



- Sloughs
- Canals
- City Public Properties
- County Zoning - Public
- Public Agency Jurisdiction
- Yolo SWRP Boundary
- Westside Region

**Projects**

- Conceptual/Planning
- Implementation
- Implementation
- Conceptual/Planning

**SAGBI - Modified**

- Excellent
- Good
- Moderately Good
- Moderately Poor
- Poor
- Very Poor

The Soil Agricultural Groundwater Banking Index (SAGBI) is a suitability index for groundwater recharge on agricultural land. The SAGBI is based on five major factors that are critical to successful agricultural groundwater banking: deep percolation, root zone residence time, topography, chemical limitations, and soil surface condition.

Modified overlay is theoretical; it shows SAGBI suitability groups when assuming that all soils with restrictive layers have been modified by deep tillage.

Source:  
<https://casoilresource.lawr.ucdavis.edu/sagbi/>  
 SAGBI overlay provided by  
 Toby O'Geen (atogeen@ucdavis.edu),  
 Professor & Soil Resource Specialist in  
 Cooperative Extension, Dept. of Land,  
 Air and Water Resources, UC Davis.



Kennedy/Jenks Consultants

**Storm Water Resource Plan  
 For Yolo County**



**SWRP Project Locations**

K/J 1770002.00  
 September 2017

**Figure x-x**

Path: \\SFOISGDATA\Z Drive\Projects\Westside IRWMP\Events\2017\_05\_Yolo SWRP\mxd\Figure-x ProjectOpps.mxd

Sources: Esri, USGS, NOAA



**Yolo Storm Water Resources Plan  
Working Group Meeting 5  
07 September 2017**

Submitted Projects

Project No.	Project Name	Lead Agency Organization
1	Arboretum Waterway Wetland Restoration and Enhancement	University of California, Davis
2	North Regional Pond and Pump Station	City of Woodland
3	Moore Siphon Reliability/Restoration Project (Moore Siphon Stormwater Improvements)	YCFCWCD
4	Russel Boulevard Demonstration LID Project (Russel Boulevard Stormwater Treatment Project)	City of Davis
5	Winters Bioswales Project and Habitat Enhancement	Solano County Water Agency
6	Davis Greenbelts Landscape Conversions (Davis Greenbelts Stormwater Improvements)	City of Davis
7	Thompson Canyon Stormwater Management	Solano County Water Agency
8	Dry Creek Bank Stabilization and Wastewater Re-use	Solano County Water Agency
9	West Adams Canal Renovation and China Slough Rehabilitation Project	YCFCWCD
10	Bike Tunnel Landscaping Redesign for Stormwater Quality Improvement	City of Davis
11	Drainage Channel Feasibility Study	City of Davis
12	Feasibility Study for Stormwater Trash Control Measures	City of Davis
13	Site Survey for Hardscape Conversion to Pervious Pavement	City of Davis
14	Retention Pond Feasibility Study	City of Davis
15	Site Survey for Converting Rocky Swales to Bioswales	City of Davis
16	West Area Pond Redesign (West Area Pond Runoff Redesign)	City of Davis
17	Winters North Area Stormwater Pond	YCFCWCD
18	Yolo County Drains and Sloughs -- Governance and Maintenance Study	YCFCWCD
19	Forbes Ranch Regulating Pond	YCFCWCD
20	Raise Highway 16 Out of Flood plain	YCFCWCD/Yolo County
21	Upstream Flow Management to Prevent Madison Flooding and to Facilitate GW Recharge	YCFCWCD/Madison CSD
22	Flood Monitoring Network Project	YCFCWCD
23	Knights Landing Underground Drainage Study	Yolo County
24	Knights Landing Drainage Project	Yolo County

