



# THE ACTION AGENDA FOR PUGET SOUND: NOW IS THE TIME TO ACT

2012 HIGHLIGHTS

*DRAFT — JULY 2, 2012*

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# Director's Letter

Dear Puget Sound Neighbor,

When I first moved here from the Midwest in 1984, I was stunned by the glory of Mt. Rainier, the year-round green of northwest forests, and the sparkling blue of Puget Sound. It amazed me that people on the bus could bury their noses in the newspaper on sunny days when the view out the window was so magnificent.

Today, after a year as director of the Puget Sound Partnership—the agency coordinating the regional effort to cleanup Puget Sound—I think a lot more about what's beneath the surface. I still revel in the sight of seals, otters, eagles and happy people in boats, but my focus is on what we've lost through over a century of pollution, what we've gained from years of effort to mend our ways, and what's at stake for our children's future.

We have come a very long way from the days when cities, lumber mills and other industries dumped untreated waste into the water. We have made substantial progress in both our understanding of the issues and the public's concern for safeguarding this natural treasure. But there is no denying that our Puget Sound is in trouble. The entire shoreline from Everett to Tacoma is still closed to commercial shellfish harvest because of pollution, and parts of Hood Canal are dying.

By 2025, we expect the population around the Sound to grow by another million and a half people. We also face the huge uncertainty of what climate change might mean for us and for the Sound. At the same time, we live in a time when a constant stream of new chemicals, processes, and products threaten to outpace our knowledge about their effects on the natural world, human health, and the waters of Puget Sound.

Here is an example: We've spent many years and a great deal of money to clean up the Thea Foss waterway in Tacoma. Those efforts have been hailed as one of our region's significant achievements. But while it was clean, we are discovering new pollutants in Thea Foss. One source is from the chemicals in plastic materials and personal care products, which affect the hormone systems of fish and people. We must find ways - logistical, legislative, scientific, and educational - to reduce them at their source and in our waters and remain vigilant for other emerging contaminants as we go forward.

Given these multiple challenges, many people wonder if restoring Puget Sound is a hopeless quest. It is not – but there is no denying that the challenge is even bigger than the Sound itself. We have to enlarge our vision beyond the waters of the Sound, and acknowledge a truth that local tribes have always known: for Puget Sound to be healthy, all of the rivers and streams that flow into it must also be healthy. The air above and around it needs to be clean, so that rain doesn't deposit the pollution from the air into the water. The built environment, old and yet to be constructed, needs to be intentionally designed with an eye toward its impact on the natural system we depend on. Puget Sound is more than Puget Sound; it is the sum of all that happens in the watersheds that feed into it, and the Pacific Ocean whose tides flow in and out of it.

Puget Sound is also the community we live in, and the future home of our children and grandchildren. To restore and protect it, we need everyone in this community to be informed, engaged, and committed to the shared value of protecting our natural heritage. Together, we need to shape our vision for the future, and what we must do now to protect the natural world that nourishes us.

For many thousands of years, a healthy Puget Sound sustained Native American societies. Now we must learn how to sustain a healthy Puget Sound.

Sincerely,

Gerry O'Keefe

# The Call to Action

The bigger the challenge, the greater the opportunity to think big, innovate, and intentionally chart a path for our future. When President Kennedy said we should go to the moon in ten years, it seemed an impossible dream to many Americans. But we did it. We used every ounce of innovation, intelligence, and collaboration we could muster, and we made it happen.

And we didn't stop when we got to the moon; we set ourselves on a very long-term course to explore our solar system and our universe. We made a commitment to keep exploring, and to keep learning and thinking about our miraculous planet and its place in the cosmos.

Restoring and protecting Puget Sound bears some important similarities to going to the moon. It is also an enormous challenge, and there are days when the threats to Puget Sound seem overwhelming. But the more important similarity is that restoring and protecting Puget Sound sets us on a long-term course to keep learning how to live on our planet in harmony with what we've been blessed with: a natural heritage that can sustain human life – and wildlife, fish, and thousands of other creatures great and small – for many generations to come.

But we must work quickly, as Puget Sound is sick. Swimming beaches and shellfish beds are closed because of contamination. Dead zones are appearing in South Sound and Hood Canal where the lack of oxygen is killing fish and marine life. Populations of salmon once numbered in the millions are now threatened with extinction. The iconic species of Puget Sound—the southern resident killer whale—carries some of the world's highest levels of chemicals in their bodies. Tribal nations that depend on Puget Sound resources to sustain their culture, traditions and ways of life find these uses, many of which are guaranteed by treaties, increasingly imperiled.

We can turn this around because we must. We can do this because we are capable, collaborative, innovative, and committed, not just to a short-term effort, but to the long term responsibility of stewardship and genuine progress. This is the ethic that drives our efforts and ensures our ultimate success.

We have made progress over the years, but too often people were performing “random acts of restoration,” rather than creating a rational, coherent plan to restore and protect Puget Sound. We must work together effectively to ensure our success.

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## IT IS ABOUT ALL OF US: HUMAN PRESSURES ON PUGET SOUND

With the actions we take every day we affect Puget Sound. Through where we live; how we care for our homes, lawns, and gardens; what we drive; what we eat; and what we do for fun – we impact the health of Puget Sound. Some choices we make – building schools, operating businesses - put pressure on Puget Sound's health might be beneficial to us in other ways. The goal is not to eliminate human pressures on Puget Sound, but to understand and manage them towards ecosystem protection and resiliency.

