

1417 **APPENDIX 8a**

1418 Summary of Projects and Management Actions Considered

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PMA #	Agency to Implement	Project or Management Action Name	Project Description	Description of Benefit to the Solano Subbasin (Please note type of benefit: habitat restoration, in-direct recharge, direct recharge, etc.)	Project or Management Action?	WIRWM Project Type	Geographic Extent of Applicability	Quantified/Relative Benefit, (e.g. AF/Yr., Acres habitat restored OR High, Medium, Low)	
PROJECTS									
Stormwater Capture and Recharge (Smaller Scale)	1		Increase Use of Stormwater	Investigate feasibility of capturing and/or diverting excess storm water from waters (e.g. creek and sloughs) in the subbasin for direct use or recharge.	Direct Recharge, Habitat, Public Access and Joint Uses	Project	Feasibility Study	Entire Subbasin? Applicable to areas with runoff AND where surface recharge benefits the aquifer	High
	2		Increase Use of Stormwater	-Construct projects to capture/divert most accessible stormwater surplus, identified under PMA #1 -Evaluate the use of large diameter infiltration wells in lieu of detention basis in location with limited area or reduced access	Direct Recharge, Habitat, Public Access and Joint Uses	Project	Structural	Entire Subbasin? Applicable to areas with runoff AND where surface recharge benefits the aquifer	High
	6	City of Dixon	Dixon Northeast Quadrant Detention Basin	Construct new detention basin for drainage mitigation in and near Northeast Dixon; basin could provide detention storage, habitat, groundwater recharge, and/or irrigation water supply	Direct Recharge, Habitat, Public Access and Joint Uses	Project	Structural	Northeast Dixon	175 ac-ft / year
	7	Dixon Resource Conservation District and possibly City of Dixon	North of Interstate-80 on-site basin	Within the Dixon Resource Conservation Service's Tremont 3 drain watershed upstream of Interstate 80, construct small on-site detention basins that capture peak stormwater flows and recharge the groundwater basin	Direct Recharge, Habitat	Project	Structural	Dixon Tremont 3 Drain watershed	Medium
	8	City of Dixon	Dixon Pond A Operation	Modify the operation this Detention Basin to hold more stormwater in the Spring and Summer to increase groundwater recharge. Perform annual disking of the basin bottom to increase recharge.	Direct Recharge, Habitat	Project	Operational	Dixon Pond A	
	9	City of Dixon	Dixon Pond B Operation	Modify the operation this Detention Basin to hold more stormwater in the Spring and Summer to increase groundwater recharge. Perform annual disking of the basin bottom to increase recharge.	Direct Recharge, Habitat	Project	Operational	Dixon Pond B	
	10	City of Dixon	Dixon Pond C Operation	Modify the operation this Detention Basin to hold more stormwater in the Spring and Summer to increase groundwater recharge. Perform annual disking of the basin bottom to increase recharge.	Direct Recharge, Habitat, Public Access and Joint Uses	Project	Operational	Dixon Pond C	
	11	City of Vacaville	City of Vacaville Detention Basins	Conduct and operational assessment with the City of Vacaville, to evaluate detention basins for operational changes to increase groundwater recharge	Indirect Recharge, Habitat, Public Access and Joint Uses	Project	Operational	Vacaville detention basins	Medium
	47	RDs, RCDs, Solano County & others	Groundwater Recharge Infiltration Wells	Evaluate the use of large diameter infiltration wells (stormwater infiltration/dry wells or other similar small-footprint GW recharge points) in lieu of detention basins in locations with limited area or reduced access. Assess recharge areas based on soil properties, conveyance, and other, willing property owners, and land use conditions.	Provides direct groundwater recharge in focused areas of concern based need, soil properties, willing landowners, etc. Smaller footprint than detention basins	Project	Structural	Solano Subbasin - focused on Northern portion of subbasin or areas with highest need and high potential for recharge	high

