LWA
LARSEN WURZEL
& Associates, Inc.
2450 Venture Oaks Way, Suite 240 • Sacramento, CA 95833
www.larsenwurzel.com

# *Technical Memorandum*

## *Small Community Flood Risk Reduction (SCFRR)*

*Funding Sources Memorandum* *June 7, 2019*

**Prepared by:** Elisabet Abdissa
**Reviewed by:** Derek Larsen, P.E.

## *Purpose*

This memorandum has been prepared by Larsen Wurzel & Associates, Inc. (LWA) in support of the Department of Water Resources (DWR) Small Communities Flood Risk Reduction (SCFRR) Program. It is intended that this Memorandum will be used in conjunction with the Financial Feasibility Memo to inform Conceptual Finance Plans in identifying non-local funding sources for preferred structural and non-structural alternatives. The memo provides an extensive list of potential Federal and State funding sources to be considered in flood risk reduction and multi benefit SCFRR projects.

## *Background*

The SCFRR Program was created based on recommendations in the 2012 Central Valley Flood Protection Plan (CVFPP). The intention of this program is to invest in qualifying projects that reduce flood risks for small communities. As specified in the CVFPP, small communities are defined as developed areas with fewer than 10,000 residents, which do not fall in the category of urban. A goal in the 2012 CVFPP was to target a "100-year" level of protection for Small communities. The Federal Emergency Management Agency (FEMA) standard "100-year" level of flood protection is defined as protection from a flood with a 1-in-100 probability of occurrence in any given year for property located within a flood hazard zone.

The SCFRR Program will support the implementation of flood risk mitigation projects for small communities protected by State Plan of Flood Control (SPFC) facilities in the Sacramento-San Joaquin Valley. With assistance from the State, small communities and counties are conducting design, construction, and financial feasibility studies. Projects under the SCFRR Program conduct feasibility studies of structural and/or non-structural alternatives to reduce the risk of flooding for small communities. The structural alternatives are intended to lead to the design of projects that repair, rehabilitate, reconstruct, or replace SPFC facilities to improve flood protection. In the sections to follow, this memorandum will address structural and non-structural alternatives along with possible funding sources to be utilized by Small Communities in implementing flood risk reduction and multi-benefit projects.

## *Structural & Non-Structural Alternatives*

### Structural Solutions

Structural solutions are any physical construction implementations intended to avoid or reduce potential impacts of flood hazards. Through the application of engineering techniques or technology, structural solutions are implemented to achieve hazard resistance and resilience in flood structures or systems. Measures including the construction and reconstruction of water courses and water protection facilities such as levees, dikes, dams, floodgates, pumping stations, and other flood protection infrastructure are implemented in areas where flood risk cannot be sufficiently reduced by non-structural methods alone. The State and federal governments offer funding programs to match local funds for structural projects.

This report examines funding for structural solutions that can be implemented to mitigate against flood risk and provide multi-benefit objectives. These alternatives are discussed further in the Structural Solution Summaries section; 1) Levees, 2) Floodwalls, 3) Flood Bypass, 4) Erosion Control, and 5) Dams.

### Non-Structural Solutions

According to the United States Army Corp of Engineers (USACE), [1]non-structural solutions are contingent physical or nonphysical measures utilized to mitigate or prevent potential damages from flooding. Implementing such nonstructural flood risk reduction measures is proven to reduce overall flood risk and flood damage. [2]Physical nonstructural measures are applied on a structure by structure basis while nonphysical non-structural measures are floodplain management activities intended to address flood risk through regulation, programs, and best management practices. The State and federal governments offer funding programs to match local funds for non-structural projects.

This report considers funding for non-structural solutions which are discussed further in the Non-Structural Solution Summaries Section; 1) Changes to National Flood Insurance, 2) Levee Relief Cuts, 3) Emergency Flood Fight Plan, 4) Flood Emergency Evacuation Plan, 5) Flood Emergency Warning System, 6) Voluntary Structure Elevation & Floodproofing, and 7) Buyout/Acquisitions.

## *Multi-Benefit Improvements*

The State strongly supports and encourages the planning and implementation of projects that include multi-benefit improvement objectives. Projects can include increasing the flood system resiliency by protecting and restoring crucial ecosystems, and improving water supply, water quality, recreation and public education related to integrated water management. Multi-benefit objectives within and surrounding small communities can be integrated into identified flood improvement alternatives to enhance the function of the region's flood system and management. According to the 2017 CVFPP update, a multi-benefit alternative more efficiently and effectively leverages flood infrastructure to achieve a broader array of public benefits and may potentially

[1] http://www.nwd-mr.usace.army.mil/rcc/MRFTF/docs/USACE-NFPC%20Nonstructural%20Measures%20Definitions.pdf
[2]https://www.floods.org/acefiles/documentlibrary/committees/floodproofing/Nonstructural_Flood_Risk_Management_Pamphlet_v2.pdf

increase access to more funding sources.[3] Available State funding sources for multi-benefit improvement projects are provided in a later section of this memo.

## *Funding Sources*

In general, funding for Flood Risk Management efforts comes from three sources; federal, state and local governments. For the purposes of this of memo, the below sections cover **Federal** and **State** Funding mechanisms, available programs, Requirements, and constraints.

### Securing Federal Funding

The process for garnering federal funding for flood risk reduction projects requires that a federal interest in the project be identified. Federal interest has generally been identified and evaluated within feasibility studies prepared by the USACE that evaluate various criteria and generally emphasize the cost in relation to flood damage-reduction benefits associated within a specific project.

Small communities and rural areas generally lack the necessary benefits to justify a significant federal interest, but under programs such as SCFRR, these communities can be served through State lead federal funding solicitations. **Table 1**, **Table 2**, and **Table 3** provide a summary of the Federal programs that are currently and expected to be available to local agencies to assist within funding structural and non-structural projects. Each table is broken apart by specific federal agency. **Table 1** lists available Federal programs currently provided under the Federal Emergency Management Agency (FEMA). **Table 2** lists available Federal funding programs under USACE and **Table 3** lists available United States Department of Agriculture (USDA) Federal programs. The typical cost share percentages for these programs are listed, however, cost sharing percentages can vary widely based upon project specific attributes.

