

Community Water Plan 2017 Guiding Principles



Guiding Principles are statements that articulate shared or common values, assumptions, or expectations. Staff proposes they serve as the standard or basis of reasoning and action in the development and implementation of the Community Water Plan.

Adopted by the Soquel Creek Water District Board of Directors January 17, 2017

Uncertainty, Risk, and Consequence/ Timeframe for Community Water Plan

1. The District recognizes there is uncertainty in many areas of water supply planning and that seawater intrusion has been detected and is occurring at our coastline. This poses a very serious threat to the District's production wells, and once it reaches our wells, the consequence is drastic. Thus, the District's Community Water Plan (CWP) recognizes the District's long-term sustainability goals are to reduce uncertainty where possible and manage it when it is present and reduce risk through conservation efforts and pursuing/obtaining supplemental supplies to eliminate the negative consequence of seawater intrusion.
2. The Community Water Plan shall be a strategic and comprehensive long-range plan with an established planning horizon. The CWP shall serve as a roadmap through 2040 (to match the State's basin sustainability mandate under the Sustainable Groundwater Management Act (SGMA) and include near-term activities to monitor and track progress).

Groundwater Supply – Methodology and Assumptions for Calculating Sustainable Yield

1. **Water-Mass Balance Approach:** The Santa Cruz Mid-County Groundwater Agency is developing a groundwater model, which is currently being calibrated. Until the model is operational and performing scenario analyses, the District will continue to use its current water mass-balance approach for planning purposes.
2. **Level of Acceptable Risk:** The risk and uncertainty of a water mass balance approach is based on the percentile of model runs that successfully provided protective outflows to protect aquifers from seawater intrusion. The District will continue to use 70th percentile for risk/uncertainty for planning purposes.
3. **Level of Responsibility:** In 2015 the District's approach to establishing its long-term groundwater pumping targets and replenishment goals was established based on maintaining its proportion of consumptive use and historical deficit and to assume pumping by other parties will be reduced or augmented to collectively address the groundwater basin's sustainability (HydroMetrics WRI, 2015). Thus, the District shall address

approximately 50% of the basin's overdraft, which is estimated to be its share of the basin overdraft problem.

4. **Incorporating climate change:** The District recognizes that climate change impacts are increasingly important for planning purposes and will further reduce the sustainable yield of the groundwater basin. Local studies estimate that groundwater recharge could be reduced by as much as 30% and that less frequent, but more intense rainfall patterns will occur. Based on District analysis performed in 2015, an 11% reduction factor by 2040 on local recharge is being used to calculate the basin's sustainable yield using the water balance approach.
5. **Planning Horizon and Timeframe:** The District plans to take a proactive approach in replenishing the groundwater basin and/or augmenting supplies through 2040 to aid in restoring protective groundwater levels to prevent further seawater intrusion and achieve basin sustainability by the State's mandate of 2040.
6. **Replenishment Goals:** The District worked with HydroMetrics WRI in 2015 on developing replenishment goals for planning purposes until the groundwater model is complete:
 - Up to 1,500 acre-feet of supplemental water per year for approximately 20 years that would serve as the District's planning number for its proportional development of supplemental water supply and be used in the Community Water Plan and the 2015 Urban Water Management Plan.
 - Approximately 3,000 acre-feet of supplemental water per year for approximately 20 years is estimated for full-basin recovery.

Requirements to Support Planned Growth within Service Area Boundary while Maintaining the Health of our Groundwater Basin

1. **Mandate as a Special Water District in California:** Under the California Water Code, a special water district must plan to provide adequate water supplies for current and future uses. The District is not a land use agency and, as required by law, will continue to plan for the water needs of its community per the Santa Cruz County and City of Capitola General Plans and its own regulatory codes. The District will also continue to work collaboratively with partner and regional agencies.
2. **Continue Water Demand Offset (WDO) Program:** Since 2003, the District has required that new development is water neutral (meaning no additional impact) until the groundwater challenges are resolved. The WDO Program currently requires that any new development offset its anticipated water use by 200%. New service applicants meet their offset requirement by paying a WDO fee equivalent to \$55,000 per acre-feet. In 2016, the WDO Program was modified resulting in a different allocation of fees for implementing conservation projects. 50% of the fees go toward long-term water conservation projects (e.g., stormwater recharge, smart metering, etc.) and 50% of the fees go toward funding the [enhanced toilet rebate program](#).