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Groundwater Recharge (Larger Scale)	3		Construct Groundwater Recharge Basins	Investigate and prioritize locations within the subbasin to construct groundwater recharge basins to recharge excess surface water when available. Study to investigate both the construction of large recharge basins and small basins on local grower land	Direct Recharge, Habitat, Public Access and Joint Uses	Project	Feasibility Study	Entire Subbasin? Applicable to areas with runoff AND where surface recharge benefits the aquifer	High
	4		Construct Groundwater Recharge Basins	Construct groundwater recharge basins to recharge excess surface water based on prioritized projects identified under PMA #3	Direct Recharge, Habitat, Public Access and Joint Uses	Project	Structural	Entire Subbasin? Applicable to areas with runoff AND where surface recharge benefits the aquifer	High
	30	City of Vacaville	Aquifer storage and recovery (ASR)	-Investigate feasibility of using surface water in the subbasin for direct use or recharge. -Can combine with project 31	Direct recharge	Project	Feasibility Study	Entire Subbasin	High
	31	City of Vacaville	Aquifer storage and recovery (ASR)	Construct projects using surface water in the subbasin for direct use or recharge.	Direct recharge	Project	Structural	Entire Subbasin	High
Recycled Water Use	13	City of Dixon	City of Dixon Recycled Water Use	Conduct a feasibility study to identify the most cost effective alternatives for supplying recycled water to new recycled water users.	Reduce groundwater use	Project	Feasibility Study	Dixon area	
	14	City of Dixon	City of Dixon Recycled Water Use	Based on the outcomes of PMA's 12 and 13, construct recycled water pipeline from the Dixon Wastewater Treatment Plant (WWTP) to the City and within the City to allow use of recycled water within the City, in Detention Pond B, or on the cropland between the WWTP and the City.	Reduce groundwater use	Project	Structural	Dixon area	
	15	City of Vacaville	City of Vacaville Recycled Water Master Plan	Prioritize and develop and implementation schedule of projects identified in the City of Vacaville Recycled Water Master Plan for use of recycled water for recharge.	Alternative supply, reduce reliance on groundwater and reduce groundwater use	Project	Institutional	Vacaville area/SOI?	Medium
	32	City of Vacaville	City of Vacaville Recycled Water EWWTP Improvement Projects	Based on the outcomes of PMA 15, construct identified recycled water Infrastructure at the EWWTP.	Reduce groundwater use	Project	Structural	Vacaville area	Medium
	33	City of Vacaville	City of Vacaville Recycled Water EWWTP pipeline Projects	Based on the outcomes of PMA 15, construct identified recycled water Infrastructure to convey recycled water to the City of Vacaville.	Reduce groundwater use	Project	Structural	Vacaville area	Medium

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Infrastructure Improvements	18	SID	Install additional regulating reservoirs in SID and Maine Prairie Water District	Construct additional regulating reservoirs to improve surface water delivery service and reduce canal spills		Project	Structural	SID/MPWD	
	19	SID	Install Additional Canal Automation (in SID and Maine Prairie WD)	Construct additional canal automation to improve surface water delivery and reduce canals spills		Project	Structural	SID/MPWD	
	34	City of Vacaville	Expand Surface Water Treatment Capacity and Conveyance.	-Investigate feasibility of expanding the City of Vacaville's surface water Treatment plants and distribution system to facilitate treating more surface water -Can combine with PMA 35	Reduce groundwater use	Project	Feasibility Study	Vacaville area	Medium
	35	City of Vacaville	Expand Surface Water Treatment Capacity and Conveyance.	Based on the outcomes of PMA 30, construct identified Infrastructure to treat and convey additional surface water to the City of Vacaville.	Reduce groundwater use	Project	Structural	Vacaville area/SOI	High
	36	Solano County Water Agency	Improvements to Solano Project Facilities	Today, the Solano project provides irrigation and municipal water to over 400,000 people in Solano County. However, the Solano Project is 60 years old and is in need of upgrades, repairs, and modernization.	Little, if any, "new" water, but important to maintaining surface water use.	Project	Structural	Entire Subbasin?	High
	37	Solano County Water Agency	NBA Infrastructure and Capacity Improvements	The North Bay Aqueduct (NBA) is in need of infrastructure and capacity improvements to increase capacity and minimize WQ impacts, to ensure a reliable water supply for Napa and Solano counties.	Potential to bring in new water.	Project	Structural	Entire Subbasin?	High
	38	Solano County Water Agency	North Bay Aqueduct Alternate Intake Project	The NBA AIP includes the construction and operation of a new intake and pumping plant on the Sacramento River, conveyance pipeline, and inline storage to divert and convey water from the Sacramento River connecting to the existing NBA pipeline near the North Bay Regional Water Treatment Plant in Fairfield.	Potential to bring in new water.	Project	Structural	Entire Subbasin?	High
	39	Solano County Water Agency	Improve Solano Project SCADA infrastructure	This project is to install contiguous dedicated power and data lines from the top end of the Solano Project system to the bottom. This would allow monitoring of the entire system simultaneously from a central location and could allow automated remote control.	Little, if any, "new" water, but important to maintaining surface water use.	Project	Structural	Entire Subbasin?	High
	45	RDs and Levee Maintain Agencies	Delta Levee restoration	Restore delta levees to reduce flood risk from sea level rise and protect land from inundation and water quality impacts (salinity intrusion)	reduces flood & water quality impacts to neighboring islands and communities (Rio Vista)	Project			high benefit to neighboring communities/lands protected by levees