Project No.	Lead Agency Organization	Name of Primary Contact	Project Title	Project Description Briefly describe the project in 300 words or less	Capital	Proposed Funding Amount
1	University of California, Davis	Lisa Moretti	Arboretum Waterway Wetland Restoration and Enhancement	UC Davis is proposing to enhance the Arboretum Waterway, which captures stormwater discharge from 900 acres of the UC Davis campus, by establishing a wetland area to treat stormwater discharge and recycled water prior to discharge to Putah Creek. This project will include establishing wetlands, increasing stormwater retention, slope stabilization, enhancing a recreation area for the public, utilization of recycled water for irrigation, and creating public education opportunities.	\$4 million	90%
2	City of Woodland	Chris Fong, Senior Associate Civil Engineer	North Regional Pond and Pump Station	The project involves the design and construction of an approximate 75 acre sedimentation pond and a pump station able to eventually accommodate a 120-cfs design flow. Project re-purposes an existing City evaporation pond that is no longer in use for any purpose. Currently the pond only receives nearby runoff. This project will add the NR Pond hydraulically into the City's storm drainage network and include: * Low flow training wall and inlet pipes from the Gibson Channel to the NR Pond* High flow weir from South Canal to the NR Pond* Outlet pipes from NR Pond to the South Canal* Pump station at the downstream terminus of the South Canal* Force main and outfall from the pump station to the outfall channel	\$8,000,000	
3	Yolo County Flood Control and Water Conservation District	Tim O'Halloran	Moore Siphon Reliability/ Restoration Project	The Moore Siphon conveys irrigation water from the north side of Cache Creek (Alder Canal) to the south side (Moore Canal). Through the Moore Siphon, YFCWCWD delivers water to approximately 15,000 acres of cropland (12% of its irrigation service area). This water also makes a significant recharge contribution to the City of Woodland's groundwater supply. Due to the age and exposure of the 72" corrugated metal pipe, as well as Cache Creek erosion issues at both ends of the siphon, the siphon well either need to be replaced or rehabilitated in the near future.	Off	Off
4	City of Davis	Martin Jones	Russell Boulevard Demonstration LID Project	The project is to be located in front of City Hall (already proposed and working its way through the City's Parks and Community Services Department) along Russell Boulevard. Russel Boulevard is one of the City's prominent east-west arterials. The project is to create a vegetated swale to treat stormwater runoff on the north side of the roadway. The surface area it will treat is 8,000 square feet. It is proposed to treat drainage prior to discharge to the City's stormdrain system consistent with the standards of Section E.12 of the State's Small MS4 Phase II General Permit (Permit). A map can be provided to aid in the location of this project.	42,763 for construction	Required matching amount would be provided.
5	Solano County Water Agency	Rich Marovich	Winters Bioswales Project and Habitat Enhancement	Stormwater from the town of Winters drains residential areas, business districts, and undeveloped lands into a culvert system that delivers contaminated runoff to Putah Creek and one of its major tributaries, Dry Creek. Eighteen discharge points exist, eight of which are connected directly to Putah Creek, the remaining to Dry Creek. Three main culvert delivery sites occur within the Winters Putah Creek Nature Park (WPCNP), draining approximately 200 acres of impervious lands. The stormwater network drains streets, parking lots, businesses and suburban lots, over-irrigated landscapes and disturbed lands, carrying sediment, petroleum products, fertilizers, pesticides, and bacteria into Putah Creek. We have assembled numerous stakeholders to begin addressing this water quality issue and are developing seasonal wetland (bioswale) water treatment projects within the WPCNP that will improve water quality, enhance floodplain function, restore wildlife habitat, and provide educational opportunities for the Winters community. By redirecting this stormwater runoff onto newly constructed floodplains of Putah Creek, water quality contaminants can be decreased through the breakdown action of sunlight, soil, plant roots and microorganisms. Moreover, the redirected water can assist in rehydrating portions of the floodplain during periods of drought and enhance riparian plant growth for the benefit of corridor wildlife. Each culvert outlet, along with the receiving floodplain landscape requires novel designs to redirect, capture, and infiltrate stormwater, all involving site-specific earthworks, specialized soil treatments, appropriate vegetation, monitoring, and post-installation management. We are conducting feasibility analyses and developing designs for the three major culvert networks within the park. We anticipate moving forward with implementation of our first site in Summer, 2018. Along with stormwater treatment and creekside improvements, we intend to develop a community outreach component that will educate people on "Upper Watershed" creek care within the suburban areas that comprise the stormwater drainage networks.	195,328.00	
6	City of Davis	Martin Jones	Davis Greenbelts Landscape Conversions	One of the greatest assets to the Davis park system is the network of more than 60 miles of Green Belts with bike trails that connect parks and neighborhoods throughout the City. Each belt is typically between 100 to 200 feet across with an 8-foot bike path meandering through the middle. Most of the landscape consists of irrigated turf and shade trees. Large open turf areas are greatly appreciated as multi-use event areas for local neighbors, but a majority of the space is mostly utilized by the public as aesthetic while passing through on the bike path. It is these spaces that are great candidates to convert existing turf to a low water use, drought tolerant landscape with interpretive learning opportunities to show the general public ways of converting their landscapes at home.		\$234,819/acre
7	Solano County Water Agency	Rich Marovich	Thompson Canyon Stormwater Management	Thompson Canyon is the first tributary from the north to Lower Putah Creek downstream of Monticello Dam. It was the main source of sediment loading into Lower Putah Creek in the highest storm runoff event in the history of the Solano Project (1983). Even in average rainfall years, sediment from Thompson Canyon has buried the best trout spawning site in the Interdam Reach. The lower mile of the canyon has a legacy dirt road that contributed to catastrophic hillslope failure. The road has thirty stream crossings without properly sized culverts or rock fords and is not properly outloped for drainage. This project would repair the stream crossings, properly outlope the road and apply gravel surface. It would also install rock vanes for grade control in the channel.	\$500,000	
8	Solano County Water Agency	Rich Marovich	Dry Creek Bank Stabilization and Wastewater Re-use	Dry Creek is a significant wildlife migration corridor that forms the western boundary of Winters with urban property to the north and east and agricultural land to the south and west. It is a deeply incised gully that is actively eroding both urban and agricultural properties. The City of Winters wastewater treatment plant is adjacent to Dry Creek at the northeastern corner of the city and could provide treated wastewater for bioengineering projects to enhance both stability of the banks and wildlife habitat along two miles of creek channel.	\$250,000	Perpetually funded
9	Yolo County Flood Control and Water Conservation District	Kristin Sicke	West Adams Canal Renovation and China Slough Rehabilitation Project	Enlargement and improvement of the Yolo County Flood Control & Water Conservation District's (District) West Adams, East Adams, and Acacia Canal system, and rehabilitation and improvement of China Slough (a natural storm drainage channel). The District's canal system would need to be modernized to allow for a "demand" system and to ensure no spills. China Slough would need to be cleaned, an operating road constructed, and installation of about eight check structures. Improvements to the canals and slough would be implemented to convey 10,000 acre-feet of surface water per year through China Slough to farmers in the Yolo-Zamora region (~4,200 acres).	2017\$ (15,671,929)	
10	City of Davis	Rhys Rowland	Bike Tunnel Landscaping Redesign for Stormwater Quality Improvement	Redesign the current drainage and landscaping near greenbelt bike tunnels to prevent flooding from stormwater. Assess the top highly-trafficked tunnels with drainage issues within the greenbelt system. Improved drainage would include re-landscaping the areas surrounding these tunnels to prevent flood events and improve stormwater quality discharges through the use of different stormwater low impact design methods through infiltration, transpiration and evaporation. Each site could showcase a different method; signage near the tunnels would illustrate the project and highlight elements of the project design.	Estimate of \$40,000 for site survey and initial project design	Required matching amount would be provided.
11	City of Davis	Rhys Rowland	Drainage Channel Feasibility Study	Looking to study feasibility to enhance the five separate storm drain conveyance channels to improve evapotranspiration through design improvements. This feasibility study would provide specific ways to improve the design of the existing facilities to improve water quality for the discharges that occur from each channel. The facilities are located Citywide. The study may yield that only one channel is worthy of modification. In particular, the City would like to study the El Macero Drainage Channel in southeast Davis as it is believed to be the channel with that would benefit the most from design improvements. A map can be provided to aid in located each of these drainage channels. If project is developed an educational component can be added.	80,000 for feasibility study	Required matching amount would be provided.
12	City of Davis	Rhys Rowland	Feasibility Study for Stormwater Trash Control Measures	Feasibility study to assess options for stormwater trash control measures. This study will assess the best method(s) to help the City meet mandatory requirements for trash screening to prevent trash from entering waterways. One particular area of concern is Channel A. An option for this area is to install trash racks/debris cages in the Wildhorse Basin to address issues with trash flowing from the area directly into Channel A. There is currently no barrier between the stormwater from the basin and the channel. This study would provide an assessment of potential options to comply with the trash amendment requirements of the Small MS4 permit.	150,000 for feasibility study	Required matching amount would be provided.
13	City of Davis	Brian Mickelson	Site Survey for Hardscape Conversion to Pervious Pavement	Survey public parking lots that currently have impervious surfacing to assess the practicality of converting these locations to pervious pavement when they are in need of resurfacing, maintenance or redesign. Portions of the pathways near the sites could potentially highlight permeable pavers in addition to the parking lots. Projects could be planned with improvements to incorporate bioswales, low water use plants, and other low-impact design measures into any landscape changes at the site. The projects would include signage on stormwater techniques implemented and information about water quality.	Estimate of \$40,000 for site survey and initial project design	Required matching amount would be provided.
14	City of Davis	Rhys Rowland	Retention Pond Feasibility Study	Looking to study feasibility for design enhancements for the seven separate storm drain retention ponds to improve evapotranspiration and water quality in the City's discharge. This feasibility study would provide specific ways to improve the design of the existing facilities to improve water quality for the discharges that occur from each facility. The facilities are located Citywide, but all of the ponds are located north of I 80 in the northern two thirds of the City. The study may yield that only one pond is worthy of modification. In particular, the City would like to study the Core Area Pond in central Davis as it believed to be the pond that receives the most pollutants from its drainage shed. A map can be provided to aid in located each of these ponds. If project is developed an educational component can be added.	100,000 for feasibility study	Required matching amount would be provided.

