State of Washington Joint Legislative Audit & Review Committee (JLARC)



Puget Sound Partnership: Processes Required to Measure Puget Sound Restoration Are Not Yet in Place

Report 11-10

December 1, 2011

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Joint Legislative Audit and Review Committee

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JLARC's non-partisan staff auditors, under the direction of the Legislative Auditor, conduct performance audits, program evaluations, sunset reviews, and other analyses assigned by the Legislature and the Committee.

The statutory authority for JLARC, established in Chapter 44.28 RCW, requires the Legislative Auditor to ensure that JLARC studies are conducted in accordance with Generally Accepted Government Auditing Standards, as applicable to the scope of the audit. This study was conducted in accordance with those applicable standards. Those standards require auditors to plan and perform audits to obtain sufficient, appropriate evidence to provide a reasonable basis for findings and conclusions based on the audit objectives. The evidence obtained for this JLARC report provides a reasonable basis for the enclosed findings and conclusions, and any exceptions to the application of audit standards have been explicitly disclosed in the body of this report.

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Committee Approval

On December 1, 2011, this report was approved for distribution by the Joint Legislative Audit and Review Committee.

Puget Sound Partnership Performance Audit Report 11-10

December 1, 2011



STATE OF WASHINGTON

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REPORT SUMMARY

Puget Sound Partnership Has Not Demonstrated How its 2008 Action Agenda Would Lead to a Restored Sound by 2020

In 2007, the Legislature created the Puget Sound Partnership to coordinate and lead the effort to restore the Puget Sound by 2020. The Legislature also provided specific directives on how to develop an Action Agenda for restoring the Sound.

The Legislature directed the Joint Legislative Audit and Review Committee (JLARC) to conduct two performance audits of the Partnership, the first in 2011 and the second in 2016. This first audit focuses on the accountability directives of the Legislature, as well as other key statutory requirements.

The Partnership's initial 2008 Action Agenda did not meet the following key accountability directives:

- The Action Agenda did not include the required benchmarks describing a restored Sound in 2020. Benchmarks allow policymakers and the public to determine if progress is being made and allow for an analysis of the resources and actions needed to accomplish goals;
- The Action Agenda did not clearly link actions to the goals and objectives in statute;
- Actions were not sufficiently detailed or prioritized in a manner to guide funding decisions; and
- The Partnership did not set up a transparent system for monitoring and reporting progress in restoring the Sound.

What the Partnership Should Provide in the 2012 Action Agenda Update

The Partnership plans to release an update of the Action Agenda by February 2012. Early indications are that development of the Action Agenda update is more in line with statutory guidance. For example, the Partnership has approved 20 environmental indicators and has adopted benchmarks for 16 of those indicators.

In addition to these benchmarks, the 2012 Action Agenda update should also include:

- 1) Benchmarks for near-term actions to be completed within the biennium;
- 2) Clear linkages between actions, measureable outcomes, benchmarks, and statutory goals;
- 3) Prioritized actions with sufficient cost estimate detail to inform budget decisions at the state and local level; and
- 4) A monitoring program and transparent process for reporting implementation progress.

After the Action Agenda Update Is Adopted, Additional Work Remains

After the revised Action Agenda is completed, the Partnership has other responsibilities assigned in statute. These include:

- Assessing progress in restoring Puget Sound;
- Making recommendations for reallocations in Puget Sound funding; and
- Using fiscal incentives and disincentives as accountability mechanisms to assure consistency with the Action Agenda.

Recommendations

The Legislature needs assurance that the Puget Sound Partnership has addressed the shortcomings from the initial Action Agenda in its 2012 Action Agenda update. The Partnership also needs to report to the Legislature how it intends to implement other key provisions of statute once the 2012 Action Agenda has been adopted. The first two recommendations address these issues.

Recommendation 1

The Puget Sound Partnership should submit a report to the Legislature accompanying the 2012 Action Agenda describing how the Partnership (A) is addressing required Action Agenda elements, and (B) plans to address additional statutory requirements.

Recommendation 2

To improve accountability and transparency, the Partnership should include the following information in future biennial State of the Sound reports:

- The entity(ies) responsible for each near-term action;
- The funding provided to each entity, and expected outcome or result of that funding;
- The degree to which the results of completed actions met benchmarks;
- How each near-term action has contributed to Puget Sound recovery;
- How actions were modified as a result of adaptive management.

In addition, statute allows the Leadership Council to make recommendations to the Governor and to the Legislature to address barriers it has identified to successfully implementing the Action Agenda. Consistent with the requirement to adaptively manage the Action Agenda, the Leadership Council should also make recommendations to the Legislature about what is and is not working as the agency implements the tasks required in statute.

Recommendation 3

The Partnership should submit a biennial report to the Legislature summarizing any barriers as the agency implements the tasks required in statute.

The State of the Sound report may be the appropriate vehicle for that biennial reporting.

Pages 15-16 of the report contain the full body of each recommendation.

Legislature Created New Agency to Restore Puget Sound

The Legislature charged the Puget Sound Partnership to work with 115 cities, 12 counties, tribes, businesses, and citizen groups to accomplish its mission. The Legislature also gave the Partnership the responsibility to implement the regional recovery plan for Puget Sound Chinook Salmon.

By creating the Partnership, Washington joined a number of other states and entities in broad ecosystem management efforts, which include the Chesapeake Bay, the Everglades, and the Great Lakes. To accomplish its goals, the Legislature created a four-part structure:

- A seven-member Leadership Council appointed by the Governor that is responsible for developing, implementing, and overseeing the Action Agenda;
- A 27-member Ecosystem Coordination Board convened by the Leadership Council that is responsible for advising the Council and working with local jurisdictions, nonprofits, and private entities;
- A nine-member Science Panel appointed by the Leadership Council to identify environmental indicators measuring the health of Puget Sound, recommend environmental benchmarks to the Council, and develop an ecosystem level strategic science program; and
- An agency managed by an Executive Director appointed by the Governor. The Director is accountable to both the Leadership Council and the Governor for effective communication, actions, and results.

Throughout this report, unless otherwise specified, "Partnership" refers to the four collective bodies comprising the organization.

JLARC was directed in the statute that created the Partnership to conduct two performance audits, with the first due in 2011 and the second in 2016. This first audit focuses on the accountability directives of the Legislature, as well as other key statutory requirements.

Statute Provided Directives on Action Agenda Development

Exhibit 1 on the following page illustrates the actions required by statute to develop a science-based Action Agenda that will restore Puget Sound by 2020. This exhibit shows the sequence of events, and actions required by the Science Panel, Ecosystem Coordinating Board, the Leadership Council, and the agency Executive Director in developing an Action Agenda.