[3] https://cawaterlibrary.net/wp-content/uploads/2017/10/2017CVFPPUpdate-Final-20170828.pdf

**Table 1**
**SCFRR - Funding Sources Memo**
**FEMA Hazard Mitigation Assistance Grant Programs**

| Program | Agency/Dept. | Type of Assistance | Purpose | Eligibility | Cost Share | Maximum Project Assistance | Role of Flood In Program | Requirements | Stafford Act Authorization |
|---|---|---|---|---|---|---|---|---|---|
| **Flood Mitigation Assistance (FMA)** | FEMA | Grant | Mitigate flood-damaged properties in order to reduce or eliminate claims under NFIP | Acquisition, demolition, floodproofing, relocations, elevation, mitigation, flood risk reduction | Only for NFIP insured properties and planning grants - up to 75%/ repetitive loss up to 90%/Severe repetitive loss - 100% | Depends on type of activity funded | Structural and nonstructural projects | All sub applicants for FMA must be participating in the NFIP, and not be withdrawn or suspended, to be eligible to apply for grant funds. | Section 1366 of the National Flood Insurance Act |
| **Repetitive Flood Claims Grant Program (RFCP)** | FEMA | Grant | Reduce or eliminate the long-term risk of flood damage to structures insured under the National Flood Insurance Program (NFIP) that have had one or more claim payment(s) for flood damages. | RFC awards will prioritize acquisition projects that create the greatest savings to the NFIF based on a Benefit-Cost Analysis (BCA). | Up to 100% | RFC grants are awarded nationally without reference to State allocations, quotas, or other formula-based allocation(s) of funds. The RFC program is subject to the availability of appropriation funding. | Structural and nonstructural projects | All Applicants and sub applicants must be participating in the National Flood Insurance Program (NFIP), and must not be suspended or withdrawn from the NFIP. | Section 1323 of the National Flood Insurance Act |
| **Pre-disaster Mitigation (PDM)** | FEMA | Grant | Assist in Implementation of flood risk mitigation prior to disasters. | Acquisition, demolition, floodproofing, relocations, elevation, mitigation, flood risk reduction | up to 75% & up to 90% if applicant is small, impoverished community | $4 M - Mitigation project/ $400,000 new mitigation plan/ $150,000 local mitigation plan update | Structural and nonstructural projects | HMGP and PDM mitigation project sub applications for projects sited within an SFHA are eligible only if the jurisdiction in which the project is located is participating in the NFIP. There is no NFIP participation requirement for HMGP and PDM project sub applications for projects located outside of the SFHA. | Section 203 of the Stafford Act, 42 U.S.C. §5133. |
| **Hazard Mitigation Grant Program (HMGP)** | FEMA | Grant | Flood risk reduction and reduction of reliance on future federal disaster assistance | Acquisition, demolition, floodproofing, relocations, elevation, mitigation, flood risk reduction | Up to 75% | There is no minimum or maximum project/planning grant award amount (within availability of funds) | Structural and nonstructural projects | Available only after a Federally Declared Disaster. HMGP and PDM mitigation project sub applications for projects sited within an SFHA are eligible only if the jurisdiction in which the project is located is participating in the NFIP. There is no NFIP participation requirement for HMGP and PDM project sub applications for projects located outside of the SFHA. | Section 404 of the Stafford Act, 42 U.S.C. §5170c. |

*Source: Congressional Research Services (2018 Flood Resilience and Risk Reduction: Federal Assistance and Programs)*

**Table 2**
**SCFRR - Funding Sources Memo**
**USACE Grant Programs**

| Program | Agency/Dept. | Type of Assistance | Purpose | Eligibility | Cost Share | Maximum Project Assistance | Role of Flood In Program | Authorization |
|---|---|---|---|---|---|---|---|---|
| **Flood Damage Reduction Projects (FDRP)** | USACE | Study and construction Grant | Improvements to reduce riverine and coastal storm damages. Pursued as individual projects and not under authorized national program | Flood-damage reduction works, typically engineered works (e.g., levees, engineered dunes and beaches, storm surge gates and dams). Projects generally are required to have national benefits exceeding costs, or address public safety concerns | 50% & when P.L 115-123 monies are used and 100% for feasibility study | Depends on project-specific authorization of appropriations | limited to projects that reduce riverine and coastal flood damage; generally do not address drainage or flooding from groundwater | Construction of individual projects is authorized by Congress, typically in a Water Resources Development Act or other omnibus water authorization legislation. |
| **Flood-Related Continuing Authorities Program (FRCA)** | USACE | Study and construction Grant | Reduce flood damages via structural and non-structural method (CAPs) section 205. | Flood damage reduction works that have not previously been specifically authorized by Congress and are not part of a larger project. | Study: 50% after initial $0.1 M// Construction: 65%// O&M: 0% (for territories and tribes first $0.455 M of O&M covered) | The maximum federal expenditure per project is $7 million, including feasibility study, design and construction costs. | Limited to projects that reduce flood damages (not including drainage from within community) | Under authorized Continuing Authorities Programs (CAPs) (§205)33 U.S.C. §701s. (§103) 33 U.S.C. §426g. (§14) 33 U.S.C. §701r. (§111) 33 U.S.C. §426i. |

*Source: Congressional Research Services (2018 Flood Resilience and Risk Reduction: Federal Assistance and Programs)*

**Table 3**
**SCFRR - Funding Sources Memo**
**USDA Grant Programs**

| Program | Agency/Dept. | Type of Assistance | Purpose | Eligibility | Cost Share | Maximum Project Assistance | Role of Flood In Program | Authorization |
|---|---|---|---|---|---|---|---|---|
| **Emergency Watershed Protection (EWP) - Floodplain Easements** | U.S Department of Agriculture (USDA) | Technical assistance and Grant | floodplain easements are meant to safeguard lives and property from future floods, drought, and the products of erosion through the restoration and preservation of the land's natural values. | Restore and enhance floodplain function and values, includes removing all structures, including buildings, within easement boundaries. | 100% of restoration costs and up to 75% of building removal costs. | Landowners receive the smallest of the following values as an easement payment: (1) geographic area rate established by the NRCS; (2) fair market value based on an area-wide market analysis or an appraisal completed according to the Uniform Standards of Professional Appraisal Practices; or (3) the landowner's offer | Land must be within an eligible floodplain | 33 U.S.C. §701b-1 and 16 U.S.C. §§2203-2205. |
| **Watershed and Flood Prevention (WFPO)** | U.S Department of Agriculture (USDA) | Grant | Planning and installation of watershed projects | Land treatment and structural and non-structural facilities for flood prevention and erosion reduction (structural: dams, levees, canals, and pumping stations) | 100% for construction for flood protection up to $25 M before congressional approval is needed / up to 50% of costs for land, easements, and rights-of-way allocated to public fish and wildlife and recreational developments may be paid with program funds. Local sponsors must agree to all O&M | No project may exceed 250,000 acres, and no more than 12,500 acre-feet of floodwater detention capacity or 25,000 acre-feet of total capacity without congressional approval. Congressional approval is also required when a project includes an estimated federal contribution of more than $25 million for construction. | Flood prevention and protection | projects built under two authorities—the Watershed Prevention and Flood Protection Act of 1954 (P.L. 83-566) and the Flood Control Act of 1944 (P.L. 78-534). 33 U.S.C. §701b-1, and 16 U.S.C. §§10011008 |

*Source: Congressional Research Services (2018 Flood Resilience and Risk Reduction: Federal Assistance and Programs)*

## State Funding

The state of California carries out several programs designed to provide flood management and multi-benefit ecosystem restoration and protection objectives. While some programs are operated directly by the state, others provide grants to local agencies for similar purposes. State flood management and multi-benefit restoration programs have also been funded through general funds. Since 1996, voters have authorized several state general obligation bonds, Including Propositions 1E, 1, 68, and 84. Along with these current general bond provisions, additional programs may potentially become available in the future.

