

## Performance Management Action Item 2: Recovery Targets for Shellfish Beds Restored For February 17, 2010 Leadership Council meeting

**Prepared by:** Scott Redman

**Presented by:** Scott Redman and partner staff at Department of Health

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**Proposed Action:** Adopt resolution 2011-02 ecosystem recovery targets for shellfish beds restored (Attachment 1)

**Summary:** An important function of the Puget Sound Partnership is to develop targets for ecosystem recovery to guide and allow evaluation of recovery activities. Setting targets is a key step in the Partnership's role of holding the system accountable for progress toward recovery. Two topics for target setting have advanced to the point that the Leadership Council could adopt ecosystem recovery targets: eelgrass and shellfish beds restored.

**Background:** The Ecosystem Coordination Board discussed target setting for eelgrass and shellfish beds restored on February 3, 2011. Attachments 2, prepared by staff, describe options for shellfish beds restored target setting as articulated in the Board's February 3 discussion. Attachment 3 is the brief sheet developed as background information by the Indicator Champion for shellfish beds restored. These brief sheets were provided to the Ecosystem Coordination Board in advance of its February 3 discussion.

**Analysis:** Per RCW 90.71.310(1)(c), "The action agenda shall include near-term and long-term benchmarks designed to ensure continuous progress needed to reach the goals, objectives, and designated outcomes by 2020." Per RCW 90.71.280(3), "the [leadership] council shall confer with the [science] panel on incorporating ... benchmarks into the action agenda."

The Partnership has applied the term "targets" to refer to long-term benchmarks designed to ensure progress to designated outcomes by 2020. Additional information about the Partnership's principles and processes for target setting in 2011 is described in a separate packet of materials for the February 17, 2011 Leadership Council meeting.

**Staff Recommendation:** Staff recommends that the Leadership Council pass resolution 2011-02, as outlined in Attachment 1, to adopt a recovery target for shellfish beds restored.

### Next Steps:

1. Staff will share the adopted targets, and information about the target setting process, to help guide development of background information for other targets.
2. Staff will share the adopted targets with scientists developing an ecosystem-perspective view of dependencies, tradeoffs, and other relationships among Partnership targets.

### Attachments:

- Attachment 1 – Resolution 2011-02: adopting an ecosystem recovery target for eelgrass and shellfish beds restored
- Attachment 2 – Options for ecosystem recovery targets: shellfish beds restored
- Attachment 3 – Brief sheet on setting targets for Dashboard indicators: shellfish beds restored

## Leadership Council Resolution 2011-02 Adopting an ecosystem recovery target for shellfish beds restored

**WHEREAS**, RCW 90.71.310(1)(c) states that “The action agenda shall include near-term and long-term benchmarks designed to ensure continuous progress needed to reach the goals, objectives, and designated outcomes by 2020;” and

**WHEREAS**, RCW 90.71.280(3), “the [leadership] council shall confer with the [science] panel on incorporating ... benchmarks into the action agenda;” and

**WHEREAS**, the Partnership has applied the term “targets” to refer to long-term benchmarks designed to ensure progress to designated outcomes by 2020; and

**WHEREAS**, the science-policy workshop convened as part of the Science Panel meeting on December 14, 2010 recommended that the Partnership adopt ecosystem recovery targets to address the full breadth of the Partnership’s interests in a recovered ecosystem as part of the 2011 revisions to the action agenda; and

**WHEREAS**, restoring water quality at designated shellfish growing areas is an important contribution to sustaining the provisioning services of the Puget Sound ecosystem, and shellfish beds restored has been adopted as one of the Partnership’s Dashboard indicators of ecosystem condition; and

**WHEREAS**, technical experts from the Department of Health have presented analyses to the Partnership about potential ecosystem recovery targets for shellfish beds restored; and

**WHEREAS**, the Ecosystem Coordination Board has discussed potential ecosystem recovery targets for shellfish beds restored, based on the background information presented in advance of their February 3, 2011 meeting; and

**WHEREAS**, the above processes provide sufficient background for adoption of ecosystem recovery targets consistent with the Partnership’s guiding principles for target setting

**NOW, THEREFORE BE IT RESOLVED**, that

The Partnership’s ecosystem recovery target for shellfish beds restored shall be expressed as:

[selected from among the available options or another version as decided by the Council]

**BE IT FURTHER RESOLVED**, that

Reevaluation of this target will be triggered at the direction of the Partnership's science panel based on their evaluation of improved scientific information about ecosystem conditions and pressures.

Resolution Moved By: \_\_\_\_\_

Resolution Seconded By: \_\_\_\_\_

Approved/Denied/Deferred (underline one)

**DATE:** \_\_\_\_\_

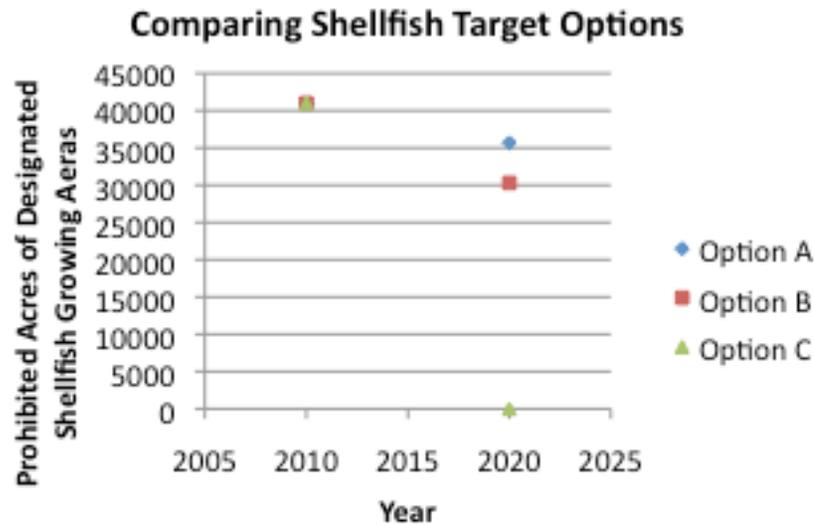
### Attachment 3 – Options for Ecosystem Recovery Targets: Shellfish Beds Restored<sup>1</sup>

