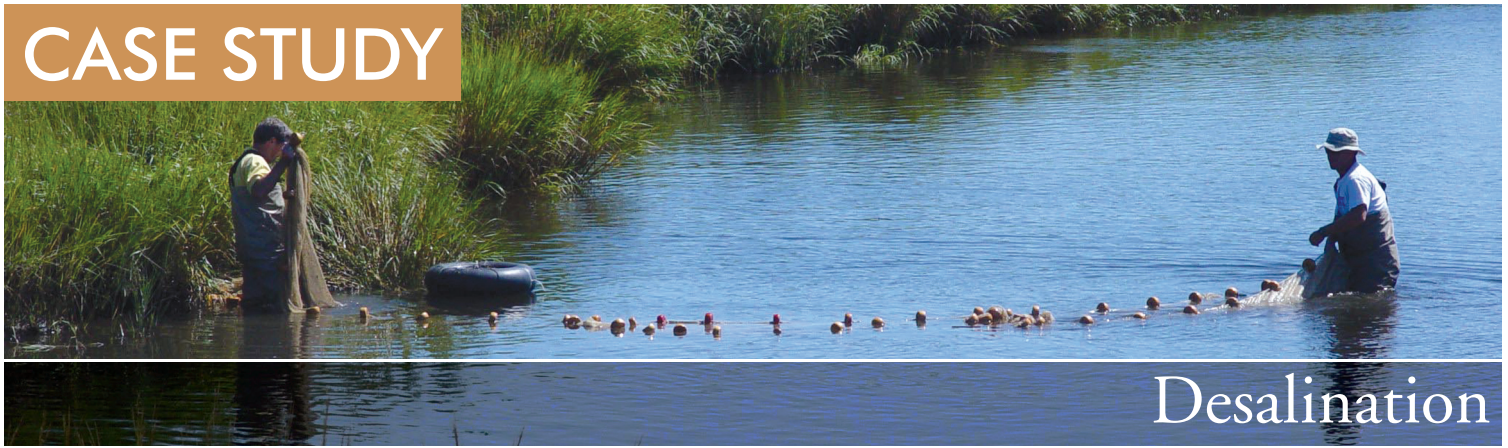


CASE STUDY



Desalination

NATIONWIDE OFFICES

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Stevenson
Vancouver
Wenatchee

Swansea Desalination Facility — Swansea, Massachusetts

BACKGROUND

Over half of the US population now lives within 60 miles of the nation's coastline. These demographics are becoming an increasing burden on public and private water supplies. A number of communities in the northeast have been exploring ways to increase their drinking water supplies as current and future shortages are projected to limit growth and affect quality of life particularly during the summer months. Even after implementing strict conservation measures and transporting water from surrounding communities some towns are finding that they may need additional freshwater. With only 0.4% of all water on earth occurring on the surface or in aquifers desalination may be the answer for some communities.

THE CHALLENGE

The town of Swansea, Massachusetts has experienced severe water shortages for over a decade and has experienced "Water Supply Emergency Declarations" on at least two occasions. The town has drilled over 200 test wells looking for additional water. Unable to find a viable addition to its water needs the town has turned to desalination. Following the filing of an Environmental Notification Form Normandeau Associates was contracted to gather ecological data from the tidal waters of the Palmer River to help in siting the intake and discharge of the proposed facility. Careful siting of the intake and discharge were critical as the Palmer River is one of only three remaining coastal American shad runs in Massachusetts.

THE SOLUTION

Normandeau biologists collected information on salinity structure, abundance and distribution of finfish, ichthyoplankton and benthic invertebrates. To minimize entrainment and impingement of fish, the facility will employ an infiltration gallery on the riverbed for its intake and will discharge brine water near high tide at ambient salinities. The treatment facility was completed in early 2009; the first publicly owned and operated desalination facility in the northeast. While water distribution pipelines, intake, and discharge are being installed the facility is being used to treat poor quality water from one of the town wells. Construction is expected to be completed by summer 2010 when the facility will be ready to deliver water.