Proposition 1E

The Disaster Preparedness and Flood Prevention Bond Act of 2006 or Proposition 1E authorized funding to repair, rehabilitate, reconstruct, or replace levees, weirs, and bypasses to the SPFC Facilities. The state is Utilizing the remaining Proposition 1E bonds authorized to fund projects consistent with the CVFPP adopted in July 2012. Proposition 1E bond funds used for the SCFRR program has allowed and continues to allow the DWR to fund projects such as, repairing erosion sites and removal of sediment from channels or bypasses, evaluating and repairing levees and any other SPFC facilities, and also in implementing mitigation measures for projects by funding participation in a natural community conservation plan, pursuant of the Fish and Game Code section 2800 et seq., to facilitate eligible projects. **Table 4** presents the total bond allocation and remaining balance of Proposition 1E as of September 2018. Flood management and multi-benefit projects have utilized and continue to utilize grants administered under this proposition. With a total remaining balance of about $34 million of uncommitted funds, SCFRR projects should continue to utilize funding from grant programs that fall under Proposition 1E.

Proposition 1

On November 4, 2014, California voters approved Proposition 1, the Water Quality, supply, and infrastructure improvement Act of 2014. Like Proposition 1E, this state approved general obligation bond has been utilized to fund multi-benefit and flood management projects. $163 Million has been committed and awarded to multiple flood management projects with a remaining balance of $232 Million. **Table 5** presents the total bond allocation and remaining balance of Proposition 1 as of February 2019. Along with flood management committed funds, Proposition 1 authorized $403 million in Integrated Regional Water Management (IRWM) funding. Funds are allocated to 12 hydrologic region-based Funding Areas. The IRWM Grant Program is designed to encourage integrated regional strategies for management of water resources by providing funding for projects and programs that support integrated water management. DWR plans to award grants on a competitive basis in at least two funding rounds. On October 5, 2018 DWR released the 2018 IRWM Implementation Grant Program which is round one of the Proposition. The IRWM Implementation Grant Program provides funding for implementation projects that meet the intent of Proposition 1, Chapter 7. DWR is proposing that approximately $194 million be made available for implementation projects with approximately $18 million designated for projects that provide benefits to disadvantaged communities.

Proposition 68

Proposition 68, the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act is another and more recent general obligation bond passed by voters in June 2018. Multi-benefit ecosystem restoration and recreational projects serve to benefit from this funding source. Listed below in **Table 6** is the total bond allocation and remaining balance of Proposition 68 as of March 2019.

Proposition 84

The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 or Proposition 84 is another general obligation bond that has been utilized to fund flood protection and multi-benefit projects. Listed in **Table 7** Is the total bond allocation and remaining balance to fund future projects as of February 2019.

**Table 8** provides a breakdown of current and future state programs available to local agencies to fund structural and non-structural flood management, and multi-benefit objective improvement projects. The typical cost share percentages for these can vary widely based upon project specific attributes. Information specified in the table reflect figures provided by the California Natural Resources agency. Available funding dollar values are as of January 2019.

**Table 4**
**SCFRR - Funding Sources Memo**
**Proposition 1E Allocation Balance Report (as of September 2018)**

| Chapter | Original Allocation | Adjusted Allocation[1] | Committed[2] | Balance[3] |
|---|---|---|---|---|
| Section 5096.821 State plan of flood control | $3,000,000,000 | $2,926,650,367 | $2,875,371,583 | $51,278,784 |
| Section 5096.824 Flood control and flood prevention projects | $500,000,000 | $487,775,061 | $478,627,900 | $9,147,161 |
| Section 5096.825 Flood protection corridors and bypasses | $290,000,000 | $282,909,535 | $269,397,245 | $13,512,291 |
| Section 5096.827 Storm water flood management | $300,000,000 | $292,665,037 | $289,474,811 | $3,190,226 |
| Section 5096.953 et seq. Statewide Bond Cost | $0 | $0 | $43,150,000 | ($43,150,000) |
| Reallocated to Proposition 1 | $0 | $100,000,000 | $100,000,000 | $0 |
| **Total** | **$4,090,000,000** | **$4,090,000,000** | **$4,056,021,539** | **$33,978,462** |

Source: State of California Resources

1"Adjusted Allocation" reflects the "Original Allocation" less an adjustment mandated by Prop 1 distributed across all program chapters.

2"Committed" means the amount appropriated, the amount proposed for appropriations, or amount committed in out years.

3"Balance" equals Chapter Balance plus Chapter Set Asides as found on the Summary for Chapters in the Balance Allocations Report under Featured Links.

**Table 5**
**SCFRR - Funding Sources Memo**
**Proposition 1 Allocation Balance Report (as of February 2019)**

| Chapter | Original Allocation | Adjusted Allocation[1] | Committed[2] | Balance[3] |
|---|---|---|---|---|
| Ch. 5 Clean, Safe and Reliable Drinking Water | $520,000,000 | $520,000,000 | $504,045,698 | $15,954,302 |
| Ch. 6 Protecting Rivers, Lakes, Streams, Coastal Waters and Watersheds | $1,495,000,000 | $1,495,000,000 | $1,251,258,911 | $243,741,089 |
| Ch. 7 Regional Water Security, Climate, and Drought Preparedness | $810,000,000 | $810,000,000 | $786,712,177 | $23,287,823 |
| Ch. 8 Statewide Water System Operational Improvement and Drought Preparedness | $2,700,000,000 | $2,700,000,000 | $2,646,000,000 | $54,000,000 |
| Ch. 9 Water Recycling | $725,000,000 | $725,000,000 | $697,461,270 | $27,538,730 |
| Ch. 10 Groundwater Sustainability | $900,000,000 | $820,000,000 | $788,375,100 | $31,624,900 |
| Ch. 11 Flood Management | $395,000,000 | $395,000,000 | $163,000,000 | $232,000,000 |
| Ch. 4/12 Statewide Bond Costs | $0 | $0 | $149,300,000 | ($149,300,000) |
| Reallocated to Proposition 68 | $0 | $80,000,000 | $80,000,000 | $0 |
| **Total** | **$7,545,000,000** | **$7,545,000,000** | **$7,066,153,156** | **$478,846,844** |

Source: State of California Resources

1 "Adjusted Allocation" reflects the "Original Allocation" less an adjustment mandated by Prop 68 for WC 79772.

2 "Committed" means any amount appropriated in a current or prior year Budget or proposed for appropriation in a current Proposed Budget.

3 "Balance" equals Chapter Balance plus Chapter Set Asides as found on the Summary for Chapters in the Balance Allocations Report under Featured Links.

