

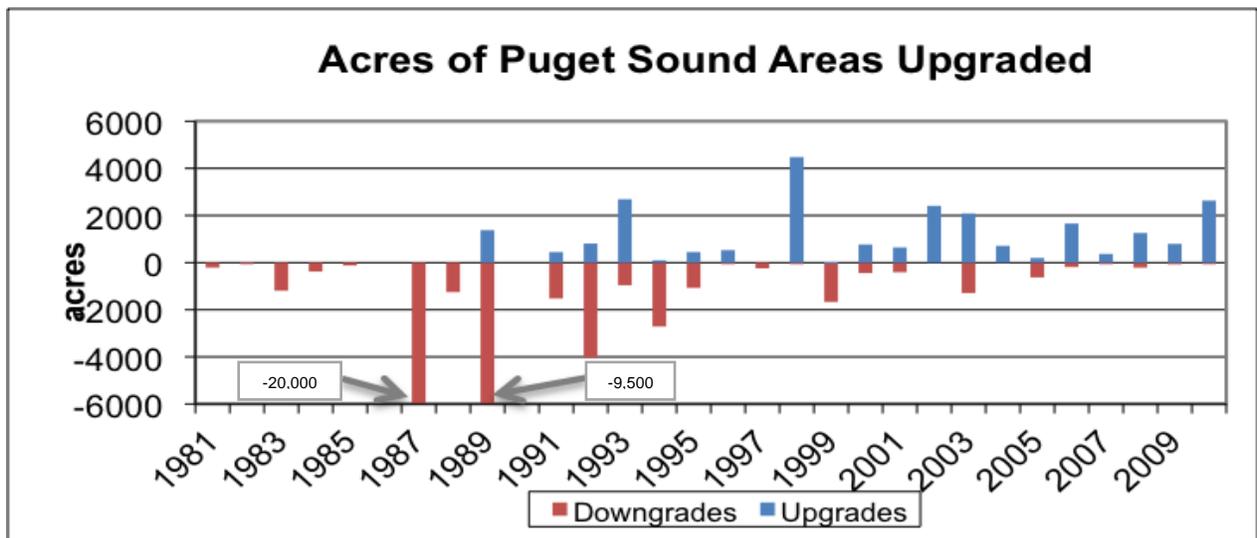
Puget Sound Partnership – Setting Targets for Dashboard Indicators

Indicator: Shellfish beds reopened

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What are current and historic conditions of commercial shellfish growing areas?¹

Department of Health classifies 91 different commercial shellfish growing areas in Puget Sound, covering 194,000 acres. Over 41,000 acres of shellfish harvesting areas are classified as prohibited due to the proximity of pollution sources or poor water quality. Recreational and commercial harvest from these areas is not allowed. From 2007 through 2010 improved sanitary conditions resulted in net upgrades in classifications (e.g., reduced restrictions on harvest) totaling approximately 4,700 acres.



Since the late 1980s we've seen an improving trend. This improvement can be attributed to the work of state and local government agencies, shellfish harvesters, Tribes, and upland property owners. Significant actions that have resulted in harvest area changes Puget Sound-wide include:

- 1987 – Marine water sampling increased;
- 1988 – Department of Health Restoration Program begins;
- 1992 – Shellfish Protection Districts become mandatory;
- 1997 – Department of Health “Early Warning System” implemented.

How much shellfish harvesting acreage is needed for a functioning, resilient ecosystem? Or what is the acceptable range of variation of shellfish harvesting acreage in Puget Sound?

No scientific or technical assessment has defined a threshold number of shellfish harvesting acres for Puget Sound.

¹ This information is a synopsis of information collected by DOH through December 2010.

What are some of the key ecosystem relationships for shellfish harvesting acreage?

The ability to harvest shellfish for human consumption is a key benefit of the Puget Sound ecosystem. Shellfish growing and harvesting require excellent water quality and pollution control. Shoreline and upland on-site sewage systems, wastewater treatment plant collection systems and outfalls, marinas, animal-keeping activities, and wildlife can impact shellfish growing areas through direct discharges to the marine environment or through stormwater discharges. The extent of approved shellfish harvesting areas in Puget Sound reflects a clean Puget Sound.

How might population growth and climate change affect shellfish harvest acreage?

