

Section 4. Projects and Management Actions

Santa Margarita Basin Groundwater Sustainability Plan

Appendix 4A Full Project and Management Action Summary Table

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Project Name	Project Group	Source of Water	Project Description
Group 1 - Baseline Projects and Management Actions			
Existing SVWD Water Use Efficiency	Group 1	Existing Sources	Continue to implement various programs to maximize the efficient use and minimize water waste: Think Twice Water Use Efficiency Program, Rebate Program, Water Waste Policy, WaterSmart Customer Engagement Portal
Existing SLVWD Water Use Efficiency	Group 1	Existing Sources	Continue to implement various programs to maximize the efficient use and minimize water waste: Rebate Program, Customer Engagement Portal
Existing County Water Use Efficiency	Group 1	Existing Sources	Continue to reduce demand through increasing the efficiency of water use by existing and future water users
SVWD Low-Impact Development	Group 1	Stormwater	Where feasible, install small to medium scale (10 acre-feet/year up to 1,000 acre-feet/year/site) facilities to capture storm water and recharge more shallow zones of aquifers through surface spreading and/or constructed dry wells.
SLVWD Conjunctive Use	Group 1	Surface water/ groundwater	Optimizes the use of surface water and groundwater in the San Lorenzo Valley System to utilize stream flows while they are high and groundwater during low flow times, leaving more water in the streams for fish.
SVWD Recycled Water Program	Group 1	Recycled wastewater	Cooperative effort between SVWD and the City of Scotts Valley where recycled wastewater has been used by SVWD since 2002 in lieu of groundwater for non-potable uses.

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Project Name	Project Group	Source of Water	Project Description
Group 2 - Projects and Management Actions in Planning Process			
SLVWD and SVWD Additional Water Use Efficiency	Group 2 Tier 1	Existing Sources	Further expansion of existing SVWD and SLVWD programs to reach more customers and expand the awareness. Community outreach at Scotts Valley and Felton Farmers Market and other events. New metering infrastructure to allow for increased accuracy, leak detection, and customer involvement and awareness.
SLVWD Existing Infrastructure Expanded Conjunctive Use (Phase 1)	Group 2 Tier 1	Surface water/ groundwater from within the Basin	Optimizes the use of currently available sources using system interties and potential capacity enhancements; achieves Pasatiempo area in-lieu recharge by using excess San Lorenzo Valley (North) System and Felton System surface water instead of groundwater pumping in the wet season months.
SLVWD and SVWD Inter-District Conjunctive Use with Loch Lomond (Phase 2)	Group 2 Tier 1	Treated surface water from within the Basin - Reservoir	SLVWD exercises their contract with the City of Santa Cruz to import 313 acre-feet/year from Loch Lomond for conjunctive use. Combined with Phase 1, there would be on average 540 AFY to offset all or almost all wet season groundwater demand in the Scotts Valley area.
SLVWD Olympia Groundwater Replenishment	Group 2 Tier 1	Surface water from within the Basin	Aquifer replenishment project in SLVWD's North System where injection wells at the Olympia wellfield would be used to replenish the Santa Margarita aquifer with treated surface water from available winter flows.
Transfer for Inter-District Conjunctive Use	Group 2 Tier 2	Treated surface water from outside of the Basin	Provide treated surface water from the City's San Lorenzo River and North Coast sources to off-set some or all of the wet season demands of Scotts Valley Water District to rebuild groundwater resources by reducing pumping during some part of the year. Water could also be transferred to parts of the SLVWD's South System which is solely reliant on groundwater.
Aquifer Storage & Recovery Project in Scotts Valley Area of the Basin	Group 2 Tier 2	Treated surface water from outside of the Basin	Create an underground reservoir of stored treated surface water using available winter flows (above those required for ongoing operations, water rights, and fish flows). Stored water would provide drought supply for City of Santa Cruz and could be designed with additional capacity to contribute to the restoration of the Basin.