	Option A	Option B	Option C
Objective	Net increase from 2007 to 2020 of 10,000 harvestable shellfish acres in Puget Sound.	By 2020, upgrade all 10,700 acres of designated Puget Sound shellfish growing areas where harvest is prohibited as of January 1, 2011 due to non-point source pollution AND meet growing area standards for marine water quality in areas where harvest is prohibited due to proximity to pollution sources	By 2020, upgrade all 42,000 acres of designated Puget Sound shellfish growing areas where harvest is prohibited as of January 1, 2011
Statements in support	Dept. of Health recommendation: this is an adopted target for Puget Sound GMAP; this target provides the basis for an EPA performance measure	2/3/2011 ECB recommendation	Minority perspective from 2/3/2011 ECB conversation
What level of recovery effort is implied by this target?	Stepped up pollution control efforts would be needed to maintain water quality and harvest openings in areas where harvesting is currently allowed and to improve water quality and harvest opportunities in areas where harvesting is currently limited.	Substantially increased pollution control efforts would be needed to improve water quality sufficiently to provide harvest opportunities at all growing areas where non-point sources currently cause prohibitions on harvest. Additional efforts would be needed to ensure that growing area standards for marine water conditions are met in the vicinity of point source discharges.	Substantially increased pollution control efforts would be needed to improve water quality sufficiently to provide harvest opportunities at all growing areas where non-point sources currently cause prohibitions on harvest. Additional efforts would be needed to modify or eliminate wastewater treatment plant and marina pollution sources that prohibit harvest at growing areas.
What level of ecosystem function, service, or resilience is implied by this target?	Harvest opportunities at designated growing areas would increase relative to 2007 conditions – decrease in prohibited, restricted and/or conditionally closed areas	Designated shellfish growing areas where harvest is allowed (approved, conditionally approved, or restricted) would increase from ~152,000 acres to ~163,000 acres.	Designated shellfish growing areas where harvest is allowed (approved, conditionally approved, or restricted) would increase from ~152,000 acres to 194,000 acres.

<sup>1</sup> Refers to shellfish growing areas as classified in 2007. Additional shellfish growing areas would not be included in this measure.

Stakeholder discussion points:

- Harvest restrictions and conditional closures are challenging for growers; lifting restrictions and eliminating conditional closures would be beneficial
- Concern about inequities with adoption of a target that focuses on areas currently prohibited because of non-point source pollution



The target for option A is not specified in terms of prohibited acres in 2020; the target shown here assumes that the upgrade of 5,300 additional acres needed to achieve the 2020 target would entirely be accomplished by upgrades of areas currently classified as prohibited.

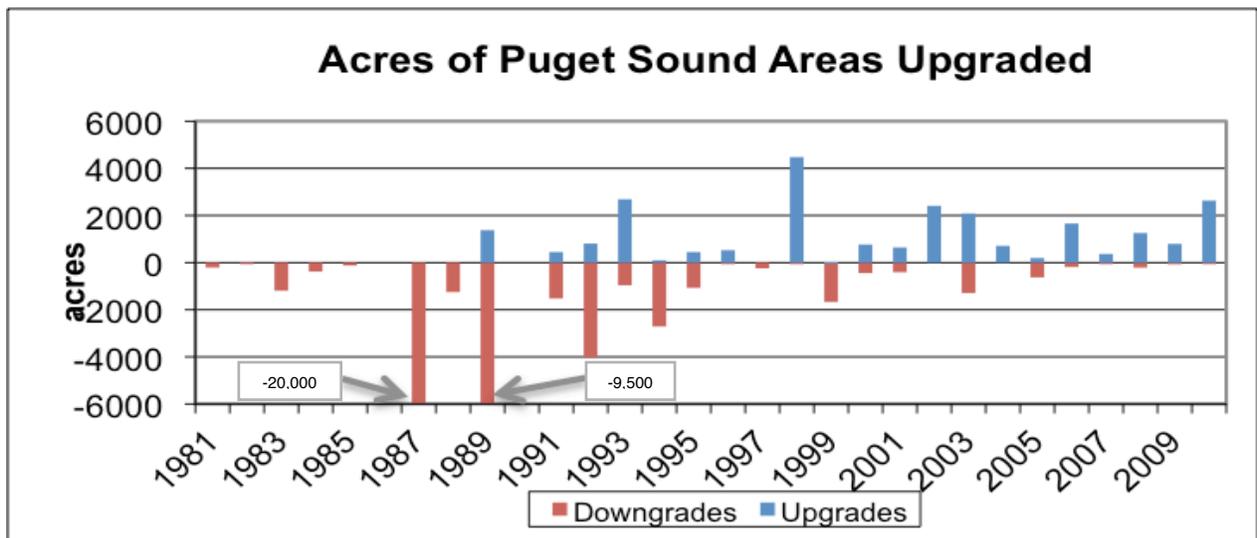
# Puget Sound Partnership – Setting Targets for Dashboard Indicators

## Indicator: Shellfish beds reopened

Authors: Scott Berbells, DOH; Scott Redman, PSP; Duane Fagergren, PSP

### What are current and historic conditions of commercial shellfish growing areas?<sup>1</sup>

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.

<sup>1</sup> 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]*