



BROUGHT TO YOU BY YOUR LOCAL WATER PROVIDERS

Bryn Mawr – Lakeridge
Water & Sewer District

Cedar River
Water & Sewer District

City of Bellevue

City of Bothell

City of Duvall

City of Edmonds

City of Kirkland

City of Mercer Island

City of Redmond

City of Tukwila

Coal Creek Utility District

Highline Water District

King County Water District No. 20

King County Water District No. 45

King County Water District No. 49

King County Water District No. 85

King County Water District No. 90

King County Water District No. 119

King County Water District No. 125

Lake Forest Park Water District

Northshore Utility District

Olympic View
Water & Sewer District

Seattle Public Utilities

Shoreline Water District

Soos Creek
Water & Sewer District

Woodinville Water District

Refrigeration Case Study

Ivars Acres of Clams & The Salmon House

Project Summary

In 2001, Ivar's received an award from the American Water Works Association for extensive cooling and kitchen improvements at Acres of Clams and The Salmon House.

Both are full-service restaurants serving lunch and dinner. Each also has a lounge and street side take out fish-bar. In 1999, close to one million customers were served in the two restaurants and take-out bars. The improvements produced end-use **water savings of over 50 percent** from historical use. Factoring in inflation, Ivar's expects to save more than \$1 million in less than 10 years.

Project Cost: \$200,000

Rebate: \$32,000

Water/Wastewater Savings: 12 million gallons/year = \$93,000/year

Background

Ivar's Inc. owns and operates three main restaurants: Acres of Clams on Pier 54, The Salmon House on Lake Union and Ivar's in Mukilteo. It also operates over 33 smaller Seafood Bars, as well as 11 Kidd Valley Hamburger stores. In the last three years, significant changes to equipment and operations have contributed to major reductions in water consumption.

Problems Identified

The combined water consumption by the Acres of Clams and The Salmon House restaurants averaged 27,043 ccf per year. This breaks down to a daily average of 55,420 gallons per day. In an effort to significantly lower water and sewer utility bills, improve their product, and demonstrate good stewardship of a valuable resource, Ivar's evaluated equipment and operational efficiencies that offered the potential to drastically reduce potable water consumption.

Solutions Targeted

- Replaced six **water-cooled ice machines** with a combined capacity of over 4,000 pounds of ice daily.
- Replaced six **water-cooled refrigeration systems** serving walk-in coolers and freezers.

SAVING WATER PARTNERSHIP

- Replaced two large **dishwashers** with new high-efficiency models that also increased labor efficiency by diminishing the need for monitoring of dishwasher function. Instead of having the dishwasher continuously running, the new model has a trigger that shuts off the machine when no dishes are in the machine. Acres of Clams used 400,000 fewer gallons of water than the same month of the previous year after the new dishwasher was installed.
- Removed large sinks and tub basins used to **thaw frozen fish**. A dedicated walk-in cooler now occupies that space and is used exclusively to thaw product. For decades Ivar's has thawed its frozen-at-sea fish by running it under running water. It was easy and fairly quick, and was thought to be the best way to thaw product for safety and with a minimal affect on product quality. Now, the thawing freezer allows them to rotate stock and control the thawing process over time without using water. It requires a little more planning but in the end result it is also a safer product.
- Installed low-flow **toilets** and metered faucets used in public restrooms.
- Additional projects included replacement of water-cooled ice machines in several of the smaller fish bar outlets and new low volume toilets.
- In addition to capital projects, Ivar's is committed to careful management of water consumption. The accounting department closely watches all utility bills and will investigate any abnormalities in billing.

Important Conservation Tips for Irrigation

- Replace inefficient toilets and urinals.
- Replace single-pass ice machines and other single-pass equipment.
- Work with employees to develop methods and procedures that will reduce water use. Evaluate how employees are using water and determine, with their help, more efficient alternatives.
- Incorporate efficient use of water in kitchens for food preparation, food thawing and clean-up procedures.
- Empower your customers to participate in water-saving practices. Allow restaurant customers to request drinking water.
- **Call 206- 684-SAVE** for free technical assistance and project rebates.