the existing levee on the left bank of the Feather River opposite Star Bend upstream toward Yuba City. The new levee also created opportunities to restore approximately 1,600 acres of riparian and wetland habitat on former agricultural lands that became part of the Feather River floodway with construction of the setback levee. Planning habitat restoration plans have been developed for the area (PWA 2008, River Partners 2009), and DWR's Flood Safe Easements, Sustainability, and Statewide Resources Office (FSESO) recently awarded approximately	\$	9,100,000	Capital	\$	9,100,000		Rural - Habitat restoration/reconnection	
88	Sac_088	Toe Access Corridor - Upper Bear River	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority	Acquire toes access corridor along urban levee to meet ULDC criteria	\$	20,000	Capital	\$	20,000		Rural - Land acquisitions and easements	
89	Sac_089	WPIC ULDC Remediation Design & Construction	Complete	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority	Improvements to the Western Pacific Interceptor Canal levee in RD 784 to meet ULDC criteria. This project is a follow on to the EIP Western Pacific Interceptor Canal project.	\$	15,150,000	Capital	\$	15,150,000		Urban - Other infrastructure and multi-benefit improvements	
91	Sac_091	Yuba 86 Break Site Berm Design & Construction	Complete	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority	Project complete.	\$	1,500,000	Capital	\$	-		Rural - Levee repair and infrastructure improvements	
92	Sac_092	Yuba Goldfields Design & Construction	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority	Project to develop and implement plan to ensure and sustain 200-year protection. The first step was to work with mining interests to construct non-leveed embankments in 2011 to address the highest risk areas. Step 2 is to construct features that address moderate risk in 2014 that will meet FEMA standards. Step 3 is to construct features that will meet the State of California's 200-year requirements and will be completed prior to 2025. Step 4: Will implement the 200-year plan developed in Step 3.	\$	20,000,000	Capital	\$	20,000,000		Urban - Levee improvements	

93	Sac_093	Yuba River South Levee ULDC Remediation	Complete	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority	TRLIA is planning to perform additional explorations and implement a levee widening project to provide up to 200 year level of protection on a small section of the Yuba River South Levee. The proposed reach is a site of a 1986 levee break in which the USACE repaired using large rocks and unknown material. The proposed project will fund geotechnical explorations, design, construction, and management.	\$	1,500,000	Capital	\$	1,500,000		Rural - Levee repair and infrastructure improvements	
94	Sac_094	Toe Access Corridor - Yuba River from Silver Wood to Simpson Ln	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority	Acquire toes access corridor along urban levee to meet ULDC criteria	\$	500,000	Capital	\$	500,000		Rural - Land acquisitions and easements	
95	Sac_095	Toe Access Corridor - Yuba River at Silver Wood	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority	Acquire toes access corridor along urban levee to meet ULDC criteria	\$	10,000,000	Capital	\$	10,000,000		Rural - Land acquisitions and easements	
96	Sac_096	Toe Access Corridor - Yuba River from UPRR to Silver Wood	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Three Rivers Levee Improvement Authority	Acquire toes access corridor along urban levee to meet ULDC criteria	\$	500,000	Capital	\$	500,000		Rural - Land acquisitions and easements	
23	Sac_023	FESSRO/TRLIA Advance Mitigation Site Restoration	In-progress	Sacramento River	Sacramento	Yuba	Feather River	California Department of Water Resources, Three Rivers Levee Improvement Authority	502 acres of advanced mitigation banking.	\$	6,200,000	Capital	\$	4,400,000		Rural - Habitat restoration/reconnection	
1	Sac_001	100 year alternatives for Dry Creek Levee and Bear River	Complete	Sacramento River	Sacramento	Yuba	Feather River	Wheatland	This is a feasibility study to evaluate 100 year alternatives for repairs on the southern portion of the Dry Creek Levee and Bear River in RD 817 protecting the city of Wheatland. This project constitutes Phase 2 of RD 2103's goal of providing up to 200 year protection. Phase 1 included the design and repair of 5 miles on the Bear River North Levee south of Wheatland and was partially funded by DWR.	\$	797,000	Ongoing	\$	797,000	\$	40,662	Small Community - Studies and analysis