## What is the Puget Sound Partnership?

In 2007, Democrats and Republicans created the Puget Sound Partnership to coordinate the regional effort to clean up Puget Sound. The Partnership is the backbone organization connecting citizens, governments, tribes, scientists and businesses together to set priorities, implement the regional recovery plan, and ensure accountability for results. More than 2,440 acres of habitat have been protected, 70 miles of streams and rivers have been restored, and game-changing restoration projects have been advanced since the creation of this regional partnership.

## A Healthy Sound Supports a Healthy Economy

Today's investment in Puget Sound will directly influence the health of Washington State's economy tomorrow. Together the ports of Seattle and Tacoma make the Sound the second largest US harbor for container traffic, including \$28 billion in state-originated exports and 34,000 jobs. There are 68 state parks and 8 national parks, wildlife refuges, forests and other public lands that border Puget Sound. These assets help drive approximately \$9.5 billion in travel spending, including 88,000 tourist-related jobs that bring \$3 billion in income to the region.



State are found in the Puget Sound Basin. Puget Sound is a place where employees want to live, work and build a family. Our quality of life attracts and retains a creative, talented and skilled workforce, which in turn attracts business to this region. The tax revenues provided within the Basin help support roads, schools, police, parks

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“[It is our task] to ensure that the Puget Sound forever will be a thriving natural system, with clean marine and freshwaters, healthy and abundant native species, natural shorelines and places for public enjoyment, and a vibrant economy that prospers in productive harmony with a healthy Sound.”

—Governor Christine Gregoire

Puget Sound hosts 211 fish species, 100 sea bird species and 13 types of marine mammals. The average annual commercial value for Puget Sound crab, shrimp, mussel, oyster, geoduck and other clams is \$44 million, and recreational shellfishing is valued conservatively at \$42 million per year. Recreational fishing in Puget Sound is valued conservatively at \$57 million a year and commercial fishing is valued at \$4 million a year. It provides a sense of place and history for the people who live here.

Nearly 71% of all jobs and 77% of total income in Washington

and other benefits throughout Washington. Rural communities in Washington State see jobs and services decline when tax revenues from the Puget Sound Basin fall.

## Regional Return on Investment

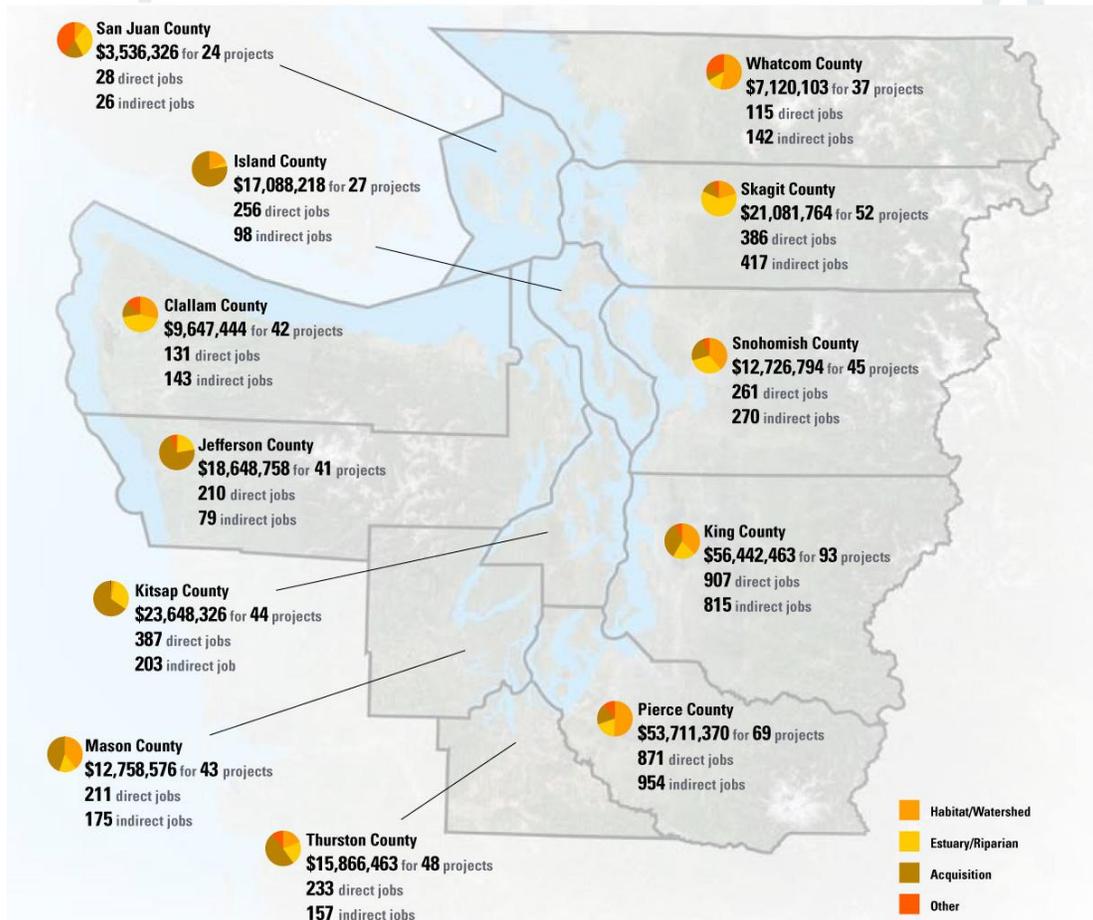
By investing in Puget Sound restoration we will create long-term jobs and economic benefits that go beyond the jobs associated with individual project implementation. Restoring salmon populations, for example, increases recreational, commercial, and tribal jobs, as well as wholesale and retail jobs. Restoration projects in estuaries and riparian areas create almost twice as many jobs per \$1 million spent than infrastructure projects such as roadwork. Investing in the health of Puget Sound has a higher rate of return on investment and more certain return than most built capital investments.