Exhibit 1 – Statute Provides Guidance on Development of the Action Agenda

Science Basis

The Science Panel is to:

- Identify **environmental indicators** to measure the health of Puget Sound;
- Recommend **benchmarks**, or measureable milestones, to the Leadership Council that need to be achieved to meet the goals for Puget Sound recovery.

The Leadership Council is to:

Work with the Science Panel to incorporate indicators and benchmarks into the Action Agenda.

Elements of Existing Watershed and Ecosystem Plans

The Partnership is to:

Develop the Action Agenda in part on the foundation of other **existing plans**. Statute provides a process for identifying:

- Local plan elements (e.g., plans drafted by local watershed management groups or plans drafted by local conservation districts);
- Ecosystem-scale plan elements (e.g., habitat conservation plans; state stormwater plans, federal Endangered Species Act recovery plans).

The Executive Director is to:

Integrate elements from these plans and present them to the Leadership Council for consideration to include in the Action Agenda.

The Leadership Council is to:

Adopt a science-based Action Agenda that leads to the recovery of Puget Sound by 2020 and achievement of a set of statutory goals and objectives. The Action Agenda is to include:



- A comprehensive schedule of projects, programs, and other activities to achieve a healthy Puget Sound;
- A prioritization of the actions;
- Measurable outcomes for each goal and objective describing what will be achieved, how it will be quantified, and how progress will be measured;
- A foundation so that future updates can be based on adaptive management, which involves testing strategies to determine what does and does not work, and adapting strategies to those lessons.

Source: JLARC analysis of Chapter 90.71 RCW.

Guidance from the Government Accountability Office

Statute includes several best practices that align with those identified by the federal Government Accountability Office (GAO), based on its reviews of other ecosystem-based recovery programs around the country. There is a considerable body of literature reviewing the successes and failures of similar ecosystem-based recovery efforts. This includes reviews of efforts in the Florida Everglades, the Great Lakes, and the Chesapeake Bay.

GAO provided the 2006 Puget Sound Partnership (Blue Ribbon Panel) with a compilation of challenges faced by these efforts and suggestions for successful practices. The GAO identified four specific "lessons learned" from others' experiences:

- 1. Set specific and realistic restoration goals;
- 2. Establish priorities to strategically target resources;
- 3. Measure overall restoration progress; and
- 4. Track the amount of funding received and how it was used.

This guidance from GAO is consistent with the guidance the Legislature provided in statute.

Partnership Did Not Complete Key Accountability Directives

Puget Sound Partnership Has Not Demonstrated How Its 2008 Action Agenda Would Lead to a Restored Sound by 2020

To assess whether the Partnership will be able to report progress restoring the Sound, JLARC identified key accountability requirements in statute assigned to the Partnership to be included in the 2008 Action Agenda, and evaluated the Partnership's progress in completing these tasks.

Key Accountability Requirements	Completed for 2008?	Detail
Measureable Benchmarks Near- and long-term	No	2008 Agenda did not contain near-term or long-term benchmarks.
Linkages Clear linkages between actions, benchmarks and goals in statute	No	No clear linkages between the results of completing actions, near-term and long- term benchmarks and achieving the goals and objectives in statute.
Prioritized ActionsTo inform budget decisionsat the state and local level	Partial	Partnership staff prioritized actions in three lists based on three recovery strategies. At the local Action Area level, the Agenda did not prioritize actions.
Monitoring and Transparent Reporting Of the Action Agenda	No	Based on public reporting of Action Agenda, it is not possible to determine what actions have been implemented, the cost of implemented actions, or their results.



Measureable Benchmarks

2008 Action Agenda Did Not Include Required Benchmarks

The Partnership adopted the first Action Agenda in 2008. However, the Agenda did not include near-term or long-term benchmarks describing a restored Puget Sound in 2020 as was required by statute. GAO had expressly identified the need for such benchmarks as a key lesson learned from other ecosystem recovery efforts, critical for several reasons. According to GAO, benchmarks:

- Allow for an analysis of the actions and resources needed to accomplish goals;
- Can trigger a reassessment of strategies if progress achieving the benchmarks is not on target;
- Allow citizens to determine if progress is being made.

In addition to the absence of the required benchmarks, other key tasks were not completed in the development of the 2008 Action Agenda. As a result, the Agenda does not clearly demonstrate that undertaking or completing the actions will restore Puget Sound by 2020.



No Way to Determine If Implementation of the 2008 Action Agenda Will Restore Puget Sound by 2020

- The Partnership did not analyze and describe the benefits that would accrue if the 2008 Action Agenda were fully implemented. As a result, the extent of restoration that would be achieved from funding the Action Agenda is not known.
- Because the Partnership did not adopt benchmarks in 2008, most near-term actions cannot easily be linked to achieving the overall Puget Sound restoration goals identified by the Legislature (see Appendix 3). Instead, most of the measures tracked by the Partnership relate to whether or not tasks have been completed rather than environmental results. In 2016, JLARC is required to assess the extent to which funds spent implementing the Action Agenda have contributed to meeting the scientific benchmarks and recovery goals. This is not possible with the 2008 Action Agenda.

In its 2009-11 Biennial Science Work Plan, the Science Panel acknowledged these same shortcomings in the initial Action Agenda. The Panel described the 2008 Action Agenda and its expectations for future updates as follows:

The 2008 Action Agenda is largely based upon work already under way, policy-driven initiatives, and projects aimed at coordinating efforts across jurisdictions and action areas . . . The goal is that future iterations of the Action Agenda will include: greater specificity and science basis for the Partnership's goals for a recovered ecosystem; tighter focus on top priority threats; improved scientific support for strategies and actions; and **clear articulation of how strategies and actions will help achieve the goals and objectives defined by the Partnership** (emphasis added).



Actions Are Not Prioritized or Sufficiently Detailed To Guide Funding Decisions

- The 2008 Action Agenda does not provide a clear prioritization for actions that reach across Puget Sound. Partnership staff developed three prioritized lists of actions based on three recovery strategies. There is no overall prioritization across the categories for actions as a whole. There are three #1 priority actions, three #2 priority actions, three #3 priority actions, etc. OFM and legislative fiscal staff report there is no easy way to translate many of the near-term actions into specific budget line items and that no single list of prioritized actions exists to inform funding decisions.
- The Partnership also did not prioritize actions at the local level. Statute divides the Puget Sound into seven local Action Areas, based on the Sound's physical structure and water flows into and within the Sound. At this level, the 2008 Action Agenda does not prioritize actions, identify responsible parties, or include budget and schedule information. These elements are required by statute to be in the Action Agenda.