Project No.	Lead Agency Organization	Name of Primary Contact	Project Title	Project Description Briefly describe the project in 300 words or less	Capital	Proposed Funding Amount
15	City of Davis	Rhys Rowland	Site Survey for Converting Rocky Swales to Bioswales	In public greenbelts and parks, convert existing rocky drainage swales into bioswales to provide environmental benefits. Convert drainage in areas that currently use rocky swales, such as in Mace Ranch Park and the housing development behind Montgomery Elementary in South Davis, to bioswales. Converting the existing rocky swales to vegetative bioswales will encourage microhabitats, beneficial insects, infiltration, transpiration, and evaporation to better showcase stormwater retention techniques. Other possible sites include Evergreen Pond and North Star Park.	Estimate of \$40,000 for site survey and initial project design	Required matching amount would be provided.
16	City of Davis	John McNerney	West Area Pond Redesign	Redesign the West Area Pond (detention basin) to utilize agricultural summer flows to enhance aquatic wildlife habitat and improve water quality. This proposal involves redirecting existing agricultural runoff through the Stonegate drainage pond and pumping it into the West Area Pond. This would enhance aquatic habitat while improving any water discharges through retention, enhancing opportunities for infiltration, transpiration and evaporation.	100,000 for feasibility study	Required matching amount would be provided.
17	Yolo County Flood Control and Water Conservation District	Kristin Sicke	Winters North Area Stormwater Pond	Develop and construct a 5,000 acre-feet stormwater retention pond in the north area of Winters to reduce drainage and flood waters from the Chickahominy Slough. The retention pond would also be used for groundwater recharge in times when the capacity and water was available. The retention pond would provide water quality benefits by allowing the sediments in the runoff to settle and lessening the transfer of pollutants and chemicals downstream. The surrounding area would have native vegetation that would promote benefits for wildlife habitat, and the property would allow for groups to visit and learn about the multi-beneficial, multi-agency partnership. Similar to the District's Chapman Reservoir, we would install automated gates and monitoring devices at the retention pond that would be connected to the District's SCADA system for real-time management.		
18	Yolo County Flood Control and Water Conservation District	Kristin Sicke	Yolo County Drains and Sloughs -- Governance and Maintenance Study	Plan that will identify governing bodies and maintenance responsibilities involved in the County's drains, canals, and sloughs. The District and County will work together to develop a governance and maintenance study that will assist in providing effective rural storm water management responsibilities based on the defined governing bodies. Plan/investigation will initiate a legitimate storm water management program in Yolo County.		
19	Yolo County Flood Control and Water Conservation District	Kristin Sicke	Forbes Ranch Regulating Pond	Develop and construct a 200 acre-feet regulating pond to reduce drainage and flood waters through the town of Madison and District canal system. Divert stormwater flows to the pond through the existing conveyance. The regulating pond would provide storm water retention during the winter and would allow for groundwater recharge in the spring and summer when capacity and water is available. The regulating pond would provide water quality benefits by allowing the sediments in the runoff to settle and lessening the transfer of pollutants and chemicals downstream. The surrounding area would have native vegetation that would promote benefits for wildlife habitat, and the property would allow for groups to visit and learn about the multi-functional project. Similar to the District's Chapman Reservoir, we would install automated gates and monitoring devices at the regulating pond that would be connected to the District's SCADA system for real-time management.	\$700,000	
20	Yolo County FCWCD/ Yolo County	Kristin Sicke/ Elise Sabatini	Raise Highway 16 Out of Flood plain	This project was initially proposed by Caltrans as flooding of Highway 16 is a chronic problem. The project was not constructed because of concerns of some farmers about grades at farm road crossings. Raising Highway 16 creates a barrier that could be used to store storm water north of the highway in detention basins/recharge ponds. Increasing the capacity of Willow Slough south of Highway 16 west of Madison is needed so that flows can be conveyed to the detention basins. Willow Slough is the source of the majority of flooding in Madison. Cottonwood Slough contributes to occasional flooding (last time was 1996) in Madison. This project could be coordinated with the Madison Canals project as other upstream diversions could benefit this project and/or the planned detention basins could be coordinated.	To be determined	
21	Yolo County FCWCD with Madison CSD	Kristin Sicke with Leo Resland	Upstream Flow Management to Prevent Madison Flooding and to Facilitate GW Recharge	The District proposes to manage high flows from Lamb Valley, Cottonwood and S. Fork Willow Sloughs using the existing canal system as well as other means such as upstream check dams. During storm events Willow Slough floods the Town of Madison. The Canal system can be used to convey water away from the Town of Madison and reduce flood levels while also managing peak flows through use of check dams, particularly in Lamb Valley Slough. Flow and water level monitoring could serve several purposes. GW recharge can be accomplished through canal bottoms and potential recharge/detention basins. P. 29 and 30 of the 2012 FIS describe some of the upstream channel capacity limitations and a review of FIRM maps shows several points of intersection between the sloughs and canals to be explored. This project can be coordinated with Raising Highway 16 project.	To be determined	
22	Yolo County Flood Control and Water Conservation District	Kristin Sicke	Flood Monitoring Network Project	Project installs flow monitoring stations at canals and sloughs in order to optimize conveyance capacity for both agricultural operations or during rain events, which could occur at the same time. It is not known how much flow sloughs contribute to the canal systems during rain events.		
23	Yolo County	Panos Kokkas	Knights Landing Underground Drainage Study	This project would model new underground drainage facilities for the entire Town of Knights Landing to determine location(s) for outfall to the Sacramento River or Ridge Cut Slough. Preliminarily it is estimated that the underground drainage facilities would be sized for 30-50 cfs of storm flows and the system outfall would need to be sized accordingly to prevent backup of the system. Outfall locations would also need to be evaluated to determine if the downstream capacity would be sufficient to convey this additional flow during storm events. LID strategies will be used to ensure discharge water quality does not impact the Sacramento River or Ridge Cut Slough water quality.	\$100,000	
24	Yolo County	Panos Kokkas	Knights Landing Storm Drains	Design and construct a new storm drain or culvert in the vicinity of 4th and Railroad streets in the community of Knights Landing. KL has historically experience standing water (localized flooding) in the northern portions of town that can be as deep as 2 feet in wet years. The new storm drainage would convey storm water to the County's existing drainage system on the east side of Railroad Street. Design and construction are proposed to be completed by Public Works.	\$150,000	\$100,000

