

# SENATE BILL REPORT

## SB 6347

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As Reported by Senate Committee On:  
Environment, Water & Energy, January 27, 2010

**Title:** An act relating to seawater desalination.

**Brief Description:** Studying seawater desalination.

**Sponsors:** Senators Ranker, Swecker, Haugen, Rockefeller, Pridemore, Marr, Hobbs, Fraser and Kline.

**Brief History:**

**Committee Activity:** Environment, Water & Energy: 1/15/10, 1/27/10 [DP, DNP].

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### SENATE COMMITTEE ON ENVIRONMENT, WATER & ENERGY

**Majority Report:** Do pass.

Signed by Senators Rockefeller, Chair; Delvin, Fraser, Marr, Morton, Oemig and Ranker.

**Minority Report:** Do not pass.

Signed by Senator Honeyford, Ranking Minority Member.

**Staff:** Jan Odano (786-7486)

**Background:** The desalination of salt or seawater can be an alternative to obtaining water from fresh surface or groundwater sources. Desalination is a process to remove excess salt and other minerals from water. There are several technologies used to remove salt and other impurities from seawater. The most common technologies used to desalinate seawater are achieved through distillation, reverse osmosis, or electrodialysis. Thermal distillation uses heat to create a vapor that is converted into freshwater. The salt and other minerals are left behind. Reverse osmosis uses high pressure pumps to push seawater through a membrane that filters out salts and other impurities. Electrodialysis uses porous membranes to filter out negatively and positively charged salt ions.

Desalination can have adverse environmental impacts, as plants can be very energy intensive and must dispose of a highly concentrated saline byproduct. Waste brine can contain biocides, high concentrations of metal, and chlorine. Additionally, desalination plants can be costly to construct and operate, and some of the facilities require large amounts of land.

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Construction of desalination plants can cause poor air quality, disturbances to dune, surf, and seafloor species, noise pollution, and unnatural erosion.

Desalination plants and other salt water diversions or withdrawals within Washington do not require a water right permit from the Department of Ecology (department). The department's policy on the diversion or withdrawal of saltwater is to ensure the protection of fresh water aquifers from saltwater intrusion, and to protect public health and the safety of the environment when the use of saltwater is determined to be detrimental to the public interest. Discharges from large desalination plants to surface waters would require a National Pollutant Discharge Elimination System permit. There are currently no state permitting requirements for desalination plants.

**Summary of Bill:** The Puget Sound Partnership (PSP) must establish and convene a work group to study seawater desalination. The work group consists of the Departments of Ecology, Health, Natural Resources, and Fish and Wildlife, and the PSP. The purpose of the study is to identify the impacts of desalination facilities and to determine the feasibility of seawater desalination.

The work group must consider issues including environmental impacts; nearshore impacts; waste disposal; energy use and efficiencies at desalination plants; management and fiscal requirements to operate a desalination facility; public health and safety requirements; and impacts of limiting or enhancing potable water availability for established communities and for new subdivisions.

By December 1, 2010, the PSP must report and provide recommendations to the Legislature. The recommendations must include: the need for a regulatory system or permitting process for siting and administering desalination facilities; appropriate guidelines for siting, sizing and operating desalination facilities; methods for determining feasibility of seawater desalination facilities and ensuring long-term viability of a facility; and alternatives to seawater desalination.

**Appropriation:** None.

**Fiscal Note:** Requested on January 13, 2010.

**Committee/Commission/Task Force Created:** No.

**Effective Date:** Ninety days after adjournment of session in which bill is passed.

**Staff Summary of Public Testimony:** PRO: There is a need to be able to evaluate desalination projects. Several coastal states have had major desalination projects without the benefit of knowing the impacts. It is a good idea to have a better understanding of desalination and how it works. Desalination plants will have potential impacts to state owned aquatic lands such as the intakes and outfall of such plants. There are discharge issues from these plants that can be of concern. It is important to understand all aspects of desalination plants, including energy requirements and environmental impacts. This will lead to successful implementation of the PSP Action Agenda. We want to be informed to make better decisions. There will be a small fiscal impact from the bill.

**Persons Testifying:** PRO: Kevin Ranker, prime sponsor; Bridget Moran, Department of Natural Resources; Michael Grayum, PSP; Ken Slattery, Department of Ecology.