

Appendix J

Existing Efforts for Identifying Multi-Benefit Projects

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Water Purveyor Projects

In-lieu groundwater recharge under RWA planning efforts involves providing surface water during wetter periods to water suppliers that historically have relied on groundwater as a source of supply. When a groundwater-reliant agency receives surface water, groundwater is allowed to recover naturally in a process known as in-lieu recharge. Since the mid-1990s, an average of more than 20,000 acre-feet per year of surface water has been delivered into the area to offset a like amount of groundwater pumping. This has not only eliminated a long-term trend of continuously declining groundwater levels, but it has also achieved an increase in groundwater levels.

To date, the source of surface water for in-lieu recharge has been the temporary purchase of surface water rights held by other agencies in the region. In the past, this transfer of water has occurred in the drier summer months when there are virtually no storm events. Under RWA, a planning effort is underway to identify where groundwater demands could be offset in wetter periods during the year to achieve additional in-lieu recharge. One possible source of water during these wetter periods is stormwater taken under a temporary diversion permit issued by the State Water Board. This would effectively capture a volume of water that would otherwise be lost from the region during wet periods and allow it to be stored via in-lieu recharge for use during drier periods.

Wastewater Agency Projects

Sacramento Regional County Sanitation District's (Regional San's) South Sacramento County Agriculture & Habitat Lands Recycled Water, Groundwater Storage, and Conjunctive Use Program (South County Ag Program) is an exceptional opportunity in southern Sacramento County to proactively restore and manage groundwater, while improving stream flows in the lower Cosumnes river, enhancing groundwater-dependent riparian habitats and wetlands, sustaining prime agricultural lands, and improving regional water supply reliability. The program will enhance water management in the southern Sacramento region by conjunctively managing surface and groundwater resources; using high quality recycled water for in-lieu and wintertime groundwater recharge and using groundwater storage and banking to improve regional water supply reliability. The program will also promote urban and agricultural cooperation, improve agricultural land viability, enhance water quality and ecosystem health within the Delta watershed, and support statewide water systems in proximity to the Delta.

The program has the potential to provide up to 50,000 acre-feet per year (AFY) of Title 22 tertiary-treated recycled water produced by Regional San to irrigate up to 16,000 acres of agriculture and habitat lands in Sacramento County near the lower Cosumnes River and Stone Lakes Wildlife Refuge. Because the program would provide recycled water to existing agricultural lands that historically pump groundwater, it would reduce withdrawals of groundwater and allow groundwater levels in the program area to recover. Additionally, the program proposes to implement wintertime irrigation and wildlife friendly recharge basins in the project area where the soils are suitable, to provide further groundwater recharge. Regional San is considering using stormwater as a dilutant for recycled water infiltrated to the groundwater.

Flood Control Agency Projects

The mission of the Sacramento Area Flood Control Agency (SAFCA) is to reduce flooding in a way that preserves and enhances environmental values and the quality of life in the Sacramento region. SAFCA's innovative projects have acquired floodplain open space in the Dry Creek Parkway and removed obsolete levees, allowing floodwater up onto the floodplain more often, where sediments and pollutants can settle and some of the water can percolate into groundwater. Recent projects have provided more frequent floodplain access in two areas of the lower American River Parkway, and SAFCA has contributed to the removal of concrete lining and enhancement of Cordova Creek. SAFCA routinely incorporates native plantings along waterways and has contributed to research on the effects of levee vegetation. Major levee projects are often associated with habitat improvements. In addition, enhancements to Folsom Dam and its operation will enable retention of more stormwater for water supply.

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The Placer County Flood Control District and Water Conservation District (PCFCD) collaborates with Placer County and its cities to protect lives and property from the effects of flooding. A PCFCD project relevant to the SWRP is the Antelope Creek Flood Control Project. This regional project slightly increases the footprint of the existing FEMA-recognized 100-year floodplain limits; provides substantial mitigation for increases in urban runoff and peak flood flow increases due to new and existing development in the watershed; provides reduction of the 100-year peak flow in downtown Roseville; and includes stream channel and habitat restoration components, removal of non-native plants and re-planting with natives, and improved public access and educational opportunities for the public along the existing multi-use recreational trail.