Project Information			Scoring Category 1: Project Funding and Land Availability				Scoring Category 2: SWRP Multiple Benefits Analysis																				
Project Number	Project Applicant	Project Title	Permanent Funding to achieve benefit? Scoring: (40 points)	Project located on lands with Public ownership? Scoring: (40 points)	Category 1 Score (80 max)	Match Provided	Water Quality			Water Supply			Flood Management		Environmental					Community				No. of SWRP Main Benefits Met (8 max) Scoring: (4 points for each benefit)	No. of SWRP Secondary Benefits Met (9 max) Scoring: (2 point for each benefit)	Total No. of Intangible Objectives-based Benefits (19 max)	Category 2 Score (50 max)
							Increased filtration and/or treatment of runoff	Nonpoint source pollutant control	Reestablished natural water drainage and treatment	Water supply reliability	Conjunctive use	Water conservation	Decreased flood risk by reducing runoff rate and/or volume	Reduced sanitary sewer overflows	Environmental and habitat protection and improvement	Reduced energy use, greenhouse gas emissions, or provides a carbon sink	Reestablishment of the natural hydrograph	Increased urban green space	Water temperature improvements	Employment opportunities provided	Public education	Community involvement	Enhance and/or create recreational and public use areas				
1	University of California, Davis	Arboretum Waterway Wetland Restoration and Enhancement	Y	Y	80	Y	X	X	X	X			X		X	X	X			X	X	X	X	6	6	12	36
2	City of Woodland	North Regional Pond and Pump Station	Y	Y	80	Y	X	X		X			X				X					X	5	2	7	24	
3	Yolo County Flood Control and Water Conservation District	Moore Siphon Reliability/Restoration Project (Moore Siphon Stormwater Improvements)	Y	Y	80	N				X	X	X	X										3	1	4	14	
4	City of Davis	Russel Boulevard Demonstration LID Project (Russel Boulevard Stormwater Treatment Project)	N	Y	40	Y	X		X			X	X		X			X		X	X	X	6	4	10	32	
5	Solano County Water Agency	Winters Bioswales Project and Habitat Enhancement	Y	Y	80	Y	X	X	X						X				X			X	3	4	7	20	
6	City of Davis	Davis Greenbelts Landscape Conversions (Davis Greenbelts Stormwater Improvements)	Y	Y	80	N	X		X			X			X					X		X	3	3	6	18	
7	Solano County Water Agency	Thompson Canyon Stormwater Management	Y	N	40	N	X	X	X			X			X							X	2	4	6	16	
8	Solano County Water Agency	Dry Creek Bank Stabilization and Wastewater Re-use	Y	N	40	N						X			X	X		X		X	X		3	3	6	18	
9	Yolo County Flood Control and Water Conservation District	West Adams Canal Renovation and China Slough Rehabilitation Project	Y	N	40	N				X	X		X		X								4	0	4	16	
24	Yolo County	Knights Landing Storm Drain	N	Y	40	Y	X	X				X	X										2	2	4	12	