JLARC learned of the problems with a lack of sufficient detail while conducting extensive interviews with agencies responsible for implementing the Action Agenda. A recurring theme was the need for more specific guidance. For example, a state agency noted that the Action Agenda did not provide the detail and guidance needed to provide recommendations to a federal agency about what kinds of actions to invest in. Instead, the agency relied upon the Partnership's Technical Rating of Threats, the Biennial Science Work Plan, and other existing planning documents to construct a rationale that would lead to specific investments.

The need for detail at the local level was affirmed by another state agency, which noted that over half of the agency's budget represented funds awarded to local governments. To assure that the agency is making the best investments and addressing top priorities, the agency reiterated that more detail is necessary at the local level.

A third example illustrates the need for detail and prioritization within the Action Agenda. Each of the seven local Action Area plans includes the action "Implement Salmon Recovery three-year work plan." However, there is no indication in the Action Agenda of the financial need or challenges associated with implementing these plans. As such, a user of the Action Agenda would not be aware of the extent of the need to implement these plans, or how implementing the plan compared to other priorities in a particular Action Area. For example, a 2011 report completed for the National Marine Fisheries Service that evaluated the implementation of the three-year work plans for the Puget Sound Chinook Salmon Recovery Plan estimated a \$1.1 billion cost, with \$344 million available to complete the local recovery work plans.



Progress Restoring the Sound Is Not Transparently Reported

After the Action Agenda has been completed, statute requires monitoring, to assess whether actions are completed and having the intended effect, and transparently reporting those results.

Statute requires the Action Agenda to be revised based on tracking actions and monitoring results. A December 2010 National Estuary Program review by the federal Environmental Protection Agency (EPA) concluded that, the Partnership "*has yet to develop a plan for how its monitoring program will be developed and implemented*." EPA recommended that the monitoring plan identify which indicators need to be monitored and why, which activities will be incorporated into the Partnership's monitoring program, and develop a plan for managing monitoring data.

Statute also cites that "Leadership, accountability, government transparency, thoughtful and responsible spending of public funds, and public involvement will be integral to the success of efforts to restore and protect Puget Sound."¹ However, there is no ready access to the Partnership's reporting system on the status of action implementation.

Information on the 2008 Action Agenda's implementation is currently publicly reported at an aggregated level, reporting whether top priority actions are "completed, progressing consistent with the Action Agenda, need attention, or not launched." This process does not:

- Provide detail as to what "top priority" actions include or how they were determined to be the top priority actions;
- Report the results or impacts of these actions;
- Provide any indication of the cost associated with actions; or
- Distinguish between work that has been underway for several biennia and new actions recommended or amended through the Action Agenda.

Early Indications Are That Development of the 2012 Action Agenda Is More in Line with Statutory Guidance

The Partnership is currently updating the 2008 Action Agenda, which is scheduled to be approved by the Leadership Council in February 2012. Indications are that development of the update is more in line with requirements in statute and GAO's best practices. The Partnership has approved 20 environmental indicators informed by the 2010 Science Update and has adopted long-term benchmarks for 16 of those indicators. In doing so, the Partnership has mostly completed statute's requirement for setting benchmarks and the first step in GAO's identified best practice of setting specific restoration goals.

The Partnership reports that the 2020 benchmarks will be used by implementing agencies to identify, design, and request funding and resources for activities that contribute to achieving them.

¹ RCW 90.71.200.

One example is the Department of Natural Resources' (DNR) work in developing strategies to meet the eelgrass benchmark. The benchmark for eelgrass is to increase acres of eelgrass by 20 percent over measured levels in the 2000-2008 baseline period by 2020.

According to DNR, eelgrass provides critical habitat to a wide range of species, provides spawning grounds for Pacific herring (a favorite food of salmon), and is also sensitive to habitat degradation, so scientists often use it as an indicator to measure the health of the nearshore ecosystem.

DNR reports that its scientists contacted other ecosystem recovery programs, including Chesapeake Bay, researched academic journals, and commissioned a summary of the scientific information related to eelgrass stressors in Puget Sound. DNR indicates this report will provide information on the state of the science to identify the actions needed to meet the benchmark.

The exhibit below provides a summary of the Partnership's progress as it updates the Action Agenda:

Requirements	Current Partnership Initiatives
Measureable Benchmarks Near- and long-term	Leadership Council has adopted 16 long-term benchmarks for 2020.
Linkages Clear linkages between actions, benchmarks and goals in statute	Partnership reports that 2012 update will more clearly link actions with goals, and be written more clearly to indicate intended outputs and environmental outcomes. The agency reports that this effort is informed by work completed in November 2009.
Image: 1 2 3Prioritized ActionsTo inform budget decisions at the state and local level	Partnership reports that its Action Agenda update workplan " <i>includes a process to propose a prioritization</i> <i>methodology to stakeholders for review</i> ."
Monitoring and Transparent Reporting Of the Action Agenda	 Partnership reports that it is developing: A monitoring work plan addressing the major program responsibilities identified by the EPA; An online reporting tool modeled after the Chesapeake Bay Program's reporting. Both are expected to be available by December 2011.

What the Partnership Should Provide in the 2012 Action Agenda Update



Measureable Benchmarks

Near-term (biennial) and long-term (2020) benchmarks

Consistent with requirements in statute, the revised Action Agenda should include:

• Benchmarks describing a healthy Puget Sound in 2020. Benchmarks allow the public and policymakers to determine if progress is being made and allow for an analysis of the resources and actions needed to accomplish goals.

The Leadership Council has now adopted 16 benchmarks and reports that three more will be considered before the Action Agenda update is released. Examples of benchmarks adopted include eelgrass and:

- ✓ Shoreline armoring: By 2020, remove more miles of armoring than is built, with specific attention given to protecting and restoring bluffs that "feed" beaches with sand and gravel.
- ✓ Swimming beaches: By 2020, all monitored Puget Sound beaches meet state enterococcus (a type of fecal bacteria) standards.
- ✓ Shellfish beds: By 2020, an increase of 10,800 harvestable acres, including 7,000 acres where harvest is currently prohibited by the state Department of Health.

The Partnership reports that some of the adopted benchmarks reflect fully recovered conditions by 2020, while others reflect what the Leadership Council determined to be achievable by 2020 based on the input of the Science Panel. The Action Agenda should distinguish which targets represent fully recovered conditions and, in instances where the benchmark does not represent full recovery, clarify the extent of recovery that the benchmark would achieve.