We already are seeing our investments in Puget Sound help to strengthen our economy and create jobs. In 2010 the investment in Puget Sound protection and restoration was in excess of \$251,312,605 in funding, which created 7476 jobs across 565 projects.

# 2010 Puget Sound Restoration and Protection

**\$251,312,605 in funding | 7476 jobs | 565 projects**

3998 direct | 3478 indirect



## Making a Difference

While we know the task is daunting; we also know that we can — and are — making a difference.



At the tip of the Key Peninsula, the 94 acres and 1 mile of undeveloped shoreline of Devils Head has been, despite development pressure, permanently protected and will provide important habitat for salmon and other Puget Sound species, forever.

In Henderson Inlet, in the South Sound, 240 acres of shellfish-growing tidelands were re-opened for harvest without weather restrictions because, despite increased development, and contrary to predicted trends, the community has worked together to improve water quality in the inlet.



The City of Tacoma has reduced the pollution in stormwater runoff through a combination of controlling sources and removing the legacy of contaminated sediment from stormwater pipes and holding vaults.

Puget Sound is considered one of the nation's leaders in low impact development (or green stormwater infrastructure) – Seattle Public Utilities' Natural Drainage Systems Program has won national recognition in this area.



In Kitsap County two new high-efficiency street sweepers remove more than 2,000 tons of road dirt and debris every year -- removing pollution near its source in this way means much cleaner road runoff and improved water quality. This type of program is a proven and cost-effective approach to keeping both the roads and water clean.

In Puget Sound's most highly urbanized bay, clean up and source control efforts are improving sediment quality. Levels of toxic metals like mercury and leads in Elliott Bay sediments are lower than they were ten years ago, and levels of PCBs and PAHs are lower too. Populations of tiny bottom-dwelling life known as benthic invertebrates are healthier and liver cancer rates in English sole populations have dropped from more than 30 percent to less than 3 percent.



We can and must build on these successes in the years to come. There is still time to turn the tide towards protection and restoration of Puget Sound. The opportunity is there and the economics will support the considerable investment it will take. We know what the problems are and we know a lot about what works to fix the problems. Now is the time to act.

# The Action Agenda

The Action Agenda is the road map for cleaning up Puget Sound. It establishes recovery targets for Puget Sound and lays out a framework for how, working together as a Region, we can achieve the vision of a healthy Puget Sound and a society where we live and work in productive, vibrant harmony with our natural environment. It is important to remember that the Action Agenda is not a regulatory document.

The Puget Sound Action Agenda, first published in December 2008, is both a durable framework for action, coordination and accountability, and a living document that is intended to be updated every two years to reflect the progress we've made, what we've learned, and new challenges that arise.

The Agenda has a strong bias for action – not for holding more meetings or creating more bureaucracy. Its starting point was an assessment of the many earlier efforts to restore and protect various parts of the Sound's environment. Its aim is to guide all the participating partners to make the most effective use of resources to achieve results.

The Action Agenda is built on four key ideas:

## 1. Decisions based on sound science

Science – not emotion or expediency – is the most reliable guide to achieving success. The Partnership supports and relies on continuing scientific research to inform its decisions, and to measure what's working.

## 2. Action

Knowing that we have no time to waste, the Agenda uses the best available science to identify the most pressing problems and to direct resources to their solution.

## 3. Accountability

THE PARTNERSHIP USES 21 INDICATORS AND TARGETS ARRANGED INTO A VITAL SIGNS DASHBOARD TO HELP US TRACK AND COMMUNICATE OUR EFFORTS TOWARD PUGET SOUND RECOVERY.



A key role of the Partnership is to ensure that the investments we make achieve results, and that we are spending limited resources where they will do the most good.

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#### 4. Building Partners' and the Public's Capacity to Contribute

All the partners engaged in this effort – including the public – need to fully understand the challenges we face and have the resources they need to take effective action. The Partnership helps partners improve their effectiveness through public education, technical assistance, access to data and grant opportunities.

##### *The goals are clear, but achieving them is complex*

Puget Sound is both an enormously complex natural ecosystem and a complicated human system of tribes, counties, cities, towns, businesses, citizen organizations and state and federal agencies. Getting all the pieces of this puzzle to fit together takes patience and persistence.

The work of the Partnership started with six goals set by the state legislature:

- Healthy people are supported by a healthy Puget Sound.
- Our quality of life is sustained by a healthy Puget Sound.
- Puget Sound species and the web of life thrive.
- Puget Sound habitat is protected and restored.
- Puget Sound rivers and streams flow at levels that support people, fish and wildlife.
- Puget Sound marine and fresh waters are clean.