**Table 6**
**SCFRR - Funding Sources Memo**
**Proposition 68 Allocation Balance Report (as of March 2019)**

| Chapter | Allocation | Committed[1] | Balance[2] |
|---|---|---|---|
| Ch. 2 Investments in Environmental and Social Equity, Enhancing California's Disadvantaged Communities | $706,875,000 | $277,379,000 | $447,621,000 |
| Ch. 3 Investments in Protecting, Enhancing, and Accessing California's Local and Regional Outdoor Spaces | $277,875,000 | $186,012,000 | $98,988,000 |
| Ch. 4 Restoring California's Natural, Historic, and Cultural Legacy | $212,550,000 | $22,750,000 | $195,250,000 |
| Ch. 5 Trails and Greenway Investment | $29,250,000 | $117,000 | $29,883,000 |
| Ch. 6 Rural Recreation, Tourism, and Economic Enrichment Investment | $24,375,000 | $30,000 | $24,970,000 |
| Ch. 7 California River Recreation, Creek, and Waterway Improvements Program | $157,950,000 | $67,909,000 | $94,091,000 |
| Ch. 8 State Conservancy, Wildlife Conservation Board, and Authority Funding | $747,825,000 | $132,873,000 | $634,127,000 |
| Ch. 9 Ocean, Bay, and Coastal Protection | $170,625,000 | $32,652,000 | $142,348,000 |
| Ch. 10 Climate Preparedness, Habitat Resiliency, Resource Enhancement, and Innovation | $431,925,000 | $182,741,000 | $260,259,000 |
| Ch. 11 Clean Drinking Water and Drought Preparedness | $243,750,000 | $63,250,000 | $186,750,000 |
| Ch. 11.1 Groundwater Sustainability | $78,000,000 | $74,000,000 | $6,000,000 |
| Ch. 11.5 Flood Protection and Repair | $536,250,000 | $98,617,000 | $451,383,000 |
| Ch. 11.6 Regional Sustainability for Drought and Groundwater, and Water Recycling | $380,250,000 | $120,150,000 | $269,850,000 |
| Ch. 13 Statewide bond costs | $102,500,000 | $102,500,000 | ($102,500,000) |
| **Total** | **$4,100,000,000** | **$1,360,980,000** | **$2,739,020,000** |

Source: State of California Resources
1"Committed" means the amount appropriated, the amount proposed for appropriations, or amount committed in out years.
2"Balance" equals Chapter Balance plus Chapter Set Asides as found on the Summary for Chapters in the Balance Allocations Report under Featured Links.

**Table 7**
**SCFRR - Funding Sources Memo**
**Proposition 84 Allocation Balance Report (as of February 2019)**

| Chapter | Original Allocation | Adjusted Allocation[1] | Committed[2] | Balance[3] |
|---|---|---|---|---|
| Ch. 2 Safe Drinking Water and Water Quality Projects | $1,525,000,000 | $1,495,281,200 | $1,466,833,000 | $28,448,000 |
| Ch. 3 Flood Control | $800,000,000 | $784,409,800 | $752,247,000 | $32,163,000 |
| Ch. 4 Statewide Water Planning and Design | $65,000,000 | $63,733,300 | $62,299,000 | $1,435,000 |
| Ch. 5 Protection of Rivers, Lakes and Streams | $928,000,000 | $909,915,400 | $847,219,000 | $62,696,000 |
| Ch. 6 Forest and Wildlife Conservation | $450,000,000 | $441,230,500 | $446,667,000 | ($5,436,000) |
| Ch. 7 Protection of Beaches, Bays and Coastal Waters | $540,000,000 | $529,476,600 | $488,841,000 | $40,635,000 |
| Ch. 8 Parks and Nature Education Facilities | $500,000,000 | $490,256,100 | $453,901,000 | $36,355,000 |
| Ch. 9 Sustainable Communities and Climate Change Reduction | $580,000,000 | $568,697,100 | $552,859,000 | $15,838,000 |
| Ch. 10/11 Statewide Bond Cost | $0 | $0 | $83,580,000 | ($83,580,000) |
| Reallocated to Proposition 1 | $0 | $105,000,000 | $105,000,000 | $0 |
| **Total** | **$5,388,000,000** | **$5,388,000,000** | **$5,259,446,000** | **$128,554,000** |

Source: State of California Resources
1"Adjusted Allocation" reflects the "Original Allocation" less an adjustment mandated by Prop 1 distributed across all program chapters.
2"Committed" means the amount appropriated, the amount proposed for appropriations, or amount committed in out years.
3"Balance" equals Chapter Balance plus Chapter Set Asides as found on the Summary for Chapters in the Balance Allocations Report under Featured Links.