• Benchmarks for near-term actions to be completed within the biennium.



Clear linkages between actions, benchmarks, measurable outcomes, and goals in statute

Actions must be clearly linked to benchmarks, which are linked to measureable outcomes, which are clearly linked to the six goals described in RCW 90.71.300 so that a user of the Action Agenda would understand how fully implementing the 2012 Action Agenda would lead to a restored Puget Sound by 2020.

For example, with the eelgrass benchmark cited previously, a series of actions to restore eelgrass should be linked to a measureable outcome, which should be linked to achieving the benchmark of increasing the acres of eelgrass by 20 percent, which should be linked to the statutory goal of achieving a healthy Puget Sound where freshwater, estuary, nearshore, marine, and upland habitats are protected, restored, and sustained.

Appendix 3 contains an example of the Chesapeake Bay Program's linking of actions to goals as well as an example of work completed by the Partnership in 2009 that links actions to priorities and threats identified in the 2008 Action Agenda.



Prioritized Actions Prioritized actions with sufficient cost estimate detail to inform budget decisions at the state and local level

The revised Action Agenda should include:

- Consistent with RCW 90.71.200, 90.71.260, and 90.71.310, a prioritized list of actions with cost estimates. To account for the efficiency of the Action Agenda, as required by RCW 90.71.390, cost estimates should specify what is to be purchased (such as units), the units purchased, and the extent to which those units fully fund actions.
- Sufficient detail to guide state grant and loan decisions to locals so that state agencies making grant and loan decisions know which areas of Puget Sound are most in need of those grants and loans.



Monitoring and Transparent Reporting

A transparent process for monitoring and reporting implementation progress

Statute requires that benchmarks are designed to ensure continuous progress in meeting the goals and objectives in statute. In some cases, long-term benchmarks are based on data that is not updated frequently (e.g., Census data) or is not expected to offer measureable change in the near term (e.g., orca whales). In these instances, the Partnership will need to identify indicators to monitor in the interim to assure that progress is being made.

Transparent reporting means having information that is accessible and easy to understand. This includes information on whether individual actions are being implemented, and the status of benchmarks. While the Partnership has adopted 16 benchmarks, it is not yet clear how they will translate into an overall assessment of progress toward achieving the six broad goals set by the Legislature. For example, if some indicators show improving trends while others decline, a citizen would likely need some guidance in how to interpret these trends and the impact on the health of the Sound.

Providing an overall assessment of ecosystem health was highlighted as necessary by the GAO in its 2005 review of the Chesapeake Bay Program:

Given the billions of dollars that have already been invested in this project and the billions more that are almost certainly needed, stakeholders and the public should have ready access to reliable information that presents an accurate assessment of restoration progress and the actual health status. Without an overall assessment ... the public would probably not be able to easily and accurately assess the current condition.

Subsequent to the GAO review, the Chesapeake Bay Program implemented a web-based reporting system. The Partnership reports that it is developing an online reporting tool modeled after the Chesapeake Bay Program's reporting, and anticipates that it will be online in December 2011.

Reporting should also provide sufficient detail to inform what is and is not working in the restoration process to allow for the adaptive management of the Action Agenda. As actions are implemented and benchmarks are being pursued, gaining knowledge of what works, and what does not work, and adapting strategies to those lessons is at the core of adaptive management, as required by RCW 90.71.310.

After The Action Agenda Update Is Adopted, Additional Work Remains

After the revised Action Agenda is completed, the Partnership has other responsibilities assigned in statute. These include (1) assessing progress; (2) recommending any needed reallocation in spending; and (3) developing fiscal incentives and disincentives to assure compliance with the Action Agenda.

1. Assessing Progress

The Partnership's enabling legislation has two requirements for reports assessing progress restoring the Sound:

- Statute requires the Partnership's biennial State of the Sound report to provide an **assessment of progress** by state and non-state entities in implementing the Action Agenda, and
- Subject to available funding, the Washington Academy of Sciences is to assess restoration progress and the extent to which the implementation of the Action Agenda is making progress toward Action Agenda goals. The original report was to be completed by December 2010.

In addition, statute requires the Partnership to revise the Action Agenda and implementation strategies using an adaptive management process informed by tracking actions and monitoring results in Puget Sound.

To date, **no assessment of progress has occurred**. The 2008 Action Agenda notes that "... *Puget Sound still lacks an adaptive management program that works all the way from monitoring to evaluation to altering management approaches or strategies.*" The 2009 State of the Sound report noted that implementation of the Agenda was just getting underway, and described it as "*premature to report on implementation progress as described in the Partnership's enabling statute.*" The report went on to say that once an "*overall performance management system is in place, progress can be assessed against agreed upon measures.*"

The Legislature provided funding to the Academy of Sciences in 2007-09 to begin collecting data and research for an assessment of restoration progress, and for soliciting nominations for the Science Panel. However, much of this funding was returned, and the Academy did not complete the assessment. According to the Academy, there were no indicators (benchmarks) to assess progress against. In July 2011, the Academy began work on the first part of an assessment of the Puget Sound Partnership's Science program; specifically, reviewing whether the appropriate criteria were used to select indicators, whether these indicators would provide a coherent picture of Puget Sound health, and whether these indicators would show the impact of actions funded through the Agenda. According to the Academy, work is expected to be completed by winter 2012. The Academy has not identified if and when it intends to complete the statutorily required study of restoration progress.

2. Recommendations for Reallocations in Puget Sound Funding

Statute contains three requirements for the Partnership to recommend improvements and reallocations of state Puget Sound funding.² The Partnership has not yet offered any recommendations to reallocate state funds relative to Action Agenda priorities. Since, as noted above, the Partnership has not assessed progress restoring the Puget Sound, it has little information to make such funding recommendations or to confirm that no reallocation of funding is needed.

3. Developing Fiscal Incentives and Disincentives

The Legislature stated its intent that fiscal incentives and disincentives be used by the Partnership to assure consistency with the Action Agenda. In its 2008 Action Agenda, the Partnership cited the lack of accountability as a problem, noting that accountability mechanisms have "*relied heavily on self reporting, and the consequences of not reporting, not meeting targets, or not fulfilling commitments are minimal and insufficient to impact behavior or alter funding.*" However, the Partnership has not established fiscal incentives and disincentives.