The Partnership measures progress towards these goals with 21 indicators, and has 70 sub-strategies, and plans for over 200 near-term actions.

## Strategic Initiatives for 2012 and 2013

The Puget Sound Partnership has achieved consensus on three strategic initiatives that guide our priorities for 2012 and 2013. These are the areas where we intend to focus time and resources, to increase funding, to seek changes that improve policy, to report success and apply lessons learned, and to educate and engage citizens in the recovery effort.

The three strategic initiatives are:

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### LOCAL GOVERNMENTS

Cities and counties are at the front lines in the effort to protect and restore Puget Sound. From updates to Shoreline Master Programs, to adoption of Critical Areas Ordinances in Growth Management Act comprehensive plans, to hundreds of millions of dollars in investments in stormwater protections, to supporting salmon recovery – cities and counties are the implementers of many Puget Sound recovery strategies. They must be given adequate support and resources to accomplish the job. The financial burden must be shared by all levels of government.

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### TRIBAL GOVERNMENTS

Puget Sound has been home to populations of the Coast Salish people for thousands of years. U.S. federal courts have also established tribes as co-managers of fish and shellfish resources in Washington waters. As co-managers, tribal governments are on the front lines of implementation of protection and restoration activities. A healthy Puget Sound ecosystem is central to Tribal culture and spiritual practices, and to Tribal economic health.

## Prevention of pollution from urban stormwater runoff

This is an immense challenge, and although we have many of the tools and technologies for stormwater, we need to make much fuller use of them if we are to stop contamination from flowing into the Sound.

## Protection and restoration of habitat

We must stop destroying habitat, protect what we have left and substantially restore the critical habitats that we have lost;

## Recovery of shellfish beds

Shellfish harvesting is both a treaty right for tribes and a vital industry in our region. It is also a treasured tradition for countless northwest families. Shellfish health begins on land, through reduction of pollution from rural and agricultural lands and maintenance and repair of failing septic tanks.

The three strategic initiatives represent our immediate priorities for Puget Sound protection and recovery. Setting priorities involves balancing ecological, economic and human-well being factors so that we are focused on actions that will make the biggest difference for the time and resources spent. These three strategic initiatives encompass priority actions that address the most serious threats to Puget Sound health, will improve human well-being, and support economic development and job creation. The specific actions included within each strategic initiative were drawn from the strategies and actions developed during the Action Agenda update process. They also were informed by high-level policy efforts such as the Governor's Shellfish Initiative and the process to address shortcomings in salmon recovery identified by tribes and NOAA in 2011.

To consider the initiatives in depth and finalize the content, the ECB formed three subcommittees, one for each Strategic Initiative. The Subcommittees met in May and June 2012 and developed the content reflected here.

The context and content of each strategic initiative is described below. In addition, all three strategic initiatives individually and collectively must be supported by:

- An overarching funding strategy – we need to increase the financial capacity of our partners across Puget Sound to implement these strategic initiatives. We need a comprehensive strategy that addresses federal, state, local and private funds – both more efficient, directed use of current fund sources and generating new funds. We must identify more resources in order to implement these actions at a pace that will meet our goals.
- An overarching outreach strategy – many of the priority actions identified require greater public awareness and support for those actions. We must have a clear, effective strategy on how to reach the relevant stakeholders and the general public to ensure people are willing to take the necessary actions.

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## RANKING SUB-STRATEGIES

In 2012 the Partnership, Ecosystem Coordination Board, and the Science Panel undertook an unprecedented effort to create a science-based assessment of the expected ecological impact of each sub-strategy in the Action Agenda. The results of this effort are science-based rankings of substrategies in three categories (freshwater and terrestrial, marine and nearshore, and pollution) based on expected ecological impacts. These ranked lists were used to assess and validate the content of the strategic initiatives. The results of the ranking can be found in Book 2, in Appendix G.

- Attention to watershed-based implementation – every watershed in Puget Sound has different needs and a different context. For us to be successful we must design actions to be effective at the watershed scale.

# *We Must Prevent Pollution from Urban Stormwater Runoff*

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## **The Challenge**

Polluted stormwater runoff carries toxic chemicals, nutrients, sediment, and bacteria and is the primary pollution threat to Puget Sound surface water. The problems from polluted stormwater runoff began generations ago and continue today; however, we now understand the problems better and we have a suite of tools that can be used at a variety of scales (individual and regional) to address problems. We must act – we cannot recover Puget Sound by 2020 or sustain areas that we restore and clean up without addressing polluted stormwater runoff.

Given that runoff is a major contributor of pollution to Puget Sound, without a significant increase in stormwater funding in 2012 and beyond, the statutory goal of recovery of Puget Sound by 2020 is not achievable.

*-ECB Stormwater Committee Policy Statements April, 2011*

The framework and content of this strategic initiative were developed collaboratively by a subcommittee of the Ecosystem Coordination Board that included representatives of local, state, and federal governments, Tribes, salmon recovery watershed coordinators, environmental groups, and the business community. In its work the subcommittee acknowledged that these are not all the actions we need to take to protect Puget Sound from further pollution from urban stormwater, many additional actions are included in the full Action Agenda; however, these are the actions they identified as the most critical and valuable for the next two years.