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Project Name	Project Group	Source of Water	Project Description
Group 2 - Projects and Management Actions in Planning Process, continued			
Purified Wastewater Recharge in Scotts Valley Area of the Basin (710 – 1,500 acre-feet/year)	Group 2 Tier 3	Purified wastewater from outside the Basin	A purified wastewater recharge project would use advanced water purification technology to treat existing secondary-treated effluent source water from the City of Santa Cruz Wastewater Treatment Facility (WWTF). Advanced treated wastewater would be injected into the Lompico aquifer in the Scotts Valley area. The project could use the expanded capacity of Soquel Creek Water District’s (SqCWD) Chanticleer Advanced Water Purification Facility (AWPF) that is scheduled to begin construction in 2021 as part of the Pure Water Soquel project. Purified wastewater would be conveyed to SVWD’s El Pueblo yard site for final conditioning and injection into the Lompico aquifer near the El Pueblo yard. Brine is intended to be discharged via the Santa Cruz outfall.
Purified Wastewater Recharge in Scotts Valley Area of the Basin (3,500 acre-feet/year)	Group 2 Tier 3	Purified wastewater from outside the Basin	Purified wastewater recharge project utilizes advanced water purification technology to treat existing secondary-treated effluent source water from the City of Santa Cruz WWTF for injection into the Lompico aquifer. A new AWPF site in or near Scotts Valley with a capacity of 4 MGD would need to be constructed to purify the wastewater to potable quality. Purified wastewater would be conveyed and injected into injection wells near SVWD’s El Pueblo yard and at several other suitable location in Scotts Valley. Brine discharge will need new infrastructure to connect to the Santa Cruz outfall.
Purified Wastewater Augmentation at Loch Lomond	Group 2 Tier 3	Purified wastewater from outside the Basin	Augment Loch Lomond storage with purified wastewater. Advanced treatment would occur via an AWTF located at or near City of Santa Cruz WWTF. The project would convey purified wastewater from the AWTF to Loch Lomond where it would be blended with raw water in the reservoir, a source of municipal drinking water supply for the City of Santa Cruz. Brine discharge would be via connection to the existing City of Santa Cruz ocean outfall.

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Project Name	Project Group	Source of Water	Project Description
Group 3 - Projects and Management Actions Requiring Future Evaluation			
Public/Private Stormwater Recharge and Low Impact Development	Group 3	Stormwater	Install small to medium scale, 10 AFY to 1,000 acre-feet/year per site, facilities to capture stormwater to recharge the Santa Margarita aquifer through surface spreading and/or constructed dry wells. Preliminary siting of such facilities could be within the Lockhart Gulch area where stormwater runoff is currently diverted, near an existing detention basin on Marion Ave, or one of several previously disturbed sites in public ownership or on property owned by the Santa Cruz Land Trust.
Enhanced Santa Margarita Aquifer Conjunctive Use	Group 3	Surface water/ groundwater from within the Basin	In years when the Santa Margarita aquifer has high groundwater levels, SLVWD extract from the Santa Margarita aquifer at the Olympia and Quail Hollow wellfields instead of at the Pasatiempo wells extracting from the Lompico aquifer. This allows the SLVWD Pasatiempo wellfield to provide for in-lieu recharge of the Lompico aquifer. In dry years, when Santa Margarita aquifer groundwater are lowered in response to reduced recharge from rainfall and impacting baseflows to creeks, SLVWD's Santa Margarita aquifer wells are rested by extracting instead Lompico aquifer groundwater recharged in the wet years.
SLVWD Quail Hollow Pumping Redistribution	Group 3	Groundwater	Add a new well within the SLVWD's system in order to redistribute pumping at the Quail Hollow area.
Santa Margarita Aquifer Private Pumpers Connect to Public Water System	Group 3	Existing Sources	Public water systems incorporate parcels or developments dependent on private wells extracting from the Santa Margarita aquifer if it was found that private pumping was impacting surface water sources, or if there was concern about shallower private wells going dry.
Direct Potable Reuse	Group 3	Purified wastewater	Current California regulations do not allow direct potable reuse (DPR). In the future if this use becomes permitted, it would involve blending purified wastewater with raw water prior to treatment to maximize available beneficial reuse year-round.
Groundwater Use Restrictions	Group 3	NA	Limit the amount of pumping allowed, charge high usage fees
Scotts Valley Non-Potable Reuse	Group 3	Recycled wastewater	Potential upgrades or replacement projects for the City of Scotts Valley existing Wastewater Recovery Facility

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Projects Considered in the Past but Regarded Infeasible			
Zayante Dam	NA	Surface Water - Reservoir	Construct a surface water reservoir on upper Zayante Creek to store 4,000 AF <ul style="list-style-type: none"> •High Cost •Geologic concerns •Endangered Species and other environmental impacts
Raising Loch Lomond Dam height	NA	Surface Water - Reservoir	Raise the height of the Newell Creek dam to increase the capacity of Loch Lomond <ul style="list-style-type: none"> •Dam safety •Geologic concerns
Quarry Storage	NA	Surface Water - Reservoir	Use one of the existing quarries in the Basin as reservoir <ul style="list-style-type: none"> •Low capacity •Endangered Species and other environmental impacts
City of Scotts Valley/SVWD Seasonal Indirect Potable Reuse (IPR) – Groundwater Replenishment Reuse Project	NA	Purified wastewater	Wastewater from City Scotts Valley purified at a new 0.5 MGD AWPf at SVWD's El Pueblo Yard site. 250 acre-feet/year of purified wastewater would be conveyed to injection wells near El Pueblo Yard a to recharge the Lompico aquifer in SMGB. Brine discharge would be via City of Santa Cruz outfall. <ul style="list-style-type: none"> •High cost per acre-foot makes this project too costly to be viable