20	Sac_020	Develop more accurate FEMA 100-year maps for the existing developed area around Dry Creek	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Wheatland	Preliminary, Planning Level project. Detailed project description not available at this time. FEMA LAMP analysis underway in 2020 at a cost of \$150,000	\$	150,000	Ongoing	\$	40,000	\$	2,041	Small Community - Risk awareness, floodproofing and land use planning
21	Sac_021	Dry Creek develop new hydrology	Complete	Sacramento River	Sacramento	Yuba	Feather River	Wheatland	Project will be evaluating what additional steps may need to be taken to ensure 100- and 200-year flood protection from Dry Creek flood flows.	\$	75,000	Ongoing	\$	75,000	\$	3,826	Small Community - Studies and analysis
22	Sac_022	Dry Creek south levee and San Joaquin ditch (3.9 mi) improvements feasibility study	Complete	Sacramento River	Sacramento	Yuba	Feather River	Wheatland	Project will be evaluating what additional steps may need to be taken to ensure 100- and 200-year flood protection from Dry Creek flood flows and includes feasibility study and environmental documents.	\$	760,000	Ongoing	\$	760,000	\$	38,775	Small Community - Studies and analysis
37	Sac_037	FSRP Identified Critical Repairs, Bear River north levee, RD 817 [setback levee]	Complete	Sacramento River	Sacramento	Sutter	Feather River	Wheatland	Project to ensure 200-year flood protection for Wheatland's urban and urbanizing areas from Bear River flooding, preliminarily identified a critical reach of Bear River levee in RD 817 just downstream of Oakley Lane that will need to be protected from erosion or set back to meet current criteria. Included design and construction of a setback levee, project ID L1.	\$	8,500,000	Capital	\$	8,500,000		Rural - Small-scale levee setbacks and floodplain storage	
60	Sac_060	RD 2103 Dry Creek Study, Design & Construction	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Wheatland	Implement Dry Creek south levee 200-year ULDC levee improvements based on results of the feasibility study. 2016 YFFPP Feasibility Study recommended berms and levee geometry corrections. 2020 SCFRR study confirms	\$	16,344,700	Capital	\$	56,767,000		Small Community - Levee repair and infrastructure improvements	
61	Sac_061	RD 2103 Flood System Repair Project All Weather Patrol Roads	Complete	Sacramento River	Sacramento	Yuba	Feather River	Wheatland		\$	240,000	Ongoing	\$	240,000	\$	12,245	Systemwide - Emergency management
62	Sac_062	RD 2103 Levee Improvements	Complete	Sacramento River	Sacramento	Yuba	Feather River	Wheatland	Evaluate, design, and construct levee improvements to achieve USACE project levee geometry and stability standards- prioritized based on risk remaining segments in RD 2103.	\$	4,252,000	Capital	\$	4,252,000		Small Community - Levee repair and infrastructure improvements	
69	Sac_069	RD 817 Flood System Repair Project All Weather Patrol Roads	Complete	Sacramento River	Sacramento	Yuba	Feather River	Wheatland		\$	270,000	Ongoing	\$	270,000	\$	13,775	Systemwide - Emergency management
70	Sac_070	RD 817 Levee Improvements	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Wheatland	Evaluate, design, and construct levee improvements to achieve USACE project levee geometry and stability standards- prioritized based on risk; remaining segments in RD 817. SCFRR recommends cutoff wall and geometry	\$	77,952,100	Capital	\$	100,058,000		Small Community - Levee repair and infrastructure improvements	
26	Sac_026	Expand Willow Island Recreation Area, Yuba City	In-progress	Sacramento River	Sacramento	Sutter	Feather River	Yuba City, SBFCA	Expand the 172 acre park in the Feather River floodway to remove overgrown vegetation, provide ecosystem restoration improvements including plantings and wat along the old river channelerways, and improve recreational amenities in the park. The project will improve flood flows by removing non-native and invasive vegetation and will improve maintenance by forming a financially self-supported and actively managed recreational area to reduce channel maintenance obligations to DWR.	\$		Ongoing	\$	150,000	\$	7,653	Urban - Risk awareness, floodproofing and land use planning

10	Sac_010	Bullard's Bar Outlets Modification	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Yuba County Water Agency	Project to increase flood capacity by adding a second gated spillway tunnel to the outlet works at New Bullard's Bar Dam. The additional spillway which was analyzed in the operation consisted of three 15.5-foot wide by 26-foot high gated openings set at an invert elevation of 1,893 feet. The sill of the additional gates would be about nine feet lower than the invert of the existing gates, which would increase the reservoir release capacity by 20,000 CFS when the reservoir flood pool is not encroached.	\$ 140,000,000	Capital	\$ 140,000,000			Systemwide - Reservoir and floodplain storage