The ECB subcommittee identified five themes for the stormwater strategic initiative: take a watershed approach to management; prevent new problems, fix existing problems, control sources of pollution, and education. Each of these themes is discussed below.

**Watershed Approach:** In their stormwater policy statements, the Ecosystem Coordination Board recommended that new funding be linked to a broader context and vision for other watershed funding needs. Specifically, they recommended a study to evaluate how we can more effectively manage stormwater at the watershed scale. This was also an issue that was discussed in the ECB subcommittee that developed the content for the shellfish strategic initiative.

**Prevent New Problems:** The Clean Water Act (CWA) was adopted in 1972. At that time, point sources of pollution such as wastewater and industrial discharges were the largest component of the water pollution problem. Significant progress has been made since the 70's in controlling those sources of pollution. That success was achieved through unprecedented coordination and collaboration among all stakeholders and major investments at the federal, state and local levels.

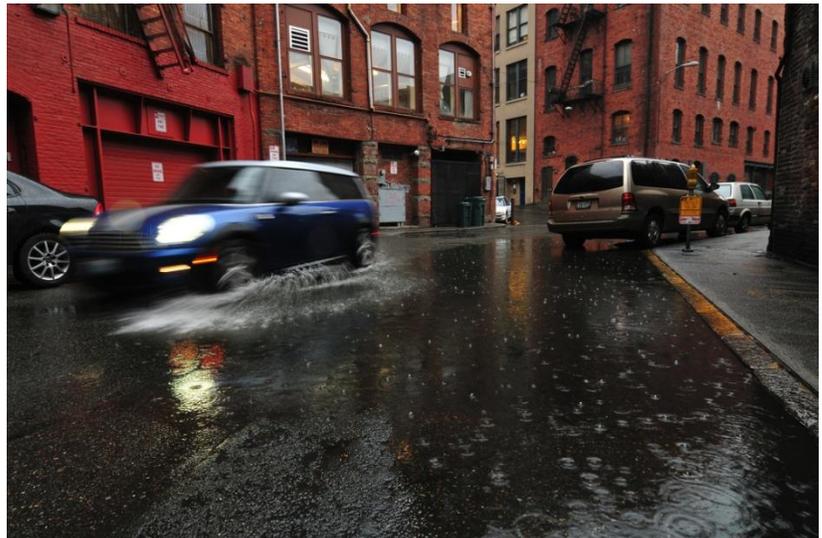
With solutions to point sources well underway, non-point sources of pollution, such as stormwater runoff, now represent the biggest remaining threat to water quality in the Puget Sound region. These sources are more difficult and more costly to control than point sources, and will require even greater coordination and commitments to funding.

The CWA provides a specific means to control urban stormwater through the National Pollutant Discharge Elimination System (NPDES) permit program. This important program is the first line of defense to protect water quality from urban stormwater impacts and should be adequately funded and implemented according to federally-mandated schedules. Without the permit program and continual improvements to it based on knowledge gained through implementation, monitoring, and research, our efforts will not succeed.

In 2009, local governments in the Puget Sound basin spent at least \$160-170 million implementing pollution prevention programs through their NPDES permits. This investment, the majority of dollars spent on prevention of polluted runoff, removed an estimated 234,000 tons of contaminated sediment that did not reach Puget Sound or its tributary watersheds. The implementation of NPDES permits is the most cost-effective way to prevent pollution from reaching Puget Sound. With an increase in annual investment local governments could do an even better job. But they need financial help from the state and federal government to reflect the shared responsibility to recover Puget Sound.

**Fix Existing Problems:** One of the greatest barriers to securing funding for the management of polluted runoff is a lack of specifics about the cost and location of projects and programs to fix the problem. We have high level information about existing expenditures and approximate total capital cost to address existing problems. However, we need more detailed and comprehensive information about the highest priority existing problems, conceptual designs, and project-specific cost estimates. With this type of information, we can readily seek capital retrofit funds.

**Control Sources of Pollution:** One of the most cost-effective ways to prevent toxins and other pollutants from getting into Puget Sound is to prevent them from being introduced into the environment in the first place. Preventing pollution is an important part of a climate change adaptation strategy. Declining snow pack and loss of natural water storage, changes in precipitation timing and seasonal stream flow, severe winter flooding combined with more frequent and extreme storm events will strain our stormwater systems and increase the amount of polluted runoff flowing to Puget Sound. Taking proactive steps now to address stormwater runoff will help reduce risk of damage to infrastructure, as well as safeguard fish, wildlife and habitats.



The Fish Consumption Rate reflects the amount of fish eaten by Washington fish consumers and is a key part of the equation used for determining human exposure to toxins in fish. The FCR is expected to inform sediment management and water quality standards.

**Education:** People are responsible for the impacts associated with polluted stormwater runoff. We introduce toxins into the environment and we change the way stormwater flows across the land to streams and the Sound. The ECB subcommittee for stormwater agreed that we need to continue to educate individuals and

communities about ways that they can become part of the solution, help stormwater managers at the local level learn to implement low impact stormwater management measures, and ensure that we have an educated workforce that has the tools to eliminate the threat to Puget Sound from polluted stormwater runoff.

Finally, like the other strategic initiatives, success in the stormwater initiative depends on an overarching strategy to address funding, outreach to Puget Sound residents to help them become part of the solution, and taking a watershed approach to implementation.

