next steps

Construction of a full-scale plant is dependent upon the successful completion of the Pilot Test Program, technical review of the data collected, and environmental approval and permitting of a full-scale plant design. Additional studies will investigate the location and design of the proposed full-scale plant's intake system, and focus on water quality and biological issues to ensure the plant would not have an adverse impact on the environment. The preliminary project schedule anticipates full-scale plant design to be completed by 2012 with construction completed in 2015. A construction cost estimate has not yet been developed because the desalination program is in its investigative phase and there is insufficient detail of a full-scale facility at this time.

The recommended plan features a 2.5-million-gallons-per-day (mgd) cooperative desalination facility with the City of Santa Cruz potentially adding two future capacity increases of 1.0 mgd each, eventually totaling 4.5 mgd. Issues evaluated in a future Project-level Environmental Impact Report (EIR) will include, but are not limited to:

- Energy requirements
- Environmental impacts
- Growth impacts
- Outfall water quality
- Marine life impacts

studies to date

Since the late 1990s, both SCWD and SqCWD have conducted exhaustive evaluations of water supply options and potential new water sources through the Santa Cruz Integrated Water Plan – IWP (2005) and SqCWD Integrated Resources Plan – IRP (2006). Both studies concluded that in addition to existing water resources, conservation, curtailment (requested or required reduction in water consumption), and desalination are needed to protect the health, safety and economy of those served by these two agencies.

how to schedule a pilot plant tour

Tours through the Pilot Plant are available to the general public. Please contact the Seymour Center at (831) 459-3800 to inquire which of their daily tours through the marine lab grounds will include a visit to the Pilot Plant. (Not every tour visits the pilot plant. Admission to the Seymour Center is required for their daily marine lab tours.)

To schedule a private group tour, please contact Melanie Schumacher, scwd^2 Public Outreach Coordinator at (831) 475-8501 x 153 or submit a request on-line (www.scwd2desal.org) at least three weeks in advance.

schedule

JANUARY 2008–2009	Pilot Plant Testing
JANUARY 2009	Pilot Test Program Technical Review
2009–2012	Full-Scale Plant Environmental Review
2010–2012	Full-Scale Plant Design
2012–2015	Full-Scale Plant Construction

program partners

SOQUEL CREEK WATER DISTRICT

Water Boards

CITY OF SANTA CRUZ

DEPARTMENT OF WATER RESOURCES · STATE OF CALIFORNIA

SEYMOUR CENTER AT LONG MARINE LAB

CDM

Funding for this project has been provided in full or in part through an agreement with the State Water Resources Control Board

contact us

Heidi Luckenbach, Desalination Program Coordinator
City of Santa Cruz **Water Department**
809 Center Street Room 102 Santa Cruz, CA 95060
Tele: (831) 420-5214 **E-mail: SWRO@ci.santa-cruz.ca.us**
www.scwd2desal.org

SPRING 2008

scwd^2 Desalination Program

scwd^2 Seawater Reverse Osmosis Desalination Pilot Test Program

A collaboration between the City of Santa Cruz and Soquel Creek Water District

project **overview**

The City of Santa Cruz Water Department (SCWD) **and Soquel Creek Water District** (SqCWD) **are evaluating a potential Cooperative Desalination Plant in Santa Cruz to provide needed water supply during droughts, protection of underground water aquifers, and improved water supply reliability for the Santa Cruz and Soquel Creek Water District service areas.**

SCWD and SqCWD identified desalination as the best apparent option for delivering an additional flexible and reliable water source for near–term needs. To take advantage of the benefits derived from a cooperative facility, SCWD and SqCWD have joined together to address their different needs and share in the program costs under the direction of the scwd² Task Force. While SCWD would address its drought-protection needs under such a partnership, SqCWD would utilize the potential desalination plant to protect its groundwater resources from saltwater intrusion. SCWD and SqCWD will continue to use conservation and curtailment to maximize efficient use of water resources.

pilot-test **program**

This Pilot Test Program is required by the California Department of Public Health (CDPH) and will test various desalination treatment processes at minimum over a 12-month period beginning in January 2008. The Pilot Plant is testing several combinations of Reverse Osmosis (RO) membranes (which remove salt), including both seawater and low-pressure RO membranes. Several different combinations of three pretreatment technologies are also being tested: conventional pretreatment (flocculation/sedimentation and media filtration), slow sand filtration, and membrane ultra filtration. Pilot testing will ensure that a full-scale plant could meet environmental and water quality requirements and still be cost-effective.