Project Information			Scoring Category 3: SWRP Quantitative Benefit Metrics Analysis			Project Scoring and Prioritization
Project Number	Project Applicant	Project Title	Benefit Metrics Analysis Type	Quantitative Benefit Metrics Value	Summary of SWRP Relative Benefits  Scoring: ○ = 0 ◐ = 30 ◑ = 60 ● = 90 ● = 120	SWRP Project Score (250 max)  Scoring: (Sum of Categories 1, 2, and 3)
1	University of California, Davis	Arboretum Waterway Wetland Restoration and Enhancement	Treatment of stormwater runoff, recycled water for irrigation, establish wetland habitat, employment opportunities	935 acres of treated stormwater, 2,000 gpm of recycled water irrigation,	120	236
2	City of Woodland	North Regional Pond and Pump Station	treatment of the stormwater prior to discharge to the City's outfall channel, possible transmission of stored water from NR pond to adjacent farmland, 75 acre pond vs 75 acre barren land, treating stormwater before discharge to the City's outfall channel, additional birding habitat	up to 120 cfs treated, reliably 500-ac ft of water during non-rainy season, 75 acre pond vs 75 acre barren land	120	224
3	Yolo County Flood Control and Water Conservation District	Moore Siphon Reliability/Restoration Project (Moore Siphon Stormwater Improvements)	Allows for irrigation season flows to continue to 12% of District's agricultural users, Allows farmers to use surface water in lieu of relying on groundwater, Reduces runoff rate to upstream and downstream surrounding properties by properly conveying flows and reducing leaking, Rehabilitating the Moore Siphon will prevent current leakage.	Approximately 1 TAF/y, 15,000 acres of cropland stays in production 200 AF/day of water supply for agriculture May-October (36 TAF/y),	120	214
4	City of Davis	Russel Boulevard Demonstration LID Project (Russel Boulevard Stormwater Treatment Project)	Increased habitat, increased infiltration, volunteer opportunities, increased green space, reestablish natural drainage,	2080 cuft infiltration, 6,225 sqft habitat, 7 trees, 500-1000 volunteer hrs/yr,	120	192
5	Solano County Water Agency	Winters Bioswales Project and Habitat Enhancement	Treatment of stormwater runoff, habitat improvement, community involvement (volunteering),	5 acres of habitat restored, 3 community tours and 1 classroom component.	90	190
6	City of Davis	Davis Greenbelts Landscape Conversions (Davis Greenbelts Stormwater Improvements)	Prevent runoff, enhance habitat, recharge aquifers, LID signage, turf removal, enhanced green space	Public education: 385 persons/ac/ yr, Water Conservation: 1.2 Mgal/yr/ac, Habitat/Enhanced Rec Space: 1 ac/site	90	188
7	Solano County Water Agency	Thompson Canyon Stormwater Management	reduced sediment loading, infiltration strips capture more surface water and reduce runoff, infiltration strips capture more surface water and reduce runoff, Enhance fishing at 5 Putah Creek fishing accesses visited by 100,000 people per year	1 river mile of restored creek channel and access road, 10,000 square feet of native vegetation established	120	176
8	Solano County Water Agency	Dry Creek Bank Stabilization and Wastewater Re-use	Provide cover for migrating wildlife, Provide a shady corridor in what is now a dry gully, Enhance public policy from non-conforming setbacks to effective bank stabilization, re-use treated wastewater to irrigate riparian plantings, riparian vegetation is a carbon sink, Inform Dry Creek landowners of a cost effective bank stabilization method	1-2 acres of new riparian vegetation, Number of enrolled landowners, reduce sediment loading along two miles of eroding banks stabilized by vegetation	90	148
9	Yolo County Flood Control and Water Conservation District	West Adams Canal Renovation and China Slough Rehabilitation Project	Increases water supply availability and reliability to Yolo-Zamora area; and reduces dependence on groundwater, Preserves groundwater supplies by providing available surface water supplies, Reduced peak discharge from storm events to region,	10,000 acre-feet increased surface water; 10,000 AF decreased groundwater use, Need to study peak storm flows in this region	90	146
24	Yolo County	Knights Landing Storm Drain	Captures and conveys flood water to the town's existing conveyance system. Localized flooding as much as 2 feet during an event. Yolo County Drainage Standard requires all detention facilities to minimize impacts of stormwater runoff on water quality by incorporating BMPs.			