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## WHAT REALLY WORKS FOR STORMWATER

A substantial load of sediment has accumulated over the years in our stormwater management system, much of it deposited before current controls on stormwater and it therefore often contains high levels of pollution – a “legacy load.” The best and most recent local data on legacy loads is from the City of Tacoma for the Thea Foss and Wheeler-Osgood Waterways (City of Tacoma 2010). Contaminated bottom sediments in these waterways were cleaned up under the EPA Superfund Program at a cost of \$105 million. After the cleanup, the City engaged in a source control and stormwater monitoring strategy to provide long-term protection of sediment quality in the waterways; however, these source controls did not do the job. Tacoma then undertook an intensive basin-wide cleaning program of the storm sewer lines discharging to the waterways to remove legacy loads. In 2007 over a 2-month period, the city cleaned 80,000 feet of 8-inch to 56-inch lines and removed 220 cubic yards of storm sediments from the conveyance lines, laterals, and catch basins, at a cost of \$300,000. This achieved a 30 percent reduction in lead in some areas and a 40 to 60 percent reduction in polycyclic aromatic hydrocarbons (PAHs). In the parts of the system that were cleaned, levels continue to decline for twenty chemicals of concern.

### **Link to Relevant Recovery Targets**

The initiative to prevent pollution from urban stormwater runoff will contribute to progress toward the Partnership’s 2020 ecosystem recovery targets for stream flow, marine water quality, freshwater quality, marine sediment quality, toxics in fish, swimming beaches, shellfish beds, Chinook salmon, orcas and birds.



## Key Strategies and Actions to Prevent Pollution from Urban Stormwater Runoff

### Take a Watershed Based Approach

- Watershed Based Stormwater Management. PSP in consultation with Ecology and with guidance from the Ecosystem Coordination Board, will evaluate the feasibility, costs, and effectiveness of expanding the existing, municipal stormwater jurisdiction-by-jurisdiction permit approach, using “general permits,” to include additional watershed-based municipal stormwater management practices. The PSP will complete the evaluation and provide to Ecology for consideration by February 2013. (C2.1 NTA 1)<sup>1</sup>

### Prevent New Problems

- NPDES Municipal Permits. Ecology will issue municipal permits for western Washington and provide financial assistance to permittees for implementation, particularly for code changes, stormwater system mapping, operations and maintenance, inspections and enforcement. This will require additional resources to Ecology for permit oversight, technical assistance, and enforcement. Ecology will provide incentives to NPDES permittees who, by interlocal agreement, lead or carry out regional or watershed scale NPDES implementation. (C2.2 NTA 1)

<sup>1</sup> This language is different from the language in the ECB policy statement on stormwater and the language for C2.1 NTA 1 in the current draft of the NTA table. The ECB will discuss the alternative language and the Leadership Council will make the final decision regarding the wording of this NTA.

- Stormwater Management Outside Permitted Areas. Ecology, in coordination with the state Department of Health, will identify two high priority shellfish growing areas degraded by urban stormwater discharges and work with local governments and other key parties to reduce these impacts to the areas. (C2.2 NTA 3)

## Fix Existing Problems

- Stormwater Retrofit Projects. Ecology will lead a process to identify high priority retrofit projects that will contribute to the recovery of Puget Sound and complete conceptual design to a stage sufficient to seek project implementation funding. The work will build on retrofit prioritization work by WSDOT, King County and others, and will be replicable in other urban and suburban areas around the Sound. (C2.3 NTA 1)

## Control Sources of Pollution

- Compliance Assurance Program. Ecology and local governments will increase inspection, technical assistance, and enforcement programs for high-priority businesses and at construction sites. (C2.4 NTA 1)
- Fish Consumption Rates and Sediment Management Standards. In 2012 Ecology will propose draft rule language that will address human health; protect ecological receptors from bioaccumulation; and include freshwater sediment standards and develop Implementation Tools for meeting Water Quality Standards based on revised human health criteria. (C1.1 NTA 3)