**Table 8**
**SCFRR - Funding Sources Memo**
**State Flood Management & Multi-benefit Programs**

| Program | Department | Program Approach | Purpose | Eligible to Apply | State Cost Share | Status | Type of Assistance | Funding Source | Available Funding as of January 2019 |
|---|---|---|---|---|---|---|---|---|---|
| **Delta Levees Maintenance Subventions** | Department of Water Resources (DWR) | Flood Management | Receives funding from Prop 1E, 1 and Proposition 84 for financial assistance to local levee maintaining agencies in the Sacramento - San Joaquin Delta for the maintenance and rehabilitation of nonproject and eligible project levees authorized in the California Water Code § 12980(f) | Local levee maintaining agencies and Reclamation Districts compliant with all requirements in CA Water Code §§ 12980-1299 | 75% | Ongoing | Grant | Proposition 1E, 1, & 84 | $12 million |
| **Delta Levees Special Flood Control Projects** | Department of Water Resources (DWR) | Flood Management/ Multi-Benefit | Receives funding from Prop 1E & 84. Provides financial assistance to local levee maintaining agencies for flood control and levee rehabilitation projects in the Delta as authorized in the California Water Code sections 12300-12318 | Local levee maintaining agencies and Reclamation Districts compliant with all requirements in CA Water Code §§ 12980-1299 | 75% | Ongoing | Grant | Proposition 1E & 84 | $60 million |
| **Early Implementation Program (EIP) & Urban Flood Risk Reduction (UFRR)** | Department of Water Resources (DWR) | Flood Management | The EIP was a State program related to the SPFC and was created to fund high-priority projects to restore or improve flood protection in advance of the 2012 Central Valley Flood Protection Plan (CVFPP). EIP projects existed in both urban and non-urban areas. Since adoption of the CVFPP in 2012, the Urban Flood Risk Reduction (UFRR) Program has extended the work begun under the EIP to support implementation of regional flood-damage-reduction projects for urban areas protected by the SPFC. Section 8.4.4 provides more details on UFRR projects. | Urban areas protected by the SPFC | 50% to 90% | Ongoing | Grant | Proposition 1E | $1.2 Billion of Prop 1E |
| **Regional Flood Management Planning (RFMP)** | Department of Water Resources (DWR) | Flood Management | Intended to provide meaningful engagement by the Regional Partners in the Central Valley Flood Protection Plan (CVFPP) and maintain working relationships to develop a common understanding of regional flood issues and priorities. formulate and assess flood management solutions and strategies that reflect the vision, feasibility projects, assess the performance of the projects, and develop a plan that reflects the vision of local entities in reducing flood risks in their region. | A California local public agency with responsibility for flood management in the region that is a part of the area protected by the facilities of the SPFC that is willing to participate in, coordinate, and collaborate with other interested parties in the region that are participating in the development of their RFMP. | 75% | Ongoing since October 2012 | Direct Funding | Proposition 1E | $2.4 million |
| **Small Communities Flood Risk Reduction Program (SCFRRP)** | Department of Water Resources (DWR) | Flood Management/ Multi-Benefit | Projects to reduce flood risk in small communities in the Central Valley. Funds for feasibility studies, design, and construction of proactive repairs to flood control facilities of the State Plan of Flood Control (SPFC). | Local Agencies with Land Use Authority (cities/counties), protected by SPFC, and within the Levee Flood Protection one | 50% cost share for costs above $500,000. | Ongoing | Grant Funds | Proposition 1E | Phase 2 - Design and Implementation: Approximately $27 million. |
| **Flood System Repair Projects (FSRP)** | Department of Water Resources (DWR) | Flood Management/ Multi-Benefit | Evaluate (feasibility), design, and construct repairs of non-urban SPFC Facility (levees, channels, structures, etc.) deficiencies | The FSRP is limited to facilities of the SPFC maintained by LMAs or by DWR, as defined in Public Resources Code § 5096.805(j): | 50% to 90% | Ongoing | Grant | Proposition 1E | Up to $150 million Proposition 1E funds |
| **Flood Control Subventions Program (FCSP)** | Department of Water Resources (DWR) | Flood Management | Funded by both IE and 84 funded. Implementation of federally-authorized, locally-led, flood control projects (minor or major) and Watershed Protection Flood Prevention Projects. | Local public agencies with federal projects that are not part of the State Plan of Flood Control. | 75% | Ongoing | Funds (Claims Reimb.) | Proposition 1E & 84 | >170 million |
| **California Streamflow Enhancement Program (CSEP)** | Wildlife Conservation Board (WCB) | Multi-Benefit | Providing enhanced stream flow, especially in those streams that support anadromous fish; special status, threatened, endangered or at risk species; or provide resilience to climate change. | Cities, counties, nonprofit organizations, special districts, tribes and state entities | Cost share not required | Ongoing | Grant | Proposition 1 | $130 million |
| **Lower American River Conservation Program (LARCP)** | Wildlife Conservation Board (WCB) | Multi-Benefit | Work cooperatively with local agencies, particularly the County of Sacramento in its role as the American River Parkway Manager, and nonprofit organizations to restore, enhance, interpret, protect and improve public access to the American River Parkway's natural, recreational, educational and cultural resources. | Local agencies and nonprofit organizations. | Not Specified | Ongoing | Grant | Proposition 1 | $10 million |
| **Central Valley Tributaries Program (CVTP)** | Department of Water Resources (DWR) | Multi-Benefit | Flood management projects that enhance water quality and ecosystems of rivers and streams tributary to the Sacramento-San Joaquin Delta. | Local Agencies | TBD | Future | Grant | Proposition 1 | Up to $36 million. Additional future funding may be available. |
| **Integrated Regional Water Management (IRWM)** | Department of Water Resources (DWR) | Multi-Benefit | Development and revisions of IRWM Plans, and implementation of projects in IRWM Plans. Goals of Projects:(a) help water infrastructure systems adapt to climate change, including, but not limited to, sea level rise, (b) provide incentives for water agencies throughout each watershed to collaborate in managing the region's water resources and setting regional priorities for water infrastructure, and (c) improve regional water self-reliance consistent with Section 85021. | Public agencies, non-profit organizations, public utilities, federally recognized Indian tribes, state Indian tribes listed on the Native American Heritage Commission's Tribal Consultation list, and mutual water companies (Water Code Section 97917 (ab)). | Up to 50% | Ongoing | Grant | Proposition 1 | $403 million for implementation grants, with not less than $51 million awarded to projects that directly benefit disadvantaged communities. |
| **San Joaquin River Conservancy Proposition 1 Grant Program** | San Juaquin River Conservancy | Multi-Benefit | Projects that demonstrate multiple benefits to water quality, water supply, and/or ecosystem and watershed protection and restoration within the Conservancy's jurisdictional planning area (San Joaquin River, Friant Dam to Highway 99). Projects must be consistent with the requirements and purposes of Proposition 1 and the Conservancy's Grant Guidelines | Public agencies, nonprofit 501(c)(3) organizations, public utilities, federally recognized Indian tribes, and mutual water companies | Not Specified | Ongoing | Grant | Proposition 1 | $5.9 million |
| **Delta Conservancy Ecosystem Restoration and Water Quality Grant Program** | Sacramento-San Joaquin Delta Conservancy | Multi-Benefit | Planning and implementation grants are available for ecosystem protection, restoration and enhancement, water quality, and water-related agricultural sustainability projects | California public agencies, qualifying nonprofit organizations, public utilities, mutual water companies, and eligible tribal organizations | TBD | Future | Grant | Proposition 1 | $17.1 million |
| **Specialty Park Program (SPP) Round 3** | California State Parks | Multi-Benefit | To Create new parks and new recreation opportunities in underserved communities across California | Cities, Counties, Districts as defined, Joint Powers Authorities, Non Profit Organizations | Cost share not required | Ongoing/ Application Deadline Aug 2019 | Grant | Proposition 68 | $254,942,000 |