# Section 4: Organization, Coordination, Collaboration

The Yolo County SWRP was developed by the SWRP Team with input by those entities participating in the Water Resources Association of Yolo County and in close coordination with the Westside Sacramento Regional Water Management Group. Development of the Plan also included the participation of community stakeholders not normally involved with the Yolo WRA to ensure that local agencies, non-governmental organizations, nonprofit organizations, and the community are identified and consulted throughout the SWRP development.

## 4.1 Local Agencies and Non-Governmental Organizations

Yolo SWRP development was initiated by the Yolo WRA to address storm water and dry weather runoff management for its member agencies. The Yolo WRA member agencies members are: City of Davis, City of West Sacramento, City of Winters, City of Woodland, Colusa County Water District, County of Yolo, Dunnigan Water District, Reclamation District 108, Reclamation District 2035, University of California (UC) at Davis, and Yolo County Flood Control and Water Conservation District.

In addition to Yolo WRA member agencies, other agencies and non-governmental organizations were invited to participate in the development of the Plan including, but not limited to: Madison Community Service District (CSD), Esparto CSD, Knights Landing CSD, and the Lower Putah Creek Coordinating Committee (LPCCC). Table 4-1 lists the organizations/stakeholders invited and participating in the development of the SWRP.

Furthermore, several broader efforts, such as FloodSAFE Yolo, FloodProtect, the Bay-Delta Conservation Plan, and other regional/statewide efforts that incorporate state and federal agencies were considered in the development of the Yolo SWRP implementation strategy (described further in Section 6).