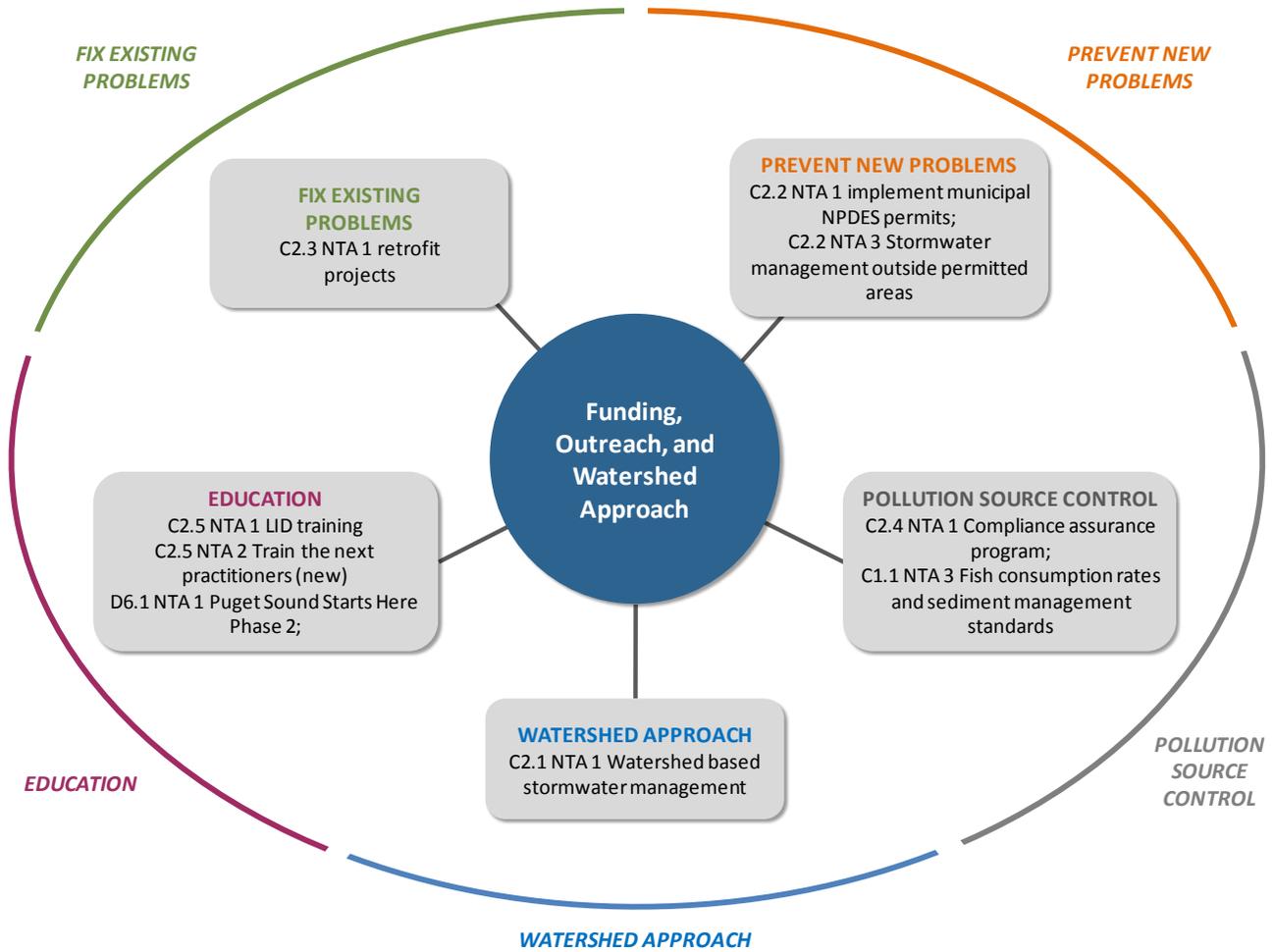
## Education

- Training and Certification. A) Ecology will provide focused training for local government staff on LID project review, and inspections and approvals, as well as to local government staff and private sector on maintenance. B) Develop new professional certification for stormwater maintenance specialists. Provide business staff and contractors with training on source control, spill recognition, spill response, and erosion control. (C2.5 NTA 1)
- Phase 2 of Puget Sound Starts Here. PSP and partners implement Phase 2 of *Puget Sound Starts Here* campaign. PSP, STORM and Ecology ensure that messages reflect the demography, regional identity and issues facing the Puget Sound. (D6.1 NTA 1)
- Education for the next Generation of Stormwater Professionals. Develop a near-term plan for academic course work, including tribal history and civics, for future stormwater professionals that emphasizes continuing improvements in stormwater management in the context of the larger issues of sustainable water resource management and climate change. (C2.5 NTA 2)

Actions identified for inclusion in this strategic initiative are generally consistent with the substrategies that were ranked the highest based on ecological criteria (See Appendix G of the Action Agenda for these ranked lists). C2.5 ranked lower according to ecological criteria because it would not result in immediate environmental benefit. However, the substrategy is still ranked in the top half out of all sub strategies and unanimously supported by committee members for inclusion in the strategic initiative. Strategic initiative content is summarized in Figure 1, and details of the priority actions for the strategic initiative are listed in Table 1. In addition, as discussed earlier, each strategic initiative individually and the initiatives collectively must be

supported by an overarching funding strategy, and overarching outreach strategy, and keen attention to ensuring that implementation takes a watershed-based approach.