- No formal process exists to assure consistency with the Action Agenda. Without a formal process or definition of "inconsistent," it is not possible to assure that restorative work is not being negated by other activities that are inconsistent with the Action Agenda. It is also not possible to use the tools provided in statute to improve compliance. The tools include management conferences with the noncompliant entity and, in instances of substantial noncompliance, recommendations that an entity be ineligible for state funding. To use such fiscal incentives and disincentives, statute directed the Partnership to develop standards and processes to review implementing entities' actions to ensure consistency with the Action Agenda.
- The Partnership has not designated "partners," which is the tool in statute to provide fiscal incentives to entities that consistently achieve outstanding progress in implementing the Action Agenda.

Partnership staff report that they worked with stakeholders and could not agree on an acceptable definition of Puget Sound partner. They also had concerns that such a program would exacerbate the financial disparity between jurisdictions with more resources and those struggling financially. The Partnership has not proposed a viable alternative to provide fiscal incentives for implementation.

² State of the Sound Report (90.71.370(3)(f)); Review of agency budgets and the grants and loan programs (90.71.370(4); 2011-13 Capital budget request (90.71.370(5)).

Recommendations

The Legislature needs assurance that the Puget Sound Partnership has addressed the shortcomings from the initial Action Agenda in its 2012 Action Agenda update. The Partnership also needs to report to the Legislature how it intends to implement other key provisions of statute once the 2012 Action Agenda has been adopted. The first two recommendations address these issues.

Recommendation 1

The Puget Sound Partnership should submit a report to the Legislature accompanying the 2012 Action Agenda describing how the Partnership is (A) addressing the required Action Agenda elements, and (B) plans to address additional statutory requirements.

(A) The report should outline:

- Benchmarks describing a healthy Puget Sound in 2020;
- Benchmarks for near-term actions to be completed within the biennium;
- Clear linkages between actions, measureable outcomes, benchmarks, and goals in statute;
- Prioritized actions with unit cost information;
- Detail to guide state grant and loan decisions to locals; and
- A transparent process for reporting implementation progress.

(B) This report should also include the Partnership's plans to:

- Assess progress in Puget Sound restoration;
- Recommend improvements and reallocations of state Puget Sound funding; and
- Use fiscal incentives and disincentives as accountability mechanisms to assure consistency with the Action Agenda.

Legislation Required:	None
Fiscal Impact:	JLARC assumes that this can be completed within existing resources.
Implementation Date:	To accompany 2012 Action Agenda Update

Recommendation 2

To improve accountability and transparency, the Partnership should include the following information in future biennial State of the Sound reports:

- The entity(ies) responsible for each near-term action;
- The funding provided to that entity, and expected outcome or result of that funding;
- The degree to which the results of completed actions met outcomes and benchmarks;
- How each near-term action has contributed to Puget Sound recovery;
- How actions were modified as a result of adaptive management.

Legislation Required:	None
Fiscal Impact:	JLARC assumes that this can be completed within existing resources.
Implementation Date:	November 2012

In addition, statute allows the Leadership Council to make recommendations to the Governor and to the Legislature to address barriers it has identified to successfully implementing the Action Agenda.

During the course of this audit, such barriers were "unofficially" described to JLARC staff. For instance, Partnership staff expressed that fiscal disincentives were not an appropriate tool where consensus is key. If this is official agency position, this information should be reported to the Legislature. Consistent with the requirement to adaptively manage the Action Agenda, the Leadership Council should also make recommendations to the Legislature about what is and is not working as the agency implements the tasks required in statute.

Recommendation 3

The Partnership should submit a biennial report to the Legislature summarizing barriers as the agency implements the tasks required in statute.

The State of the Sound report may be the appropriate vehicle for this biennial reporting.

Legislation Required:	None
Fiscal Impact:	JLARC assumes that this can be completed within existing resources.
Implementation Date:	November 2012

APPENDIX 1 – SCOPE AND OBJECTIVES

PUGET SOUND PARTNERSHIP STUDY

SCOPE AND OBJECTIVES

JANUARY 26, 2011



STATE OF WASHINGTON JOINT LEGISLATIVE AUDIT AND REVIEW COMMITTEE

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Why a JLARC Study of the Puget Sound Partnership?

In 2007, the Legislature created the Puget Sound Partnership, a new state agency charged with coordinating and leading the effort to restore the Puget Sound by 2020. The enabling legislation, Engrossed Substitute Senate Bill 5372, directs JLARC to conduct two performance audits of the Partnership, with the first due in 2011 and the second in 2016. In anticipation of these audits, JLARC issued a briefing report in June 2009 that provides background information on the Partnership, describes other states' experiences with large-scale ecosystem-based recovery efforts, and surveyed the agency about its transition from planning to oversight and accountability.

What are the Partnership's Key Responsibilities?

The agency's primary responsibilities can be characterized as three interrelated tasks:

- (1) Developing and prioritizing solutions to restore the environmental health of the Puget Sound by 2020;
- (2) Overseeing the implementation of those solutions; and
- (3) Tracking and monitoring results, and adjusting proposed solutions accordingly.

Key among the Partnership's responsibilities in developing solutions to restore the Puget Sound is delivering an Action Agenda—a science-based plan to set goals and identify near-term actions, strategies, and the entities responsible for cleaning up Puget Sound. The Partnership issued its initial Action Agenda in December 2008, with a revised draft issued in May 2009.

The Partnership is charged with the oversight of the implementation of the Action Agenda. However, the Partnership is not responsible for implementing the Action Agenda itself, nor does it have regulatory or enforcement authority. Instead, various federal, state, local, and tribal partners are responsible for implementing recovery efforts. The Legislature recognized this by prohibiting state agencies' activities from conflicting with the Action Agenda. In some instances the Legislature took a second step and directed state agencies to give preference to those projects implementing the Partnership's solutions when allocating funds through various grant and loan programs.

The Legislature established six goals and eight objectives for the Action Agenda to achieve. The third of the Partnership's key responsibilities is to track and monitor Action Agenda implementation and the results on the environmental health of the Puget Sound. The Partnership is charged with establishing measurable outcomes for each goal and objective, describing what will be achieved, how it will be quantified, and how progress will be measured. The Legislature directs the use of adaptive management—an ongoing evaluation and feedback process to learn from what does and does not work in a complex,

ecosystem wide restoration project. The legislation directs the Partnership to use information gathered through tracking and monitoring results to make revisions to the Action Agenda as needed.

How is the Partnership Organized?

There are four components to the Puget Sound Partnership's structure: a seven-member Leadership Council appointed by the Governor, a 27member Ecosystem Coordination Board convened by the Leadership Council, a nine-member Science Panel appointed by the Leadership Council to provide independent scientific advice, and an agency managed by an executive director appointed by the Governor.