**Table 4-1: Yolo SWRP Stakeholders**

Stakeholder	Type/Classification
WRA of Yolo County	Non-profit organization
City of Davis	Municipal water agency
City of West Sacramento	Municipal water agency
City of Winters	Municipal water agency
City of Woodland	Municipal water agency
Reclamation District 108	Reclamation district
Reclamation District 2035	Reclamation district
Colusa County Water District	Irrigation district
Dunnigan Water District	Irrigation district
UC Davis	Educational organization
Yolo County	Government agency
Yolo County Flood Control and Water Conservation District	Government agency
Madison CSD	Community Service District
Esparto CSD	Community Service District
Knights Landing CSD	Community Service District
Lower Putah Creek Coordinating Committee*	Non-governmental organization

\* The LPCCC represents the Boards of Supervisors of Solano and Yolo Counties; the cities of Davis, Fairfield, Suisun, Vacaville, Vallejo and Winters; Solano County Water Agency; Solano Irrigation District; Maine Prairie Water District; the UC Davis; Putah Creek Council; and riparian landowners.

## 4.2 State and Federal Agencies

Throughout the development of the Yolo SWRP, the State Water Resources Control Board (SWRCB) was kept informed of Plan development progress through submittal of deliverables, quarterly invoices, and notification of changes in development scope. Coordination with state agencies occurred on an as-needed basis for Plan development and implementation of specific projects. State agencies will be contacted during future plan updates.

The following state agencies were contacted for the development of the Yolo SWRP:

- Department of Water Resources (DWR)
- Caltrans
- Regional Water Quality Control Board
- UC Davis

### 4.3 Community Participation

Community participation was important during SWRP development in that it fostered outreach, participation, and involvement of disadvantaged communities (DACs), local tribes, the general public, and specific audiences such as local ratepayers, developers, locally regulated commercial and industrial stakeholders, and nonprofit organizations.

SWRP development included regular meetings to review Plan content, process, and implementation. These meetings generally followed Yolo WRA Technical Committee Meetings.

The Yolo County SWRP serves as the foundation for the development of the SWRP for the Region's IRWM Area which will be integrated into the IRWM Plans upon its completion; the Yolo WRA's and Westside-Sacramento RWMG's existing governance structures, as well as the Yolo WRA's information distribution process, was utilized for the SWRP. Progress of the Yolo SWRP development was presented at Westside-Sacramento RWMG bi-monthly Coordinating Committee Meetings. In this way, resources were optimized and participation was maximized.

Open to the public and all other interested parties, all stakeholder meetings were announced ahead of time. Copies of meeting agendas, meeting summaries, presentations and handouts, and lists of meeting attendees are available on the project website. During these meetings, stakeholders were given the opportunity to discuss and review the content of the SWRP and to review and comment on the draft versions. See **Appendix X** for submitted comments and their responses.

Section 7 describes the Yolo SWRP public outreach and participation process.

### 4.4 Plan Implementation

As discussed previously, the Yolo SWRP will be adopted by the Westside-Sacramento RWMG and incorporated into the Westside-Sacramento IRWMP. The required decisions that must be made by local, state or federal regulatory agencies for Plan implementation and coordinated watershed-based or regional monitoring and visualization, including funding strategies, responsibilities, tracking, and participation is already identified and has been in place through the Westside-Sacramento RWMG and Yolo WRA.

Furthermore, all projects proposed and implemented as part of the Yolo County SWRP will comply with applicable town, city, and county storm water documents and ordinances, including those identified in Section 1. All projects will also comply with applicable state and federal regulations, including the California Environmental Quality Act (Public Resources Code § 21000 et seq.), the Clean Water Act, the Safe Drinking Water Act, applicable water rights permits and licenses, State Water Board plans and policies, State and Regional Water Board water quality control plans and policies (Wat. Code, § 10562, subd. (b)(5)), NPDES permits, Areas of Special Biological Significance Compliance Plans (State Water Board Resolution 2012-0012), conditional waivers issued by State and/or Regional Water Boards (Wat. Code, § 10562, subds. (b)(5) & (6).), and the Mosquito Abatement and Vector Control District Law (Division 3, Chapter 1 of the Health and Safety Code beginning with Article 2000.) (State Water Board 2015).



# Section 7: Education, Outreach, Public Participation

Since its inception in 1993, the WRA has a history of local stakeholder and community engagement in planning, programs and activities for water resource planning in Yolo County. The term “stakeholder” refers to representatives of agencies, nonprofit groups, nongovernmental organizations, government organizations, and private citizens interested in or affected by the development of the Plan.

Specific outreach to non-government organizations (NGOs), disadvantaged communities (DACs), economically distressed areas (EDAs) and the general public built on the efforts initiated by the WRA, detailed in the following subsections.

## 7.1 Local Stakeholders

As described in Sections 2 and 4, local stakeholders included non-profit organizations, municipal water agencies, reclamation districts, government agencies, community services districts, and non-governmental organizations. All stakeholders were invited to participate in the collaborative Plan development process, regardless of whether they were members of the Yolo WRA.