PCFCD also manages the Dry Creek Watershed Flood Control Plan, which provides a detailed hydrological analysis of the Dry Creek watershed, recommendations for feasible regional flood control projects, and the means to mitigate development projects. In addition, PCFCD has recommended an updated facility plan and fee program.

The American River Flood Control District (ARFCD) has been providing flood protection to the citizens of the Sacramento community for over 75 years, with the mission of protecting the district's citizens by maintaining the 40 miles of levees along the American River and portions of Steelhead, Arcade, Dry, and Magpie Creeks. While their current projects focus on training for flood response and repairing levees, the district may be open to multi-benefit opportunities.

Reclamation District 1000 (<https://www.rd1000.org/>) also does flood control projects.

Municipal NPDES Compliance Programs

The City of Sacramento's Combined Sewer System (CSS) NPDES Permit requires the City to implement a Combined Sewer System Improvement Plan (CSSIP), which primarily addresses two NPDES permit requirements: the reduction of CSS discharges and in-system surface flooding and outflows. In 2014, the City's Department of Utilities (DOU) completed the Combined Sewer Improvement Plan Update (CSIPU), which recommended an adaptive management strategy starting with implementation of the top 20% of prioritized projects, pilot testing of the programs, and additional refinement of the hydraulic model. Two of the programs were Green Infrastructure (GI) and rainfall dependent inflow and infiltration (RDII) reduction. The planning-level analysis presented in the CSIPU showed that the cost benefit of GI is competitive with grey water programs to provide flood reduction benefits. Additionally, GI would reduce the volume of treated discharges to the river. The GI program would be applicable in the entire CSS, but would need to be customized for soil properties, surface slope, community interest, and other issues. The CSIPU therefore recommended development of the Combined Sewer Green Infrastructure Pilot Program to 1) evaluate different types of Green Infrastructure technologies and test their performance in different surface and sub-surface conditions, including soil type and slope, general public acceptability, maintenance issues, and other topics; 2) monitor the performance of the different technologies and establish the baseline performance of the different technologies; and 3) update the cost estimates based on the pilot programs. The City is currently conducting this work. The output for this project will be a technical memorandum documenting the process of identifying applicable stormwater needs and project opportunity locations, the feasibility analysis of potential projects, and a final prioritized list of GI pilot projects that have been ranked based on performance and cost benefits. The outcome of this project will serve as a great resource for future SWRP, multiple benefit projects.

The City of Sacramento's DOU is also hoping to offer a program to rate payers that provides a reduction in storm drainage fees either through rebates or reduced monthly fees as an incentive to increase the use of green infrastructure on private property. Many other cities have implemented similar incentive programs and can provide valuable input on program administration costs and annual participation estimations. The city is therefore conducting the Green Stormwater Infrastructure (GSI) Incentive project, which includes 1) researching/reviewing existing incentives programs and lessons learned from other cities, 2) quantifying the benefits of green stormwater infrastructure on existing City drainage systems using hydrologic and

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hydraulic models, 3) developing examples and estimating installation costs, 4) reviewing the existing fees, summarizing potential funding, and developing estimated participation rates, and 5) recommending a drainage rate reduction and/or rebate program to encourage the implementation of green infrastructure. The output for this project will be a matrix listing all prospective GSI incentives compliant with funding, policy, law, and program goals that could be considered by DOU. Attributes will include expected participants, gallons of stormwater reduced, costs per gallon reduced, benefits per gallon reduced, compliance with performance goals, and funding sources. The final incentive program adopted by the City will also serve as a potential resource for future SWRP projects.