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Infrastructure Improvements	43	RWMG with selected Lead Agency	Regional Capital Improvement Plan	Create Regional asset management plan to identify and prioritize key water management infrastructure.	Little, if any, "new" water, but important to maintaining surface water use.	Project	Feasibility Study	Entire Subbasin?	High
	48	SID	Ulatis Project 1	Conveyance project to move water above Maine Prairie WD Dam #3. Includes 10,000 LF pipe and a pumping station.		Project	Structural		
	49	SID	Ulatis Project 2	Conveyance project to move water above Maine Prairie WD Dam #2. Includes 8,000 LF pipe and a pumping station.		Project	Structural		
	50	SID	Ulatis Project 3	Conveyance project to move water above Maine Prairie WD Dam #1. Includes 9,000 LF pipe and a pumping station.		Project	Structural		
	51	SID	Ulatis Project 4	Conveyance project to redistribute drain water west of the SID Brown-Alamo Recovery Dam. Includes 22,000 LF pipe and pumping station modifications.		Project	Structural		
	52	SID	Ulatis Project 5	Conveyance project to move water above SID McCune-Sweeny Recovery Dam. Includes 9,000 LF pipe and a pumping station.		Project	Structural		
	53	SID	Lake Solano Project 1	-Groundwater Stabilization Project at the Lake Solano Park area to install a robust domestic water supply well for the benefit of the Quail Canyon Public Water System. -Improves reliability during times of drought when the water table is drawn down prior to recharge during wet years. Increases reliability of domestic water supply.	Improves reliability during times of drought when the water table is drawn down prior to recharge during wet years. Increases reliability of domestic water supply.	Project	Structural		
Planning Documents	16	City of Vacaville	City of Vacaville Water Master Plan (on-going)	Coordinate with the City of Vacaville Water Master Plan Preparation Team (West Yost Associates).		Project	Institutional	Vacaville area/SOI?	Low
	41	RWMG with selected Lead Agency	Regional Invasive Mussels Management Plan	This project will include the formation of an Invasive Species Task Force/Subcommittee to prepare a Regional Invasive Mussels Species Prevention Plan that evaluates existing programs to prevent invasive species that could be leveraged, and identifies supplemental programs to be developed to fill gaps in existing programs to manage invasive species. Special high priority emphasis will be placed on prevention of water body infestation by Quagga Mussels.	Little, if any, "new" water, but important to maintaining surface water use.	Project	Institutional	Entire Subbasin?	High

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MANAGEMENT ACTIONS

Public Outreach for WUE/RW	12	City of Dixon	City of Dixon Recycled Water Use - Public Outreach	Identify and contract new recycled water users in the City of Dixon. PMA includes the public outreach program to help educate potential new users on the benefits of recycled water.	Reduce groundwater use	Management Action	Educational/ Outreach	Dixon area	
	23	NRCS (Vacaville field office), Dixon RCD	Ag Water Use Efficiency Outreach & Implementation	Develop Outreach materials and incentives for agricultural water users to increase waster use efficiency	In-direct recharge, habitat	Management Action	Educational/ Outreach	Entire Subbasin	High
	24	City of Vacaville	Municipal & Industrial Water Use Efficiency Outreach & Implementation	Develop Outreach materials and incentives for municipal and industrial water users to increase waster use efficiency	Reduce groundwater use	Management Action	Educational/ Outreach	Urban Areas of Entire Subbasin	Low
Markets/Incentives	5		Incentivize Winter Flooding of Suitable Crop Lands	Incentivize the spread of uncontrolled seasonal water or other temporarily excess winter supplies on suitable cropland for direct recharge		Management Action	Institutional	Entire Subbasin? Applicable to areas with runoff AND where surface recharge benefits the aquifer	
	22	SID	Develop Online System for Trading Groundwater Allocations	Automated trading system ensures allocation of limited groundwater to highest uses, and are not exceeded in aggregate	In-direct recharge	Management Action	Institutional	Entire Subbasin?	Medium
	25	SID	Ground water market	Allocation based on safe yield by 2030		Management Action		Entire Subbasin?	
	26	SID	Drought preservation storage for later use during a prolonged drought.	This refers to the 7th-10th year or beyond		Project		Entire Subbasin?	
	27	SID	Crop planting sustainability program	-In areas that do not have a reliable surface water supply, prior to the installtion of a permanent crop a water sustainability plan must be established and approved -Suggest incentivizing willing landowner through participating in developing a Land Repurposing Strategy -This relates to an allocation based market		Management Action		Entire Subbasin?	
	29	City of Vacaville	Develop Online System for Trading Surface Water Allocations within Solano Subbasin	Automated trading system ensures that all surface water allocations are utilized (some surface water allocations do not get fully used under existing conditions)	Reduce groundwater use, improve surface water management	Management Action	Institutional/ Operational	Entire Subbasin	Medium

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Other Management Actions	40	Solano County Water Agency	Risk Assessment of Delta Water Supplies	This project would entail a risk assessment of Delta Water supplies, and would look at the impacts of unforeseen circumstances such as: - Earthquakes - Delta levee failure - Sea level rise - and others as needed		Management Action	Feasibility Study	Entire Subbasin?	High
	42	RWVG with selected Lead Agency	Climate Change Adaptation Study	Regional study to advance understanding of the effects of climate change and consider potential modifications to the water management system.	GSP will provide some insight	Management Action	Feasibility Study	Entire Subbasin?	High
	44	Solano County	Cache Slough HCP	HCP and ultimately Incidental Take Permit for delta water diverters in the Cache Slough region that aligns with the North Delta Water agency to continue water operations.	Allowing continued surface water diversions reduces reliance on groundwater.	Management Action			may result in 200 - 300 acres of habitat restored
	46	Land Trusts, Solano County, and Others	Conservation Easement	land preservation from urban development through conservation easements with willing sellers	reduces reliance on groundwater. Allows direct/indirect recharge.	Management Action			high benefit to neighboring communities