To maximize resources, SWRP development meetings were generally held following the monthly Yolo WRA Technical Committee meetings. Meeting announcements, agendas, materials, and draft sections of the Plan were developed and discussed by the SWRP Team prior to sending out by email and posting to the WRA website at [http://www.yolowra.org/projects\\_swrp.html](http://www.yolowra.org/projects_swrp.html). See **Appendix X** for meeting agendas, materials, and sign-in sheets.

In addition to holding SWRP development meetings, the SWRP Team developed a survey to gauge potential project sponsor interest in submitting projects for storm water management. The results of the survey were used to track the submittal of project forms during the project solicitation period described in Section 5. To facilitate and encourage project submittals, project development workshops were held on July 10, 2017 and July 12, 2017. The purpose of these workshops was to provide in-depth reviews of potential projects for submission to the SWRP. These meetings were open to all local stakeholders. Discussion included identifying opportunities for

storm water projects, how to estimate benefits, and potential funding mechanisms.

## 7.2 Disadvantaged Communities

Individuals from disadvantaged, small, and rural communities, and other interested groups were frequently encouraged to participate. In addition to regular SWRP meetings, an in-person workshop was held with representatives from the Madison CSD and Yolo County on July 25, 2017 to discuss storm water challenges for the Town of Madison and other DACs in the County such as Knights Landing. The SWRP Team also provided assistance to the Town of Madison and the County of Yolo in developing project concepts and benefits, as well as project forms for submittal to the SWRP.

Although no organizations specifically addressing environmental justice (EJ) concerns have been identified in the Region, conversations regarding the challenges and opportunities of the Region and especially conversations with representatives of DACs were structured to identify and include EJ concerns.

## 7.3 Climate-Vulnerable Communities

Because of the large agricultural production in Yolo County and the heavy reliance on groundwater, the entire County of Yolo and its stakeholders are considered vulnerable to climate change impacts. The Westside IRWMP identified climate change vulnerability issues and those applicable to Yolo County include:

1.4: Groundwater supplies lack resiliency after drought events.

4.5: A portion of the Region floods at extreme high tides or storm surges.

During the outreach process, project development discussion and workshops included these considerations.

## 7.4 Other Stakeholders

In addition to local stakeholders, outreach efforts included invitations to storm water management agencies in upstream watersheds that discharge to Yolo County. Solano County Water Agency (SCWA) manages water supply and flood control throughout the entire county of Solano, including the Lower Putah Creek subwatershed upstream of Yolo County. One conference call was held on July 17, 2017 with the SCWA to discuss projects related to the portion of the Lower Putah Creek subwatershed that discharges to Yolo County. The Lower Putah Creek subwatershed includes Dry Creek, a significant wildlife migration corridor, and Thompson Canyon, a significant contributor of sediment.

Finally, outreach to the Westside RWMG included participation in quarterly Westside IRWMP coordination calls and presenting updates on the Yolo SWRP progress.

## 7.5 Community Participation in Plan Implementation

Public outreach is part of the overall implementation strategy for the Yolo SWRP and may also be part of the implementation of individual components of the SWRP projects. The public outreach and stakeholder involvement process used by the Yolo WRA to implement the Westside IRWMP and other projects will be used for the implementation of the Yolo SWRP and are outlined in the following subsection.

### 7.5.1 Outreach

The WRA and implementing agencies will coordinate their public outreach efforts with ongoing stakeholder involvement efforts of the Westside IRWMP. WRA member agencies are involved both as agencies that plan the Yolo SWRP and as agencies that plan and implement their own independent storm water resource management activities—both processes are moving forward concurrently.

#### 7.5.1.1 Public Education and Participation

The WRA Technical Committee is the working group for WRA activities. The Technical Committee is responsible for implementing foundational actions and coordinating actions for implementation of the Yolo SWRP. Member agencies will be partners in

implementing this plan; member or non-member agencies may sponsor and implement projects.

Technical Committee meetings are open to the public and generally the first Thursday of every month, with the third Thursday held as an additional standing meeting date as needed. Agendas are posted 72 hours before the meeting date at [http://www.yolowra.org/meeting\\_technical.html](http://www.yolowra.org/meeting_technical.html). Technical Committee functions in relation to implementation of the Yolo SWRP is described in Section 6.

Upon completion of the final SWRP, the Project Team will present their findings to the WRA and Westside IRWM group. This is expected to take place over a three-month period in the first quarter of 2018.

Other public involvement opportunities include implementation and maintenance of the submitted projects. Many of the projects submitted to the SWRP include volunteer and public education components. These public involvement opportunities can begin as soon as the project is funded or completed. For example, the Winters Bioswales Project and Habitat Enhancement project relies on volunteers to maintain bioswales plantings. The volunteer program will also include education on the function and importance of the bioswale.