Projected human population growth in the Puget Sound region might contribute to increased discharges from existing point sources, development of new discharges (from new outfalls from existing plants or from new plants), and/or additional contributions of non-point pollution (e.g, runoff from areas converted to residential or commercial land uses to accommodate a growing human population; discharge from additional on-site sewage systems).

Chapter 3 of the Puget Sound Science Update identifies precipitation pattern shifts, ocean acidification, and sea level rise as anticipated impacts of climate change in the Puget Sound basin. Shifts in precipitation pattern — especially a shift to increased precipitation in the fall -- may lead to downgrades in shellfish harvest classifications and/or increasing closure of areas classified as conditionally approved for harvest. Ocean acidification and sea level rise are not anticipated to have effects on growing area classifications but may affect the productivity of growing areas.

What strategies and actions would most affect shellfish harvest acreage?

- Sustainable pollution identification and correction programs are integral to protecting existing commercial and recreational shellfish harvesting areas and upgrading those areas impacted by nonpoint pollution sources.
- Future planning and development aimed at reducing the impact to the marine environment.
- An evaluation and enhancement of wastewater treatment and discharge locations at many wastewater treatment plants.

What are the potential and/or projected future conditions of shellfish harvest acreage?

DOH's 2007-20 Restoration Upgrade Potential worksheet (unpublished data) identifies potential reclassifications (from 2007 through 2020) for 40 commercial shellfish growing areas. Updated in 2009, this analysis identifies approximately 7,600 acres of potential upgrades to approved status and approximately 3,000 acres of other upgrades (e.g., from restricted or prohibited to conditionally improved).

DOH's assessment of potential future conditions incorporates information about the known or suspected causes of harvest restrictions and an area-by-area evaluation of the feasibility to address these causes.

What issues about recovery timeframes and sequencing might affect Partnership decisions about targets?

DOH's assessment of potential future conditions incorporates information about area-specific timelines to address pollution concerns and achieve upgrades. The DOH restoration assessment worksheet includes the stretch-goal completion timelines of 0-5, 5-10, and 10-15 years.

What issues about geographic distribution of shellfish growing areas or influencing factors might affect Partnership decisions about targets?

Commercial shellfish growing areas are geographically distributed throughout Puget Sound, with the exception of the I-5 corridor between Tacoma and Everett. DOH has a harvest advisory along this stretch of unclassified area based on the potential impacts from wastewater treatment plant outfalls, combined sewage overflows, and stormwater. DOH is currently evaluating portions of this area for commercial shellfish harvesting.

What are the key uncertainties for recommendations of target setting for shellfish harvest acreage?

Every year commercial shellfish growing area acreage is downgraded based on marine water quality conditions. Even though a thorough, ongoing analysis can help predict that a growing area is trending towards a downgrade the actual change in classification can be unpredictable. Once a downgrade has occurred it is difficult, time consuming, and expensive to improve the conditions in the area.

- Will adequate pollution control continue to be funded at the local and state level?
- Will future planning and development focus on the protection of the marine environment?

What scientific review has occurred or is planned for this information?

This document will be reviewed by one or more Science Panel members in advance of presentation to the Leadership Council. In 2008, DOH consulted with representatives from Ecology, Agriculture, DNR, Conservation Commission, WDFW, CTED, and State Parks to review the restoration assessment worksheet.

What existing targets have been established related to shellfish harvest acreage?

DOH currently reports on a Natural Resources GMAP with primary focus on shellfish acres upgraded. DOH developed the target of a net increase of 10,000 harvestable shellfish acres in Puget Sound by January 1, 2020 for this GMAP. The GMAP target is based off of the restoration assessment worksheet.

EPA has selected a shellfish measure as their only Puget Sound related performance measure, to date. Currently, they have a target of a net increase of 500 harvestable shellfish acres in Puget Sound each fiscal year.

Options for Puget Sound Partnership targets

DOH recommends that the Partnership adopt the Natural Resources GMAP target: a net increase of 10,000 harvestable shellfish acres in Puget Sound by January 1, 2020

DOH has not developed options for possible Partnership target setting for shellfish harvest acreage. As part of stakeholder analysis, Partnership staff will solicit stakeholder input about options for Partnership targets different from the already established targets.

Stakeholder Analysis

[To be completed by Feb. 9 for Leadership Conference meeting materials]