| Program | Department | Program Approach | Purpose | Eligible to Apply | State Cost Share | Status | Type of Assistance | Funding Source | Available Funding as of January 2019 |
|---|---|---|---|---|---|---|---|---|---|
| **Specialty Park Program (SPP) Future Rounds** | California State Parks | Multi-Benefit | To Create new parks and new recreation opportunities in underserved communities across California | Cities, Counties, Districts as defined, Joint Powers Authorities, Non Profit Organizations | Cost share not required | Future | Grant | Proposition 68 | $395,333,000 |
| **Regional Park Program (RPP)** | California State Parks | Multi-Benefit | To Create, expand, or renovate parks and park facilities, including, but not limited to, trails, regional trail networks, regional sports complexes, low-cost accommodations in park facilities, and visitor, outdoor, and interpretive facilities. | Regional park districts, counties, and regional open-space districts, open-space authorities formed pursuant to Division 26 (commencing with Section 35100), joint powers authorities, and eligible nonprofit organizations | TBD | Future | Grant | Proposition 68 | $23,125,000 |
| **Flood Emergency Response Grants Program: Delta Flood ER Grant** | Department of Water Resources (DWR) | Flood Management | Improve local flood emergency response in California and contribute to increased public safety. Examples of eligible projects include: • Preparing or updating the local flood emergency plan • Coordinating flood emergency planning and preparedness, including training and exercises • Developing processes to effectively communicate and coordinate response to flood emergencies • Collecting and exchanging flood information • Purchasing and installing equipment and materials needed for emergency communication and more flood fight, & stockpiling to protect critical infrastructure. | California Public Agencies within the legal delta including primary and secondary zones with primary responsibility for flood emergency response and coordination | TBD | Ongoing | Grant | Proposition 1E | $4.8 million |
| **Urban Stormwater and Waterways Improvement Program** | California Natural Resources Agency | Flood Management | Funding for the purposes of multi-benefit projects in urbanized areas to address flooding. Projects shall include but are not limited to stormwater capture and reuse, planning and implementation of low impact development, restoration of urban streams and watersheds, and increasing permeable surfaces to help reduce flooding. | Local agencies, nonprofit organizations, nongovernmental land conservation organizations, federally recognized Native American tribes, or nonfederally recognized California Native American tribes | TBD | Future | Grant | Proposition 68 | $92.5 million |
| **Urban Green Infrastructure Program** | California Natural Resources Agency | Multi-Benefit | Funding for multi-benefit green infrastructure investments in or benefiting disadvantaged or severely disadvantaged communities. | Local agencies, nonprofit organizations, nongovernmental land conservation organizations, federally recognized Native American tribes, or nonfederally recognized California Native American tribes listed on the California Tribal Consultation List maintained by the Native American Heritage Commission. | TBD | Future | Grant | Proposition 68 | $18.5 million |
| **Habitat Enhancement and Restoration Program (HERP)** | Department of Water Resources (DWR) | Multi-Benefit | Funded through Props 68 & 84. Consistent with Fish and Game Code section 1301, this program provides assistance for the restoration and enhancement of fish and wildlife resources | Cities, counties, nonprofit organizations, special districts and state entities | Not Specified | Ongoing | Grant | Proposition 68 & 84 | $105 million under the Propositions. Under HCF receive approximately $1 million annually for wetland restoration outside the Central Valley until the year 2020. |
| **California Riparian Habitat Conservation Program** | Wildlife Conservation Board (WCB) | Multi-Benefit | Supports a coalition of state, federal, local and private organizations whose mission is to develop a coordinated approach to the protection of riparian ecosystems. Grants are awarded for the protection, restoration and enhancement of riparian habitat systems. | Cities, counties, nonprofit organizations, special districts and state entities | Not Specified | Ongoing | Grant | Habitat Conservation Fund | $3 million annually for restoration and acquisitions until the year 2020 |
| **Inland Wetlands Conservation Program (IWC)** | Wildlife Conservation Board (WCB) | Multi-Benefit | To assist the Central Valley Joint Venture in its mission to protect, restore and enhance wetlands and associated habitats in the Central Valley. The public/private partnership works to increase the populations of wintering and breeding waterfowl, shorebirds, water birds, and riparian songbirds. | Cities, counties, nonprofit organizations, special districts and state entities | Not Specified | Ongoing | Grant | Habitat Conservation Fund, Inland Wetland Conservation Fund | $2 million annually for restoration and acquisitions until the year 2020 |
| **Watershed Restoration Grant Program** | California Department of Fish and Wildlife | Flood Management/ Multi-Benefit | Program funds water quality, river, and watershed protection and restoration projects of statewide importance outside of the Delta. | Public agencies, Native American tribes, and nonprofit organizations | Not Specified | Ongoing | Grant | Proposition 1 | Approximately $122.9 million |
| **Flood Maintenance Assistance Program (FMAP)** | Department of Water Resources (DWR) | Flood Management | This program will help ensure that State Plan of Flood Control facilities are properly maintained and have sufficient resources, including funding, to meet applicable federal regulations and Operation and Maintenance (O&M) manual requirements. | Local Maintaining Agencies (LMAs) and Maintenance Areas (MAs) protected by SPFC | 75% for the first $10,000 per mile expenditure & 50% for expenditures in excess of $10,000 per mile. | Ongoing/ Application deadline 03/2019 | Grant | Budget Act of 2018 | All funding will depend on the program demand and fund availability |
| **State Community Developmenmt Block Grant (CDBG)** | Housing Urban Development (HUD) | Multi-Benefit | States award grants to smaller units of general local government that develop and preserve decent affordable housing, to provide services to the most vulnerable in our communities, and to create and retain jobs. Annually, each State develops funding priorities and criteria for selecting projects. | Non-entitlement areas, which include those units of general local government which do not receive CDBG funds directly from HUD and have a populations of less than 50,000 | Amounts expended on administration in excess of $100,000 must be matched. | Ongoing | Grant | Housing and Community Development Act of 1974, amended 1981 | Annually, each State develops funding priorities and criteria for selecting projects. |

Source: State of California Resources

## *Structural Solution Summaries*

Structural measures such as the ones listed below, are physical infrastructures that alter characteristics of the flood and reduce the probability of flooding in the location of interest. The section discusses four structural alternatives and potential funding opportunities for communities considering solutions to mitigate against the risk of flooding and meet multi-benefit objectives. **Table 9** provides a matrix of viable funding sources/programs to consider for the implementation of the below structural solutions.

### Solution 1: Levees

A levee is an earthen (soil) embankment, designed and constructed to contain, control, or divert the flow of water to provide protection from temporary flooding. A levee is built parallel to a body of water (most often a river) in order to protect lives and properties behind it from some level of flooding. A levee is certified or accredited if a licensed professional engineer or the federal agency responsible for levee design has demonstrated that the structure meets current design, construction, maintenance, and operation standards to provide protection from a flood. For FEMA, certification is for the one percent annual chance flood (100-year) and for Urban areas in California and certification for the State's Urban Level of Protection is 0.5 percent chance flood (200-year). To enhance the multi-benefit possibility of levees, implementation of a setback levee or addition of waterside planting berms can be considered. Creating more room for rivers by moving the levee further away reduces flood risk while also providing additional benefits such as improved fish and wildlife habitat and recreational opportunities. Providing berms along the water side slopes also provides an area for riparian habitat plantings and allows opportunity for natural channel meandering. Small communities implementing levee construction for flood mitigation should also consider a multi-benefit approach, which provides additional funding source eligibility from state programs.

### Solution 2: Floodwall

Like Levees, floodwalls are built parallel to a waterway in order to provide protection from flooding. Floodwalls are more likely to be found in urban areas and are made of concrete, steel (or vinyl), or other impermeable and structurally resilient material.