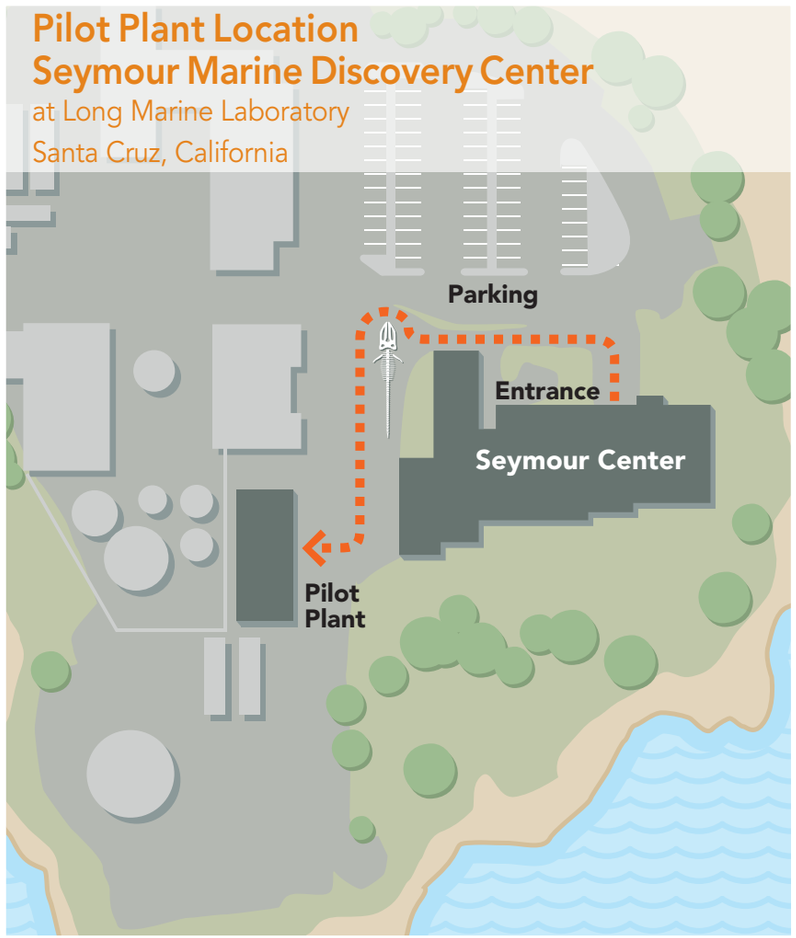
Funding for the Pilot Test Program and related studies will be jointly shared by SCWD and SqCWD. Two grants have been awarded for the desalination investigation: a $2 million grant by the Department of Water Resources and a $611,000 grant by the State Water Resources Control Board.

The UCSC Long Marine Lab is cooperating with the effort by providing the location and the seawater for this Pilot Test Program through their existing flow-through system.

scwd² task **force**

The City of Santa Cruz (SCWD) and the Soquel Creek Water District (SqCWD) formed the **scwd²** Task Force to oversee and guide the project through the investigative stage including the Pilot Test Program, permitting, environmental review, and other studies associated with the full-scale desalination program. The partnership also provides a forum for public input on the project and establishes a formal agreement and governance structure should the decision be made to proceed with a cooperative desalination project. The **scwd²** Task Force is comprised of two Santa Cruz City Council Members and two Soquel Creek Water District Board Members.

Pilot Plant Location
Seymour Marine Discovery Center
at Long Marine Laboratory
Santa Cruz, California



how **desalination** works

benefits **of** desalination

- **Provides needed water supply during droughts**
- **Protects underground water aquifers from seawater intrusion**
- **Provides reliable and flexible source of water**
- **Protects public health, safety and the economy**

challenges **of** desalination

- **Ensuring safe disposal of concentrated salty water**
- **Preventing marine life from being trapped or injured by seawater intake pipes**
- **Offsetting greenhouse gas emissions**
- **Limiting economic costs to produce water**
- **Preventing population-growth-inducing impacts**