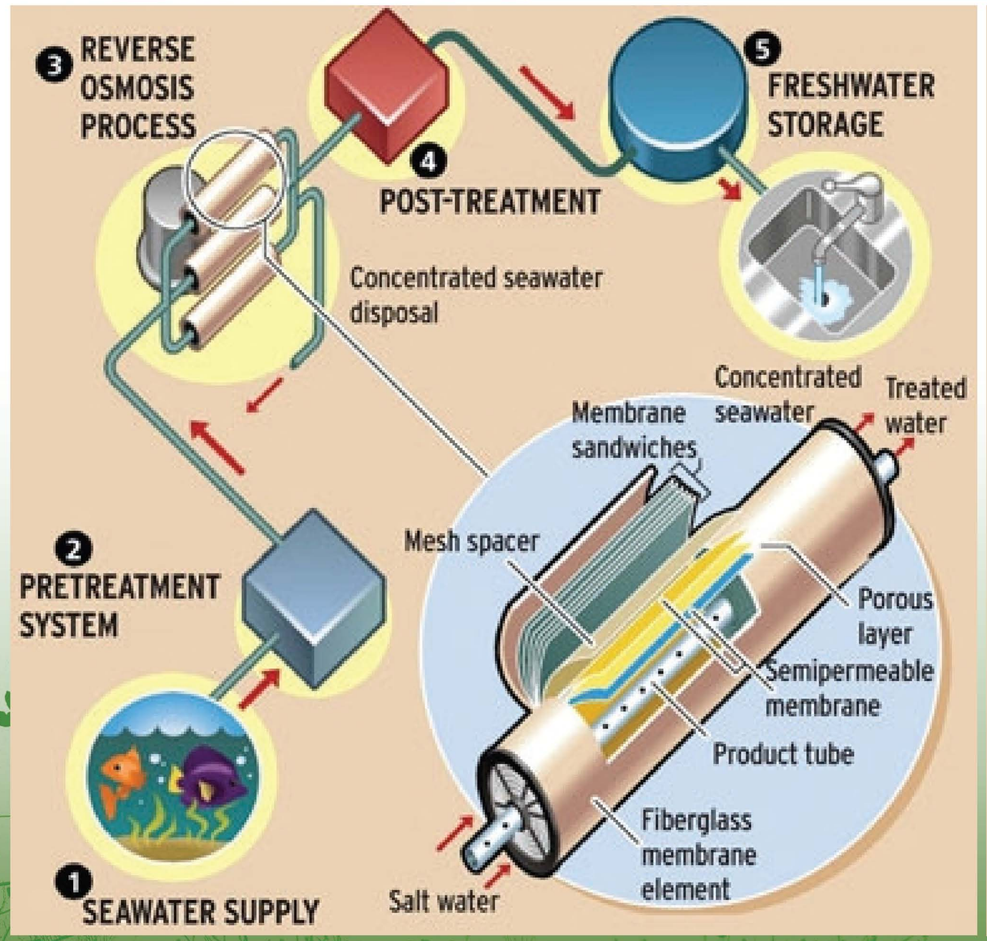
What is Desalination?

Desalination is the process of removing salts and other minerals from saltwater to produce fresh drinking water through distillation or filtration.



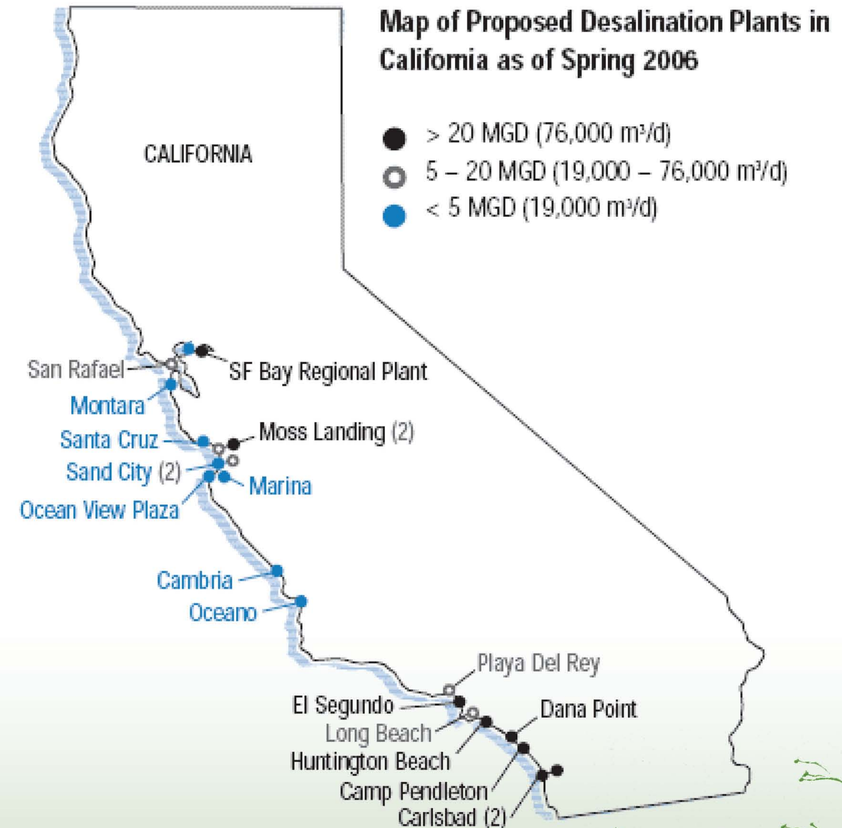
How does it work?