### Solution 3: Flood Bypass

A flood bypass is an area along a river or within a floodplain that is intentionally kept undeveloped for the purpose of diverting excess water into the river. This implementation is intended to reduce the risk of flooding in a nearby area, such as a city or business district. If constructed properly, bypasses can also provide valuable wetland and aquatic habitat. This flood control method can be designed and operated without eliminating processes needed to sustain habitats. Unlike levees or floodwalls, bypasses do not block lateral connectivity between the river and its floodplain. Communities in the Central Valley have the most limited access to parks among all California communities and bypass areas can be developed as parks or open spaces when not being used to manage floodwater. Fortunately, this multi-benefit approach, which expand floodways to convey floodwater safely, can improve public safety while also creating riverside parks and trails.

**Solution 4: Erosion Control/Repairs**
Erosion Control and repair projects are implemented to re-stabilize and protect river and stream banks after a flood event to prevent levee breaches resulting in damages and loss of life. There are different erosion control methods, depending on severity of the erosive forces during the design flood event, including channel bank armoring, bio-engineered vegetation plantings, and hard engineered structures.

**Solution 5: Dams**
Dams are barriers that impound hydrologic flows and retain floodwaters before they reach areas of risk. In situations of high-precipitation periods, dams hold upstream floodwaters that are gradually released to minimize the likelihood of damage to downstream communities. However, during events of magnitude, the storage capacity of a dam can be exceeded and uncontrolled flood flows are passed downstream. In these circumstances, downstream levees may not be able to contain floodwaters or may be stressed to the point of failure. Unlike a Levee, a dam built for flood protection is usually designed to reduce downstream flow during a flood by containing excess water and releasing it slowly over time. Dams also provide multi-benefit functions such as storing water for irrigation, community water supplies, recreation, and hydroelectric power.

## *Non-Structural Solution Summaries*

In contrast to physical infrastructure, which mitigates flood risk by controlling floodwaters, non-structural approaches adapt to and accommodate the potential of floods occurring. Unlike structural measures, Non-structural methods alter the impact or consequences of flooding and have little to no impact on the characteristics of the flood. In this section, we describe seven major non-structural approaches to consider for implementation. A matrix in **Table 9** outlines viable funding sources/programs corresponding to non-structural and structural solutions.

**Solution 1: Changes to National Flood Insurance Programs (NFIP)**
The National Flood Insurance Program (NFIP) was established in 1968 by congress to address several policy objectives, including 1) provision of affordable insurance premiums to residents located in flood risk areas, 2) reducing federal disaster assistance costs, 3) pushing efficiency in community-based floodplain management programs, and 4) identifying flood risk regions around the USA. Participating NFIP communities have requirements for mandatory flood insurance for structures with Federally backed loans as well as minimum building standards to reduce damages from a flood. However, these building standards can often result in inequitable costs for low risk agricultural structures and may negatively impact this low risk agricultural use of the floodplain. Revising NFIP standards to allow low risk agricultural development in the floodplain would help preserve equitable use and continue to provide an assessment base for these otherwise un-developable high flood risk areas.

**Solution 2: Levee Relief Cuts**
Levee relief cuts are flood mitigation techniques where an intentional break is executed in a downstream levee to allow flood water from a breach in an upstream levee to be drained back into an existing river. Levee relief cuts reduce the interior flood elevation by reducing the height of the levee preventing the flood water from

flowing back into the system. If located in the appropriate location so that floodwater can be managed efficiently and safely, this non-structural solution can prove to be viable in reducing flood damage.

**Solution 3: Emergency Flood Fight Plan**

An Emergency Flood Flight Plan is a written document that establishes how a specific maintaining agency will manage resources and operate during a flood event. To protect life and property, local agencies should utilize available resources to support flood response efforts and seek assistance from State and Federal Agencies when their capabilities are exceeded. According to the 2003 DWR report, "Flood Fighting Methods," The main causes of levee failure during periods of high water are Seepage, erosion, and overtopping. To combat such failures, maintaining agencies need to be equipped with the necessary flood fight stockpiling materials, such as, sandbags, lumber, sacks, and Visquine. In addition, maintainers should be adequately trained in flood fight methods and Standardized Emergency Management System (SEMS).

**Solution 4: Flood Emergency Evacuation Plan**[4]

Evacuation plans require detailed hydrologic analyses for determining the rate of rise of floodwaters for various rainfall or snowmelt events. In addition to determining the rate and rise of floodwaters, these plans identify total depth of flooding and velocities, which are often the more significant aspect of flooding. Utilizing evacuation plans in conjunction with other flood preparedness plans such as, evacuation warning systems, there is significant potential for the reduction of risk to human life. This solution should only be implemented if there is provision for adequate response and action time available for residents to evacuate. It is critical that rally points and evacuation routes be established and communicated to the public.

**Solution 5: Flood Emergency Warning System**

A flood emergency warning system is crucial in allowing the public as much time as possible to evacuate or avoid flood areas. Each community's jurisdiction is responsible for notifying residents when conditions of area levees threaten flooding. A well-informed public is likely to respond well in cases of flooding disasters. There are different ways of educating the public, including, a siren system, alert system, emergency calling system, and neighborhood watch and community support programs.

**Solution 6: Voluntary Structure Elevation & Floodproofing**

*a. Elevation*

Elevating structures; i.e. buildings, above flood level is a common and effective way of minimizing damage from floodwaters, and a key flood protection provision of the NFIP. The process consists of separating a building from its foundation by lifting the hydraulic jacks and placing it on a new or extended foundation. Elevation can be conducted on existing fills, foundation walls, piers, piles, and posts or columns. The proper elevation technique depends on the overall flood characteristics of the structure; flood depth or velocity.

*b. Floodproofing*

[4] http://www.nwd-mr.usace.army.mil/rcc/MRFTF/docs/USACE-NFPC%20Nonstructural%20Measures%20Definitions.pdf

Floodproofing is another effective way of minimizing any potential damages caused by floodwaters. This nonstructural solution can be categorized into two techniques; dry floodproofing and wet floodproofing. Dry floodproofing involves methods such as sealing building walls with waterproof compounds (membranes/sealants) for the provision of watertight closures. An important factor to keep in mind with this technique is that walls should be strong enough to withstand the hydrostatic force of the water. Safeguards can also be installed to seal off doors, windows, and any additional openings.

Wet floodproofing is a technique that can reduce the damage to a structure and its contents, while still allowing the structure to flood. With this method, the structure needs to be anchored in order to avoid flotation and include some form of permanent opening that will allow water to flow in and out of the structure without causing any damage to the foundation. [5]The most effective method of protection for equipment and contents is to relocate threatened items out of harm's way. Vulnerable items, such as electrical, mechanical, and utility need be relocated either permanently or temporarily to higher elevations or protected locations. The preferred depth of flood protection is a critical consideration in structure elevation and floodproofing processes. The overall Base Flood Elevation (BFE) will determine the costs associated with executing this nonstructural solution.

**Solution 7: Buyout/Acquisition**

An acquisition or buyout is a process in which, a local agency or the state decides to acquire and eliminate damageable structures. This would allow inhabitants occupying the residence to relocate away from flood hazards. This nonstructural technique can be executed either by demolishing or auctioning off the structure. New development sites can be established through this proposed solution in order to provide opportunities for displaced people to rebuild homes within other established communities.

