



City of Santa Cruz Water Department and Soquel Creek Water District scwd² Desalination Program

Monthly Project Update – March 2011

Recent Coverage in the Good Times

In last week's edition of the Good Times (February 23 edition) there were three pieces related to water and **scwd²** Desalination Program. To view the article by reporter Elizabeth Limbach, click [here](#). To view the opinion columns, click [here](#).

Focusing on Frequently Asked Questions

This month we've focused on answering some of the most frequently asked questions related to desalination, the Integrated Water Plans, and the proposed 2.5 million gallon per day (MGD) regional seawater desalination project. For more information, please visit www.scwd2desal.org.

Q: Will the City of Santa Cruz and Soquel Creek Water District be updating supply and demand figures that were used in previous planning documents?

A: Yes, the City and District are updating information on water demands, supply reliability, water conservation measures, and water shortage contingency planning as part of the updates to the Urban Water Management Plans and the environmental review process for the proposed desalination project. This information will be incorporated into the Draft Environmental Impact Report (EIR) that is being developed for the proposed **scwd²** Regional Seawater Desalination Project and the applicable supporting technical studies.

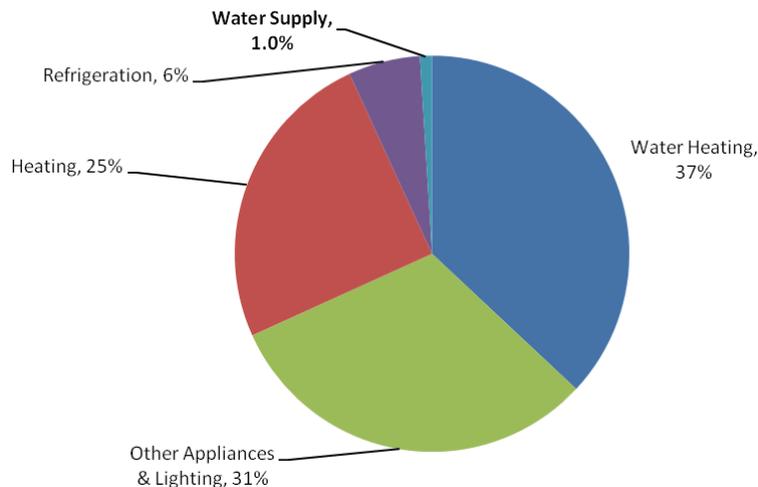
Q: Is the City able to transfer surface water during winter months to Soquel Creek Water District?

A: The City is presently unable to transfer surface water to Soquel, but opportunities such as this are being investigated by the water agencies. Challenges with this option include lengthy water right amendments, potential impacts to endangered fish species, and the annual variability and unreliability of a sufficient water supply available to transfer. John Ricker, Water Resources Division Director for Santa Cruz County, who is overseeing this study, acknowledges that "the possibility of a water exchange is not a near-term solution in the water supply shortage faced by the City and District and is not considered an alternative to developing a new reliable and flexible supplemental supply."

Q: Does desalination use a lot of energy?

A: The process of desalination does use more energy than traditional water treatments (such as groundwater and surface water), but the amount of energy that would be attributed to water supply would continue to be a very small fraction of the total energy requirements for a typical household. For example, if the energy required to produce and deliver water (desalination,

surface water and groundwater) during drought conditions was divided by the number of households within the City's water service area, it would be approximately 1% of the total household energy demands. An upcoming white paper on Energy Use will be available on our project website in late-March which will provide more information on energy use and comparisons for the proposed project. The graphic below illustrates the breakdown of typical household energy uses.



Q: Are there any successful desalination projects currently in operation? Why is the Santa Barbara facility not in operation?

A: Desalination is a proven and reliable technology that is used in over 120 countries worldwide including Australia, Japan, China, Saudi Arabia, Greece, Spain, and the United States. It is also often used on islands (such as the Caribbean and our nearby Catalina Island), naval vessels, and cruise ships. Locally, Duke Power Plant in Moss Landing, Monterey Bay Aquarium and the City of Sand City operate desalination facilities. The primary reason why [Santa Barbara's desalination facility](#) (constructed in the early 1990's) is not in operation is due to their subsequent connection to the State Water Project that can deliver up to 3,000 acre-feet-per year of water; however, the desalination facility remains in their long-term water portfolio for emergency purposes including drought. While imported water was a viable option for Santa Barbara to use in lieu of desalination, this option is not an alternative for the City of Santa Cruz or Soquel Creek Water District.

Q: Is desalinated water actually safe?

A: Desalination is a safe and proven technology. **scwd**² operated a pilot facility in 2008-2009 that tested the reverse osmosis technology for desalinating ocean water from the Monterey Bay. The facility was able to meet and exceed all state and federal drinking water standards and clearly demonstrated that it can provide a clean and reliable source of drinking water.

Q: Will the mixing of desal water with surface water and groundwater cause water quality issues?

A: All new water supplies must be extensively evaluated to ensure they can be 1) treated to all state and federal drinking water standards and 2) don't have unanticipated impacts either on the distribution system or with other water supplies it may be mixed with. **scwd**² evaluated all required constituents, as well as constituents that are not currently regulated but that may be in the future. Trihalomethanes (THMs) is a regulated constituent which forms when organic

material in any surface water combines with chlorine during disinfection. **scwd²** successfully demonstrated that desalinated water could be treated and mixed with surface water and groundwater supplies and comply with regulations related to THMs. As is currently required and performed, the City would continue monitoring programs at treatment facilities and within the distribution system to ensure compliance with water quality standards. For more information on the pilot study and water quality testing, click [here](#).

Q: Will the marine life in the Monterey Bay be harmed by pulling in ocean water and pushing out the brine produced in the desalination process?

A: **scwd²** recently completed several technical studies that evaluated the intake effects of bringing ocean water into the desalination plant and mixing the brine with existing treated wastewater effluent that currently goes out to the Bay. Both studies concluded that effects would be minimal based on newer technologies that could be implemented. Technical Working Groups, which included scientists, academics, and regulators, advised and oversaw these complex and detailed studies. To see a short video demonstrating the effects of a well-engineered intake system, click [here](#). To access the technical studies, click [here](#).

Q: What type of conservation rebates and incentives are available to City of Santa Cruz and Soquel Creek Water District customers?

A: The City and District currently offer numerous conservation rebates and incentives to their customers that include, but aren't limited to, free on-site water surveys, rebates/incentives for toilets, urinals, front-load washers, and rain barrels and cisterns. For a complete list of incentives, click [here](#) (City information is organized by residential, commercial, and landscape) and [here](#) (for District information). Both agencies also offer a suite of free conservation items such as showerheads, faucet aerators, garden shut-off nozzles, shower timers, and garden hose timers.

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