1. Source water undergoes pretreatment with a screening and membrane system, to remove sliths and solids.

2. Removes remaining dissolved salts and minerals

3. Addition of important minerals back into the treated water (permeate).

There are several proposed desalination plants in California



What is the Bay Area Regional Desalination Project?

The Bay Area's four largest water agencies, CCWD, EBMUD, SFPUC, and SCVWD, are jointly exploring the development of a regional desalination facility or facilities that could provide up to 71 million gallons a day (MGD) during droughts and emergencies. A Feasibility Study, completed in June 2007, identified three Bay Area locations suitable for siting such a regional desalination facility. East Contra Costa site was selected for the pilot test.

How much will it cost?

The 2007 feasibility study estimated the capital cost for the project to be between $255 to $435 million, with annual operation & maintenance costs ranging from $25 to $50 million, depending on the location and capacity of the treatment plant.

How will the costs be shared?

Costs for each agency will depend on the amount of water it receives from the proposed facility. Details on the cost-sharing will be determined in the next phase of the project.

Pilot Test Summary

A pilot test was conducted at Contra Costa Water District's Mallard Slough Pump Station located near Pittsburg in eastern Contra Costa County.

What are the pilot test goals?

The pilot test provided water quality and technological efficiency data and helped determine the optimal operations for a full-scale plant. Data obtained were the basis for estimating full scale desalination plant design parameters and costs and in applying for permits for a full-scale facility. At this site we tested brackish source water, for which there is limited available data. The data obtained from this pilot will provide helpful information to other agencies in California considering desalination.

How long did the pilot test run?

The pilot test operated for approximately six months, from October 2008 through April 2009. A final report will be prepared by the early 2010.

How much will the pilot test cost?

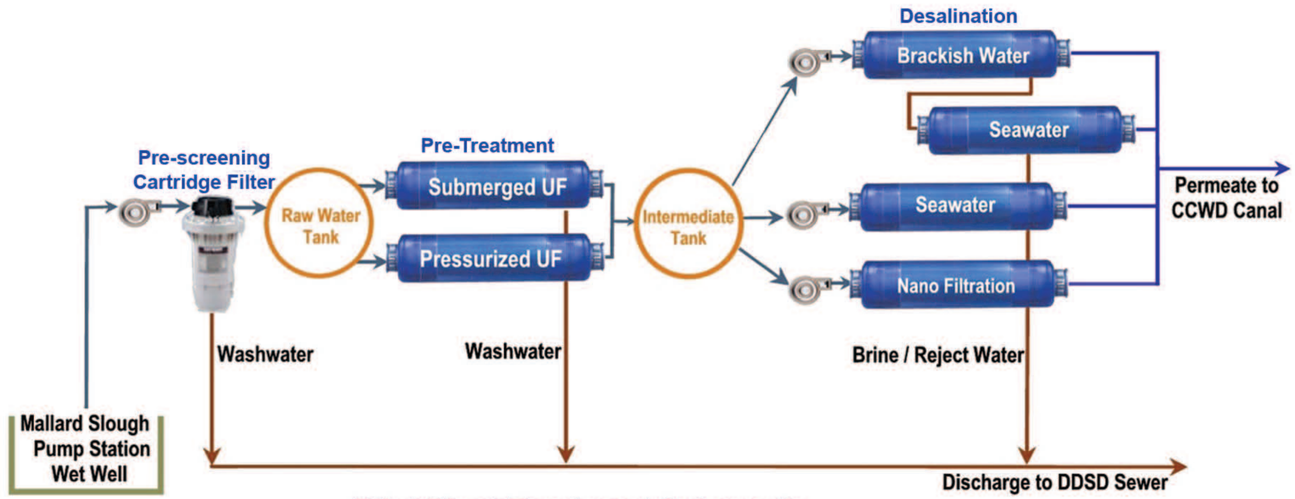
The pilot test is estimated to cost approximately $2 million. The cost is being shared by the partner agencies, and is supported by a $950,000 grant from the California Department of Water Resources.

What did we learn from the Pilot Test?

The pilot test proved that desalination could be used for treating brackish water to drinking water.

What did we learn from the membrane testing?

We tested pretreatment, brackish water, seawater, and nano-filtration membranes. Both types of pre-treatment membranes produced acceptable water quality. Brackish water membranes followed by seawater membranes produced the best results. Nano-filtration membranes did not perform well for highly saline water.



Pilot Plant Treatment Schematic

What did we learn from the biological sampling?

Biological samples were collected in November, December, February, March, July, and October. The analysis results showed sensitive species (longfin and smelt) were present during February and March.

What did we learn from brine toxicity?

Brine toxicity tests showed that even at high concentrations (100% brine) there was no significant negative impacts on representative biological organisms.

How to Stay Involved?

As the pilot project progresses, there will be additional workshops for you to learn more about the project. If you'd like to receive updates and additional information, please provide us with your contact information or email at ***info@regionaldesal.com***.

Information will continually be updated on the project website at **www.regionaldesal.com**.

How is Perth Seawater Desalination Plant performing?

Perth Seawater Desalination Plant started operating in 2006. Video above shows that marine life is flourishing on the intake system and brine discharge ports after two years of operation.

Seawater intake being installed

Dye tests being done on the Brine Discharge Ports