Water Conservation

1. Conservation continues to be an integral component in our long-term planning efforts. Based on public input we've gathered, the District recognizes that the majority of customers are hopeful that their new conservative behaviors can be permanent. Since 2000, the District has reduced its water production by almost 50%. The District will continue to encourage customers to make conservation a permanent part of their lives.
2. Promotion of water conservation programs and activities will play an integral part in our outreach and education efforts. Rebates, water wise house calls, youth education, and actions to help customers make positive habit changes will continue to be implemented.

Stormwater Capture

1. Capturing storm water does play a role in addressing our water shortage issues and we will continue to work with the County of Santa Cruz, Resource Conservation District, University of California at Santa Cruz and others to help identify potential small to medium scale storm water capture sites and to recharge shallow zones of the aquifer. The District recognizes that topographic, ground cover and local vegetation, and surface and sub-surface geology/hydrogeology can provide limitations and constraints for siting storm water capture sites but will aim to utilize the most favorable sites when possible, and once viable recharge sites are identified; continue with environmental review, design, construction, and ongoing monitoring.
2. Storm water capture introduces water to the upper levels of aquifers and the District's drinking water production wells draw from deeper levels; thus analysis should include if captured water will reach the aquifers that the District's drinking water is being drawn from. Projects should demonstrate a positive impact to our groundwater basin.

Supplemental Water Sources

1. Based on community input through phone surveys, web surveys, and public meetings, the District recognizes that the majority of customers support the District to take action in securing a new source of water supply. The top three values that the District community identified as important were: timeliness, reliability, and water quality. Following the scwd² Desalination project being put on-hold by the City of Santa Cruz, the District conducted a 13-month evaluation of potential projects that included a criteria-based ranking/scoring selection and a peer review assessment in 2013-2014. Groundwater replenishment using purified, recycled water (also referred to as the Pure Water Soquel project) is preferred by the Board to further evaluate. A feasibility study has been conducted and an environmental impact report (EIR) is being prepared. **See Guiding Principles for the Pure Water Soquel Project.**

2. In addition to evaluating the Pure Water Soquel project, the District is carrying forward two additional options to consider: transferring excess treated winter river water from the City of Santa Cruz and desalination with Deep Water Desal. **See Guiding Principles for River Water Transfers and Deep Water Desal.**
3. In 2014, the Board established an 8-year target to develop a supplemental water supply to be brought on-line and producing water by 2022.
4. For planning purposes, in 2016, the District built into its 10-year finance plan the assumption that the Community Water Plan components (including a supplemental water supply) would be funded through debt borrowing supported by water rates and fees for new development. Possible cost-sharing and grant funding may be available and various funding strategies will be re-evaluated as long-term financial plans are updated.

Supplemental Water Supply Options

Primary Guiding Principles for Pure Water Soquel

1. Secure agreements for treated effluent (secondary or tertiary) with the City of Santa Cruz Wastewater Treatment Facility as the water source to be further treated at a new advanced water purification facility and recharge well locations at Cabrillo College. Our goal and preference is the facility will not be treating raw wastewater.
2. Review list of proposed treatment facility site locations previously considered and any new potential sites to determine feasibility of an alternate location.
3. The design of the proposed purification facility and recharge well sites will be envisioned and co-created with nearby residents and community members, and we will strive to eliminate any potential odor and noise, and implement non-obtrusive lighting, attractive drought-tolerant landscaping, and buildings that appropriately fit with the surrounding neighborhood and environment.
4. Increase education and outreach of the proposed project's development to gain public input, clarify misinformation, engage in a cooperative effort with nearby residents, and build trust with the community.
5. Actively pursue grants and low-interest loans to reduce the local funding needed and offset ratepayer exposure to costs.
6. Ensure that the resulting purified water is of the highest quality and meets all regulatory requirements and guidelines, and establish an independent technical panel to provide third-party oversight that a thorough and complete analysis was conducted and prepare recommendations for future work, if needed.