16	Sac_016	Colgate Tailwater Suppression	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Yuba County Water Agency	Tailwater suppression to result from coupling of Outlets Modification and Forecast-Based Operations. The peak downstream flow for the Yuba River at Marysville would be reduced from about 240,000 CFS to 200,000 CFS with these improvements.	\$ 4,900,000	Capital	\$ 4,900,000			Rural - Levee repair and infrastructure improvements
48	Sac_048	Lower Yuba River Native Fish Habitat Enhancement		Sacramento River	Sacramento	Yuba	Feather River	Yuba County Water Agency	The Lower Yuba River Accord River Management Team Planning Group (RMT) implements the Lower Yuba River Accord, which is an agreement between 17 stakeholders, which enables the Yuba County Water Agency to successfully operate the Yuba River Development Project. Apart from management of flows to benefit native salmon and steelhead, habitat enhancement is part of the relicensing agreement for the Project. Actions to benefit Feather and Yuba River native fish should be coordinated with the RMT, and opportunities may exist to pursue projects to benefit Yuba River native fish that would also benefit flood management. The RMT is conducting	\$ -	Capital	\$ -			Rural - Habitat restoration/reconnection
5	Sac_005	All-weather patrol road improvements - RD 10	Complete	Sacramento River	Sacramento	Yuba	Feather River	Reclamation District 10, Honcut, Yuba Water Agency	Project for ensuring the integrity of the all-weather patrol road on the levee crown. Project complete.	\$ 1,380,000	Ongoing	\$ 1,380,000	\$ 70,407		Systemwide - Emergency management
24	Sac_024	Erosion protection at identified sites vulnerable sites	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Reclamation District 10, Honcut, Yuba Water Agency	Preliminary, Planning Level project. Detailed project description not available at this time.	\$ 1,006,236	Capital	\$ -			Rural - Levee repair and infrastructure improvements
25	Sac_025	Reclamation District 10 Rural levee Repair Project	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Reclamation District 10, Honcut, Yuba Water Agency	Evaluate, design, and construct levee improvements in RD 10 to achieve USACE standards for this rural community	\$ 175,657,000	Capital	\$ 175,657,000			Rural - Levee repair and infrastructure improvements
42	Sac_042	Improve drainage along levee landside toe to improve visibility, flood fight access, and levee stability	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Reclamation District 10, Honcut, Yuba Water Agency	Preliminary, Planning Level project. Detailed project description not available at this time.	\$ 742,500	Capital	\$ -			Rural - Levee repair and infrastructure improvements
59	Sac_059	RD 10 Critical Seepage Repair	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Reclamation District 10, Honcut, Yuba Water Agency	FSRP identified critical site	\$ 310,000	Capital	\$ -			Rural - Levee repair and infrastructure improvements
75	Sac_075	Rodent Control - Reclamation District 10	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Reclamation District 10, Honcut, Yuba Water Agency	Project for rodent control and burrow mitigation to address known seepage and structural levee issues.	\$ 50,000	Ongoing	\$ -	\$ -		Systemwide - Routine maintenance
77	Sac_077	Seepage and under seepage site remediation	In-progress	Sacramento River	Sacramento	Yuba	Feather River	Reclamation District 10, Honcut, Yuba Water Agency	Preliminary, Planning Level project. Detailed project description not available at this time.	\$ 1,623,050	Capital	\$ -			Rural - Levee repair and infrastructure improvements
35	Sac_035	Forecast-Based Operations (F-BO) - maybe new name - Forecast-Informed Ops	In-progress	Sacramento River	Sacramento	Butte	Feather River	California Department of Water Resources, Yuba County Water Agency	Project includes the concept of F-BO, as applied to operation of Oroville Dam and Reservoir, with a 200-year flood and an assumed forecast lead time of 72 hours. Previous studies suggest that F-BO can provide modest, but significant reductions in downstream peak flood flows.	\$ 20,000,000	Ongoing	\$ 20,000,000	\$ 1,020,385		Systemwide - Reservoir operations
36	Sac_036	Forecast-Coordinated Operations for Yuba and Feather Rivers (F-CO)	Complete	Sacramento River	Sacramento	Yuba	Feather River	California Department of Water Resources, Yuba County	F-CO has been an ongoing effort, intensified since 2005, to jointly operate Oroville and New Bullard's Bar reservoirs to meet downstream flow objectives and minimize the risk of flooding. Continuing improvements in flood modeling tools, risk evaluation tools, real-time information, and flood forecasts would be implemented under F-CO.	\$ 2,000,000	Ongoing	\$ 2,000,000	\$ 102,039		Systemwide - Reservoir operations