Study Scope

This is the first of two JLARC audits of the Puget Sound Partnership. This first audit will review whether accountability measures are in place to assess progress in restoring the Puget Sound; the Partnership's oversight of Action Agenda implementation; and a review of any applicable lessons learned from other large scale ecosystem based management efforts in other states. The second audit, due in 2016, will review environmental outcomes and progress in restoring the Puget Sound.

Study Objectives

This study will answer the following questions:

- (1) Are mechanisms in place to determine progress towards meeting Action Agenda objectives and scientific benchmarks? Are measures and results used to inform adaptive management of the Action Agenda?
- (2) What steps has the Partnership taken to address its oversight role? Has the Partnership met specific requirements in statute?
- (3) Does the Partnership's organizational structure and skill set reflect its current set of responsibilities?

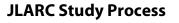
This study will also review outcome data, if available, and include a review of other national ecosystem restoration efforts to inform these questions.

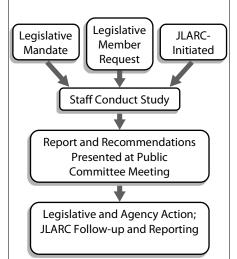
Timeframe for the Study

Staff will present the Proposed Final Report at the October 2011 JLARC meeting and the final report at the November 2011 JLARC meeting.

JLARC Staff Contact for the Study

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Criteria for Establishing JLARC Work Program Priorities

- Is study consistent with JLARC mission? Is it mandated?
- Is this an area of significant fiscal or program impact, a major policy issue facing the state, or otherwise of compelling public interest?
- Will there likely be substantive findings and recommendations?
- Is this the best use of JLARC resources? For example:
 - Is JLARC the most appropriate agency to perform the work?
 - Would the study be nonduplicating?
 - Would this study be costeffective compared to other projects (e.g., larger, more substantive studies take longer and cost more, but might also yield more useful results)?
- Is funding available to carry out the project?

• Puget Sound Partnership

Note: JLARC also requested a response from the Office of Financial Management (OFM). OFM responded that they did not have comments on this report.



our sound, our community, our chance

November 14, 2011

Mr. Keenan Konopaski Legislative Auditor Joint Legislative Audit & Review Committee PO Box 40910 Olympia, WA 98504

RE: RESPONSE TO THE SEPTEMBER 2011 REPORT BY THE JOINT LEGISLATIVE AUDIT REVIEW COMMITTEE ON THE PUGET SOUND PARTNERSHIP

Dear Mr. Konopaski:

Thank you for the opportunity to review and provide a response to your report: "Puget Sound Partnership: Processes Required to Measure Puget Sound Restoration Are Not Yet in Place" dated September 21, 2011. I appreciate your thorough review of the systems that we had in place at the time of your audit to measure progress made toward achieving 2020 Puget Sound recovery goals.

As you know, a great deal of work has been done since that time. In order to more fully comply with the intent of the legislation, we recommend offering your Committee a follow-up review of our performance management systems early next year. We believe this update, because it would capture a fuller picture of what was intended by the legislature in 2007, will be useful in light of the audit that is required in 2016.

Please call me if you have questions regarding our response. We look forward to the hearing scheduled for November 30, 2011.

incerely. 6**9**rry **O**l Keefe

Executive Director

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I. Introduction

The following has been produced by the Puget Sound Partnership in response to the preliminary report produced by the Joint Legislative Audit and Review Committee (JLARC) called "Puget Sound Partnership: Processes Required to Measure Puget Sound Restoration Are Not Yet in Place" dated September 21, 2011 (JLARC Report).

In 2007, the state legislature and governor tasked the Puget Sound Partnership, a new state agency, with creating a roadmap for Puget Sound Recovery. The statute defined the goals and objectives for the effort. The statute also required the Partnership to base planning activities on science and existing Puget Sound recovery efforts such as the Chinook salmon recovery plan. The Partnership was also required to involve the public and other governmental and non-governmental stakeholders in the development of the Action Agenda and to hold entities accountable for implementation.

The Partnership has made significant progress towards achieving these statutory requirements. However, given the importance of basing our work on science and input from stakeholders and the public, we have not met some statutory deadlines and we have not followed the exact formula for our work as envisioned by the blue ribbon panel and legislature before the agency was formed. The Partnership made the judgment that being responsive to scientific and stakeholder input in the development of the ecosystem recovery roadmap and accountability tracking systems was consistent with the intent of the legislation. Where we deviated from the path envisioned in statute, we reported on progress made and detailed an alternative plan of action first in the 2008 Action Agenda and subsequently in regular reports to the legislature and public including the 2009 State of the Sound, reports to the Ecosystem Coordination Board (ECB) and Leadership Council (LC), and the Government Management and Accountability Program reports.

This response will detail progress made towards achievement of statutory requirements that will enable the Partnership to lead Puget Sound recovery efforts.

In summary, this response highlights five main points:

- 1. The Partnership concurs with the JLARC recommendations and will incorporate these into our work as we move forward.
- 2. The Partnership has worked on ecosystem indicators since 2007 and has adopted indicators and targets (aka benchmarks).
- 3. The 2012 Action Agenda update will make clear linkages between actions, targets, and statutory goals.
- 4. The 2008 Action agenda prioritized actions based on existing scientific information with the advice and consent of stakeholders. The 2012 update will use a similar, but more robust, prioritization process.

5. The Partnership has reported on implementation of the 2008 Action Agenda, and will greatly improve monitoring, reporting, and transparency for implementation of the 2012 update.

II. Response to Formal Recommendations

RECOMMENDATION	AGENCY POSITION	COMMENTS
Recommendation 1	Concur	The Partnership agrees that a summary of how the 2012 Action Agenda covers statutory requirements would be a helpful addendum to the update. The Partnership would also include in the summary report our intentions for dealing with the subjects outlined in Recommendation 1(B).
Recommendation 2	Concur	Both in the Action Agenda and in the State of the Sound, PSP will include the name(s) of entities responsible for each NTA.
		The State of the Sound will include updated fiscal information regarding budgeting for near term actions. Outputs, or expected results for that funding, will be clearly reported. The State of the Sound will also provide updates on progress towards achieving specified outputs for each NTA.
		The process for producing the State of the Sound will phase in to reporting on environmental outcomes as monitoring data becomes available. To the extent possible and as described in this report, the environmental outcomes will be linked to relevant NTAs. This information will more likely be linked to suites of actions rather than individual actions, since the technical teams have proposed actions that in combination are intended to achieve progress in the biennium.
		The State of the Sound will report on how actions are modified as needed during the implementation process.
		Action Agenda updates will also be adaptively updated informed by NTA implementation

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		experience and by environmental outcome monitoring data.
Recommendation 3	Concur	The Partnership will include a report along with the State of the Sound Report that summarizes barriers encountered with implementing tasks required by statute.