Primary Guiding Principles for River Water Transfers

1. Continue working with the City of Santa Cruz on the North Coast Option (5-year, short-term pilot project) to investigate and resolve potential issues related to water quality and blending of groundwater and river water within the District's system. Amend the District's Domestic Water Supply permit from the Division of Drinking Water to add the City of Santa Cruz's surface water as a supply source.
2. Increase public education and outreach that the District is evaluating river water transfers for the two different options: The North Coast Option (short-term) and the San Lorenzo River Option (long-term) which the City of Santa Cruz is currently evaluating based on their water supply advisory committee efforts.
3. Continue working with the City to better understand the benefits, issues, and constraints of the City's long-term San Lorenzo River Option that includes in-lieu recharge with dry-summer groundwater returns and aquifer storage and recovery.
4. Aim to be obtaining the transfer water by December 2018, hopefully before then.

Primary Guiding Principles for Desalination

1. Continue to track the development of the privately owned DeepWater Desal project that is underway in Moss Landing. The District has provided a non-binding, non-financial letter of interest that we could potentially transport desalinated water to our service area.
2. Evaluate the legal and cost implications with the purchase of desalinated water so that the District is better prepared when DeepWater Desal requests if the District is willing to enter into a formal off-taker purchase agreement.

Near-term Activities with Target Goals Pertaining to Supplemental Water Supply

The following are near-term activities with target goals for work that has been identified to meet the guiding principles:

1. Pure Water Soquel: Develop a source water agreement with the City of Santa Cruz and recharge well site agreement with Cabrillo College.
 - Goal: Bring to the Board by March 2017 for review.
 - Goal: If source water agreement is approved, consider removing membrane bio-reactor from proposed treatment plant configurations.
2. Pure Water Soquel: Re-evaluate previously considered treatment facility locations and any new potential locations. Create a screening matrix.
 - Goal: Bring to the Board by February/March 2017.

3. Pure Water Soquel: Coordinate co-creation conceptual facility design workshop(s) and review(s) with adjacent neighbors of the proposed facilities.
 - Goal: Work toward having first workshop by February 2017.
4. Pure Water Soquel: Increase education of the water purification process and technologies involved, and outreach efforts to inform those who are potentially affected by new facilities.
 - Goal: Work toward increasing educational materials to address our community as a whole; and continue to meet with those around proposed facility locations.
5. Pure Water Soquel: Continue with development of the environmental impact report (EIR) to evaluate environmental effects/impacts.
 - Goal: Work toward releasing Draft EIR by summer 2017.
6. Pure Water Soquel: Initiate work of independent panel of experts to provide insight and overview of water treatment technology and processes.
 - Goal: Kick-off panel by February 2017 and have in-person meeting in April 2017.
7. North Coast Water Transfer Option: Begin pipe loop study
 - Goal: Select and retain a consultant to perform additional analyses on blending surface water with groundwater in the District's system by February 2017.
8. North Coast Water Transfer Option: Complete the pipe loop study
 - Goal: Complete bench-scale and pipe loop testing either in the summer of 2017 or the winter of 2017/2018 (if necessary to use winter water for the tests).
9. North Coast Water Transfer Option: Determine if corrosion control by the District is necessary.
 - Goal: May be determined by results of pipe loop study.
10. North Coast Water Transfer Option: Initiate additional corrosion control as necessary
 - Goal: If necessary, pre-condition the District's distribution system with additional corrosion control at least 6 months prior to receiving surface water.
11. North Coast Water Transfer Option: Complete distribution system flushing
 - Goal: Complete flushing of at least Service Areas 1 and 2 before river water transfers begin.
12. DeepWater Desal: Stay informed of their progress
 - Goal: Obtain periodic updates and request for DeepWater Desal to give a status update in spring 2017.