## *Multi-Benefit Funding Summary*

Limited funding resources are currently available to support the development of multi-benefit projects as presented in **Table 8**. Multi-benefit projects use time-tested, common sense approaches combined with the latest engineering data to lower flood risk, enhance habitat, increase recreational opportunities, and improve water quality. Setting back levees or adding berms in strategic places and creating designated bypasses are just a few ways of reducing flood risk while at the same time protecting and restoring habitat ecosystems.

**Habitat Restoration**

State Agencies such as the Wildlife Conservation Board (WCB) have provided funding programs such as the California Riparian Habitat Conservation Program to support organizations whose mission is to develop a coordinated approach to protecting and enhancing riparian ecosystems. Riparian areas are the strips of land adjacent to streams, rivers, and wetlands. While Riparian areas comprise only a very small portion of the land area in the state, they are an extremely important component of healthy watersheds and ecological functions. These areas provide critical habitat for wildlife such as plant species or vegetations. Healthy riparian vegetation

[5] https://www.fema.gov/media-library-data/20130726-1511-20490-8042/tb_7_complete_scan.pdf

helps to reduce erosions and provides shade, which works to lower water temperatures. Lowered water temperatures support higher oxygen levels, which in turn are important in maintaining fisheries.[6]

**Recreational Opportunities**

The California State Parks department offers two funding programs that promote the creation, expansion, or renovation of parks and park facilities; Regional Park Program (RPP) and Specialty Park Program (SPP). These funding programs promote multi-benefit projects that assist underserved communities across California. Recreational implementations can include, but are not limited to trails, regional trail networks, regional sports complexes, low-cost accommodations in park facilities, and visitor, outdoor, and interpretive facilities.

**Water Quality Improvement**

The IRWM program promotes multi-benefit projects that improve water quality and water management projects. The program objectives include, providing clean, safe, reliable drinking water, implementing water use efficiency to meet or exceed state and federal requirements, and protect groundwater resources from contamination. Along with IRWM, programs such as the Watershed Restoration Grant Program offered by the California Department of Fish and Wildlife (CDFW) provides funding for projects that increase water quality and watershed protection and restoration.

## *Conclusion*

State and Federal funding is crucial for the viability of many small community flood risk reduction projects in the Central Valley. This Funding Sources memo along with the Financial Feasibility Memo provide a guide in informing small communities to identify non-local funding sources for structural and non-structural implementation strategies. The matrix provided on the next page (**Table 9**) should be used and cross referenced with the tables provided above (**Tables 1 through 8**) that outline the available State and Federal funding programs.

[6] http://deq.wyoming.gov/wqd/non-point-source/resources/why-are-riparian-areas-important/

**Table 9**
**SCFRR - Funding Sources Memo**
**Funding Sources by Solution Matrix**

| | | Structural | | | | Non-Structural | | | | | Study/ Plan/ O&M | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Funding Program** | **Agency** | **Levees/ Floodwalls/ Dams/Erosion** | **Bypasses** | **Changes to NFIP** | **Relief Cuts** | **Emergency Flood Fight Plan** | **Flood Emergency Evacuation Plan** | **Flood Emergency Warning System** | **Voluntary Structure Elevation & Floodproofing** | **Buyout / Acquisition** | **Feasibility Study /Flood Management Plan** | **OMRR&R** |
| Watershed Restoration Grant Program | Ca. DFWS | X | X | | | | | | | X | | |
| Urban Stormwater and Waterways Improvement Program | California Natural Resources Agency | X | X | | X | | | | | | | |
| Urban Green Infrastructure Program | California Natural Resources Agency | X | X | | X | | | | | | | |
| Specialty Park Program (SPP) Round 3 | California State Parks | X | X | | | | | | | | | |
| Specialty Park Program (SPP) Future Rounds | California State Parks | X | X | | | | | | | | | |
| Regional Park Program (RPP) | California State Parks | X | X | | | | | | | | | |
| Delta Levees Maintenance Subventions | DWR | X | | | | | | | | | | |
| Delta Levees Special Flood Control Projects | DWR | X | | | | | | | | | | |
| Early Implementation Program (EIP) & Urban Flood Risk Reduction (UFRR) | DWR | X | X | | | | | | | | | |
| Regional Flood Management Planning (RFMP) | DWR | | | | | | | | | | X | |
| Small Communities Flood Risk Reduction Program (SCFRRP) | DWR | X | X | | X | X | X | X | X | X | X | |
| Flood System Repair Projects (FSRP) | DWR | X | X | | | | | | | | | |
| Flood Control Subventions Program (FCSP) | DWR | X | X | | X | | | | | X | | |
| Central Valley Tributaries Program (CVTP) | DWR | X | X | | X | | | | | X | | |
| Integrated Regional Water Management (IRWM) | DWR | X | X | | | | | | | X | | |
| Flood Maintenance Assistance Program (FMAP) | DWR | | | | | | | | | | | X |
| Flood Emergency Response Grants Program: Delta Flood ER Grant | DWR | | | | | X | X | X | | | | |
| Habitat Enhancement and Restoration Program (HERP) | DWR | X | X | | X | | | | | X | | |
| Flood Mitigation Assistance (FMA) | FEMA | | X | | X | | | | X | X | | |
| Pre-disaster Mitigation (PDM) | FEMA | X | X | | | | | | X | X | | |
| Hazard Mitigation Grant Program (HMGP) | FEMA | X | X | | | | | | X | X | | |
| Repetitive Flood Claims Grant Program (RFCP) | FEMA | | | | | | | | | X | | |
| Delta Conservancy Ecosystem Restoration and Water Quality Grant Program | Sacramento-San Joaquin Delta Cons. | X | X | | | | | | | X | | |
| San Joaquin River Conservancy Proposition 1 Grant Program | San Juaquin River Conservancy | X | X | | | | | | | X | | |
| Flood Damage Reduction Projects (FDRP) | USACE | X | X | | X | X | X | X | X | X | X | |
| Flood-Related Continuing Authorities Program (FRCA) | USACE | X | X | | X | X | X | X | X | X | X | |
| Sacramento River Bank Protection Project (SRBPP) | USACE | X | X | | X | | | | | | | |
| Emergency Watershed Protection (EWP) - Floodplain Easements | USDA | | | | | | | | | X | | |
| Watershed and Flood Prevention (WFPO) | USDA | X | | | X | | | | | | | |
| California Streamflow Enhancement Program (CSEP) | WCB | | X | | | | | | | | | |
| Lower American River Conservation Program (LARCP) | WCB | X | X | | | | | | | X | | |
| California Riparian Habitat Conservation Program | WCB | X | X | | | | | | | X | | |
| Inland Wetlands Conservation Program (IWC) | WCB | X | X | | X | | | | | | | |
| State Community Developmenmt Block Grant (CDBG) | HUD | | | | | | | | | X | | |