III. Puget Sound Recovery Planning Accomplishments and the 2012 Action Agenda Update

This section responds to report findings that the Partnership did not complete key accountability directives (JLARC Report, Page 6-10). It also contains information about what the Partnership intends to include in the 2012 Action Agenda update.

<u>Measurable Benchmarks (Measureable Indicators and Recovery Targets)</u> Summary Response: Indicators were included in the 2008 Action Agenda. Long-term recovery targets were adopted in 2011. Short-term milestones for some targets will be adopted in the 2012 Action Agenda. Remaining milestones will be established a the appropriate measures are developed.

In July 2010, the Leadership Council adopted 20 indicators for communicating progress to the public. Since then, the Leadership Council has adopted 19 ecosystem recovery targets, including targets for 15 of the indicators. The 2012 Action Agenda will describe the proposed near-term steps for making progress and the measures for evaluating progress toward the 2020 ecosystem recovery targets. Some, but not all targets, will have interim milestones identified in the 2012 Action Agenda. Milestones will be adopted where incremental progress is anticipated based on projected results of work efforts and/or projected ecosystem trends.

Although indicators and targets were just recently adopted, a great deal of work was conducted to identify indicators for the 2008 Action Agenda. The Puget Sound Partnership and NOAA/National Marine Fisheries Service convened a group of scientists to identify the best available indicators and identified more than 300 items as indicator candidates. The group refined that list to 102 provisional indicators, which were reviewed and approved by the Science Panel, and included in the December 2008 Action Agenda. It was not feasible to establish targets for those indicators within that timeframe in a scientifically defensible manner.

In 2010, the Puget Sound Science Update (P. Levin et al 2010) included a chapter which attempts to provide "a thoughtful articulation of what the future of Puget Sound should be and scientifically rigorous means for measuring progress toward this desired future." Based in part on that and other information, the Partnership adopted a "Dashboard of

PSP Response to JLARC Audit | November 14, 2011 3 | 6 ecosystem indicators" in July 2010. This set of indicators was proposed by an Indicators Action Team, which used the indicator evaluation process recommended in the Puget Sound Science Update. The Partnership has now adopted 2020 ecosystem recovery targets (aka long-term benchmarks) for these indicators.

The revised Action Agenda will include a summary of the indicators and targets. It will include an evaluation of which actions contribute to the targets and a qualitative assessment of how much the actions contribute to achieving the targets.

<u>Linkages</u>

Summary Response: The Partnership has provided linkages between near-term actions and goals in the (draft) 2012 Action Agenda update.

The 2008 Action Agenda was structured to reflect the intended linkages between NTA's and the goals and objectives established by the legislature.

The report recommends that the Partnership provide linkages between actions and goals in a way similar to what has been done in Chesapeake Bay. Figure XX is responsive to that suggestion. The Partnership based the linkages in Figure XX on work that commenced immediately after the adoption of the 2008 Action Agenda when the Partnership's performance management and science teams and the Science Panel clarified the Partnership's approach to building and using logic models to portray action-to-outcome linkages.

In early 2009, the Partnership began developing a presentation of the 2008 Action Agenda using the framework of the "Open Standards for the Practice of Conservation." This included workshops and publications (e.g., November 2009 technical memoranda accompanying the 2009 State of the Sound) on ecosystem components, threats, and "results chains."

In developing the 2012 revision of Action Agenda strategies, the Partnership has built from the 2009 Open Standards work, the scientific advice presented in the Puget Sound Science Update, and advice from interdisciplinary teams focused on key pressures on the ecosystem. The revised Action Agenda will include a description of the relationship between actions and goals. The linkages will show how 2020 ecosystem recovery targets would be achieved by 2020.

Prioritized Actions

Summary Response: In 2008, the Partnership prioritized near-term actions, to the extent possible with existing scientific information, based on the advice and consent of stakeholders. A similar but more robust prioritization process will be used for the 2012 update.

PSP Response to JLARC Audit | November 14, 2011 4 | 6 In 2008, the Partnership prioritized NTA's by strategic priority: protect intact ecosystem components, restore components where possible, and prevent water pollution at its source. The process used to rank NTAs in 2008, including a description of the public review, is described in the Question 4 chapter of the Action Agenda. The ranked actions are provided in Table 4-1 of the Action Agenda.

The approach to prioritization and the prioritized lists were reviewed by the public, the ECB, and LC. Revisions were made to rankings based on that input received as a result of that review. The final lists and the process used to arrive at the prioritized lists were communicated to the legislature when the Action Agenda was submitted in December 2008.

A similar, but more robust, process will be used to prioritize NTAs in the 2012 update. Partnership staff does not anticipate producing a single prioritized list for the Action Agenda update. Given our understanding of links and relationships within the ecosystem, it is more defensible to prioritize within strategic priority topics (prevent further degradation, restore functions where possible, prevent pollution). Prioritization across recovery topics would require more scientific information and tools than we currently have available.

Monitoring and Reporting

Summary Response: The Partnership has reported on progress made in implementation of NTAs. We are now able to do a better, more transparent job of monitoring and reporting.

Throughout calendar years 2009 and 2010 the Partnership consistently made public presentations to both the Ecosystem Coordination Board and the Leadership Council on Action Agenda implementation. These reports were generated in collaboration with the relevant agency partners with responsibility for these actions and were publicly available for review and comment. The archive of all of these documents has been maintained on the Puget Sound website.

In 2010, the Partnership developed a tracking system in a specially designed database for reporting more discretely on the status of each of the near term actions including the status in meeting milestones for completion, obstacles to achieving progress and relevant next steps. The Partnership used this database for reporting Action Agenda implementation progress to the state's Government Management and Accountability Program system. The tracking sheet for the June and October GMAP reports is currently available on the PSP website.

With respect to fiscal reporting on the Action Agenda, an initial estimate of the cost of near term actions in the Action Agenda was provided in Table 4-2. The 2009 State of the Sound, which was released within one year of the adoption of the Action Agenda,

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APPENDIX 2A – AUDITOR'S COMMENT

Auditor's Response to Partnership's Comments on JLARC Recommendations

We are pleased that the Partnership concurs with the audit's three recommendations and that the Partnership plans to address the shortcomings of the 2008 Action Agenda in its 2012 work products.

We will closely monitor the Partnership's implementation of audit recommendations in 2012, and report to the Committee on the agency's progress. Our recommendations are structured with details to assist that monitoring.