Other NPDES permits applicable to the region call for permittees to regulate development through required implementation of various low impact development measures for projects of a certain size. The permittees may coordinate with developers to incorporate such projects into this SWRP as appropriate.

Finally, NPDES permittees are each working to comply with regional and state TDML and 303(d) requirements. Such efforts include planning for implementation of the statewide trash policy, participation in statewide true source control programs, and incorporation of Integrated Pest Management programs. SSQP, as required by their permit, is prioritizing pollutants of concern, developing plans to address the prioritized pollutant, and conducting an RAA of the proposed activities. Projects and programs established for TMDL and 303(d) compliance are, therefore, great candidates for SWRP projects.

Municipal Capital Improvement Projects

Most municipalities in the ARB region have capital improvement projects, programs, or plans (CIPs) for the construction or repair of municipal buildings and facilities such as streets, roads, storm drains, traffic signals, parks, community centers, airports, libraries, waste management and recycling, water drainage, water resources, and water supply. During development of this SWRP, several stakeholders coordinated with the relevant departments planning these CIP to identify opportunities to capture and use stormwater. CIPs will continue to serve as ideal capture and use opportunities as this SWRP is implemented in the future.

Groundwater Sustainable Agency Plans

There are multiple Groundwater Sustainability Agencies within the ARB region that are developing groundwater management plans under the Sustainable Groundwater Management Act. Most GSA plans are under development, and these will serve as key opportunities for groundwater recharge projects in the future.

In 2017, Placer County issued a report that evaluated potential groundwater recharge areas in West Placer County (Placer County 2017). The assessment identified potential direct and indirect groundwater recharge methods and their feasibility, as well as potential recharge projects. The projects were developed at the conceptual level and did not include any field investigations or design drawings, but tasks needed to further evaluate their feasibility were cited. This document will be a key resource for SWRP projects in the Placer County area.

Watershed Stewardship Efforts

As presented in Table 4-1, there are many stewardship organizations that manage or support the ARB watersheds and their effects on the Delta. For example, VFWC is a regional partnership that shares expertise from nonprofit, government, and private organizations to help implement priority projects for watershed health throughout many of the ARB region's sub-watersheds. VFWC's website serves as a repository for historic and current watershed studies that identify areas impacted by urban development and propose projects to address hydromodification. These studies and projects, along with those developed by other regional stewardship groups, serve as great resources for potential SWRP projects.

There are also many Cosumnes River corridor recharge projects underway, including the Nature Conservancy's Oneto Denier Floodplain Restoration Project and the Omochumne Hartnell Water District's

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Off Season Irrigation Project. Other recharge project partners include UC Water; UC Davis; Cosumnes Coalition; CSU, Sacramento; The Nature Conservancy; and Sacramento County Water Agency.

Municipal General Plans and Conservation Plans

The land use, open space, conservation, and agricultural elements of the regional municipality's General Plans identify strategies and measures that can address impacts from urban runoff and provide multiple benefit opportunities. Examples of such measures include 1) limiting development in floodplains and some streams to maintain their wildlife habitat, recreational, hydrologic, and flood attenuation values; 2) development of habitat mitigation plans (HMPs) for state and federally listed endangered and threatened plant and animal species; and 3) issuing ordinances to protect and expand open space. These elements of the municipal general plans therefore serve as additional opportunities for SWRP projects.

In Placer County, there is a Placer County Conservation Plan (PCCP), which coordinates and streamlines issuance of state and federal permits. The PCCP serves as a Habitat Conservation Plan (HCP) under the Federal Endangered Species Act and a Natural Community Conservation Plan (NCCP) under the California Natural Community Conservation Planning Act. In addition to wetland and resource management projects throughout the county, the PCCP includes a 47,300-acre Reserve System that has restoration and enhancement requirements to mitigate areas affected by hydromodification effects, as well as additional commitments for supporting the vitality of vernal pool, seasonal wetlands, riverine/riparian zones, and stream systems.