The Partnership's response to the audit identifies a number of areas it has worked on previously. Our audit also acknowledged activities that have taken place with respect to prioritization, communication with the Legislature, and public reporting. We agree these activities were not absent. However, these areas need significant improvements to meet statutory goals of helping policy makers focus scarce resources and communicating the impacts those investments have had on restoration progress.

To avoid misunderstanding specific aspects of our report, we would like to clarify three areas:

1. Prioritization

The audit recognizes that the Partnership applied a prioritization method to actions in the 2008 Action Agenda. However, our review, including comments from key stakeholders, found that the 2008 Action Agenda was not useful for informing budget decisions. We will continue to closely monitor the prioritization process used for the 2012 Action Agenda for its usefulness to the budgeting process.

2. Communication with the Legislature

We are concerned when the Partnership has not completed specific tasks directed by statute and does not subsequently offer an explanation of why it did not complete those tasks. JLARC's recommendation is intended to formalize regular communication on the challenges the Partnership faces in meeting the fundamental requirements established for this agency by the Legislature.

3. Public reporting

The audit recognizes that the Partnership has offered aggregated reports of Action Agenda implementation, and, recently began providing more specific detail on individual actions. JLARC's audit emphasizes that information must be comprehensible by the public and include some guidance of how to interpret changes in trends. We will continue to monitor the Partnership's public reporting in preparation for our 2016 audit.

APPENDIX 3 – GOALS AND OBJECTIVES FROM STATUTE

RCW 90.71.300 establishes six goals and eight objectives that are to be achieved by the Action Agenda.

Six Goals

- 1. A healthy human population supported by a healthy Puget Sound that is not threatened by changes in the ecosystem;
- 2. A quality of human life that is sustained by a functioning Puget Sound ecosystem;
- 3. Healthy and sustaining populations of native species in Puget Sound, including a robust food web;
- 4. A healthy Puget Sound where freshwater, estuary, nearshore, marine, and upland habitats are protected, restored, and sustained;
- 5. An ecosystem that is supported by groundwater levels as well as river and stream flow levels sufficient to sustain people, fish, and wildlife, and the natural functions of the environment; and
- 6. Fresh and marine waters and sediments of a sufficient quality so that the waters in the region are safe for drinking, swimming, shellfish harvest and consumption, and other human uses and enjoyment, and are not harmful to the native marine mammals, fish, birds, and shellfish of the region.

Eight Objectives

- Protect existing habitat and prevent further losses;
- 2. Restore habitat functions and values;
- 3. Significantly reduce toxics entering Puget Sound fresh and marine waters;
- 4. Significantly reduce nutrients and pathogens entering Puget Sound fresh and marine waters;
- Improve water quality and habitat by managing storm water runoff;
- 6. Provide water for people, fish and wildlife, and the environment;
- Protect ecosystem biodiversity and recover imperiled species; and
- 8. Build and sustain the capacity for action.

APPENDIX 4 – LINKING ACTIONS TO GOALS

The following is excerpted from the Chesapeake Bay Program's Strategic Framework. The Program reports that "*CBP partners have developed a strategic framework composed of the six goal strategies. Each goal strategy includes the goal, a rationale that explains why the goal is important for protecting and restoring the Bay, the desired results and a set of implementation strategies to achieve each desired result.*"³

GOAL	TOPIC AREA	DESIRED RESULTS	STRATEGIES
1 Protect and Restore Fisheries	Ecosystem- Based Fisheries Management	1a. Effective Fisheries Ecosystem-based Planning & Management	 Build science infrastructure for ecosystem-based management planning Improve governance structure and process Develop new or revised Ecosystem-based Fisheries Management Plans (EBFMPs) for Chesapeake Bay Implement EBFMPs for Chesapeake Bay, using adaptive management
	Oysters	1b. Increased Oyster Population	 Monitor the status of the stock Increase hatchery production Develop disease-resistant oysters Identify, establish, enhance, and seed oyster reefs Establish a network of permanent sanctuaries throughout the Bay Support aquaculture Enforce oyster management laws and regulations Implement adaptive management
	Blue Crab Striped Bass Alosines Menhaden	1c. Increased Blue Crab Population 1d. Increased Striped Bass Population 1e. Increased Alosine Population 1f. Increased Menhaden Population	 Monitor to establish and track population and stock health/habitat Target research to facilitate more effective management Facilitate science-based management decision-making Implement adaptive management
2 Protect and Restore Vital Aquatic Habitats	Fish Passage	2a. Healthy and Abundant Migratory Fish Habitat	 Complete multi-objective fish passage projects Prioritize fish passage in Susquehanna and James watersheds Lead by example at state and federal dams Use federal/state engineers for dam removal designs Regulate installation of new dams/barriers Ensure streams can support fish populations
	SAV	2b. Healthy and Abundant Submerged Aquatic Vegetation (SAV)	 Accelerate protection of existing SAV beds Restore SAV through planning and transplanting of SAV beds Enhance public communication and education Support research on SAV protection and restoration
	Wetlands	2c. Healthy and Abundant Wetlands	 Prioritize areas to restore wetland acreage (water quality & habitat) Restore function of degraded wetlands
	Stream Restoration	2d. Restore Stream Health	 Focus actions to reduce nutrients, sediment, and contaminants in watersheds that will provide optimum benefits to improve local stream quality and reduce loads to the Bay Understand the causes of fish kills and poor fish health in streams to develop management solutions Implement stream restoration actions to improve hydrologic conditions and decrease sediment erosion
3 Protect and Restore Water Quality	Municipal and Industrial Wastewater	3a. Reduced Loads from Municipal and Industrial Wastewater Facilities	 Issue annual N&P caps in NPDES permits during renewal cycle Seek to fund nutrient reduction upgrades or secure nutrient credits Determine facility upgrade schedule for significant facilities Quantify the process to cap loads from non-significant facilities
	Agricultural Lands and Animal Operations	3b. Reduced Loads from Agricultural Lands and Animal Operations	 Set priorities for specific practices in priority watersheds Accelerate cost-effective practice with greatest N&P reduction Pursue sustainable reductions (e.g., animal feed and diet management) Continue strategy for managing nutrients from manure and poultry litter Coordinate federal funding to focus on priority watersheds Seek long-term funding for state agriculture incentive programs Engage corporate sector in making agricultural production changes

³ http://cap.chesapeakebay.net/strategicframework.htm.

The following is excerpted from work completed in November 2009 that, according to the Puget Sound Partnership, shows the relationship between actions and threats to the ecosystem.