Figure 1: Stormwater Strategic Initiative



**Table 1: Prevention of Pollution from Urban Stormwater Runoff - Strategies and Actions**

| STRATEGY | #   | SUB-STRATEGY  | NTA # | NTA  | PERFORMANCE MEASURE   | OWNER   | SECONDARY OWNER |
|----------|-----|---|-------|--|---|---------|-----------------|
| C        | 1.1 | Implement and strengthen authorities and programs to prevent toxic chemicals from entering the Puget Sound environment. | 3     | <u>Fish Consumption Rates and Sediment Management Standards.</u> In 2012 Ecology will propose draft rule language that will address human health; protect ecological receptors from bioaccumulation; and include freshwater sediment standards and develop Implementation Tools for meeting Water Quality Standards based on revised human health criteria.  | Complete by June 30, 2013.  | Ecology | NWIFC           |
| C        | 2.1 | Manage urban runoff at the basin and watershed scale.   | 1     | <u>Watershed Based Stormwater Management.</u> PSP in consultation with Ecology and with guidance from the Ecosystem Coordination Board, will evaluate the feasibility, costs, and effectiveness of expanding the existing, municipal stormwater jurisdiction-by-jurisdiction permit approach, using "general permits," to include additional watershed-based municipal stormwater management practices. PSP will complete the evaluation and provide to Ecology for consideration by February 2013.  | PSP to commission and complete an evaluation of the effectiveness of transitioning to watershed-based municipal stormwater management and provide to Ecology by February 2013, and give a presentation and discuss next steps with the ECB by March 2013. | PSP     | ECB             |
| C        | 2.2 | Prevent problems from new development at the site and subdivision scale.  | 1     | <u>NPDES Municipal Permits.</u> Ecology will issue municipal permits for western Washington and provide financial assistance to permittees for implementation, particularly for code changes, stormwater system mapping, operations and maintenance, inspections and enforcement. This will require additional resources to Ecology for permit oversight, technical assistance, and enforcement. Ecology will provide incentives to NPDES permittees who, by interlocal agreement, lead or carry out regional or watershed scale NPDES implementation. | Reissued, improved municipal permits by July 2012; additional resources to Ecology by July 2013; financial assistance provided to permittees by December 2013; incentives provided to permittees for regional implementation by December 2013.            | Ecology |                 |
| C        | 2.2 | Prevent problems from new development at the site and subdivision scale.  | 3     | <u>Stormwater Management Outside Permitted Areas.</u> Ecology, in coordination with the state Department of Health, will identify two high priority shellfish growing areas degraded by urban stormwater discharges and works with local governments and other key parties to reduce these impacts to the areas.   | Areas identified by September 2012; assistance provided to non-permitted local governments by December 2012; documentation of reduced impacts by March 2014 and at conclusion of projects.  | Ecology | DOH             |
| C        | 2.3 | Fix problems caused by existing development.  | 1     | <u>Stormwater Retrofit Projects.</u> Ecology will lead a process to identify high priority retrofit projects that will contribute to the recovery of Puget Sound and complete conceptual design to a stage sufficient to seek project implementation funding. The work will build on retrofit prioritization work by WSDOT, King County and others, and will be replicable in other urban and suburban areas around the Sound.   | RFP issued by August 2012; new regional stormwater retrofit prioritization process and list of projects by December 2013.   | Ecology |                 |
| C        | 2.4 | Control sources of pollutants.  | 1     | <u>Compliance Assurance Program.</u> Ecology and local governments will increase inspection, technical assistance, and enforcement programs for high-priority businesses and at construction sites.  | Increased number of inspections, technical assistance, and enforcement activities by December 2012  | Ecology |                 |

| STRATEGY | #   | SUB-STRATEGY   | NTA # | NTA  | PERFORMANCE MEASURE  | OWNER            | SECONDARY OWNER |
|----------|-----|--|-------|--|--|------------------|-----------------|
| C        | 2.5 | Provide focused stormwater-related education, training, and assistance.  | 1     | <u>LID Training and Certification.</u> Ecology will provide focused training for local government staff on LID project review, and inspections and approvals, as well as to local government staff and private sector on maintenance. Develop new professional certification for stormwater maintenance specialists. Provide business staff and contractors with training on source control, spill recognition, spill response, and erosion control. | Provide stormwater-related training by June 30, 2013 and follow-up training opportunities by June 30 2014.   | Ecology          |                 |
| C        | 2.5 | Provide focused stormwater-related education, training, and assistance.  | 2     | <u>Education for the Next Generation of Stormwater Professionals.</u> [WHO] develops a near-term plan for academic course work, including tribal history and civics, for future stormwater professionals that emphasizes continuing improvements in stormwater management in the context of the larger issues of sustainable water resource management and climate change.   | To be determined   | To be determined |                 |
| D        | 6.1 | Implement a long-term, highly visible, coordinated public-awareness effort using the Puget Sound Starts Here brand to increase public understanding of Puget Sound's health, status, and threats. Conduct regionally-scaled communications to provide a foundation for local communications efforts. Conduct locally-scaled communications to engage residents in local issues and recovery efforts. | 1     | <u>Phase 2 of Puget Sound Starts Here.</u> PSP and partners implement Phase 2 of <i>Puget Sound Starts Here</i> campaign. PSP, STORM and Ecology ensure that messages reflect the demography, regional identity and issues facing the Puget Sound.   | Mass media content developed by November 2012; Web and social media developed and launched by October 2012; Television media launched by May 2013. Campaign achieves 50% brand awareness among Puget Sound's 4.5 million residents by July 2015. | PSP              |                 |

# We Must Protect Habitat

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## The Challenge

Puget Sound is home to more than 200 species of fish, 100 species of seabirds, 26 species of marine mammals, hundreds of plants, and thousands of invertebrates. Puget Sound is also home to over 4 million people and the population is expected to grow to 7 million by 2020. As more people continue to arrive in Puget Sound our challenge is to help our communities live on the land and enjoy the waters in a way that will not only accommodate people but will allow the continued survival of Puget Sound native species.

As people live on the land we make changes to it - remove trees, construct buildings, add pavement, build dikes and levees to control where rivers and streams flow, and use concrete or rocks to harden the shorelines. Each of these changes degrades native habitat and makes it more difficult for native species to find places to feed, rest, hide from predators, reproduce, and survive.

The signs are everywhere that these changes to Puget Sound are having a negative impact. Four out of the eight Puget Sound salmon species are federally listed as threatened with extinction. Every major river in Puget Sound has at least one ESA listed stock; many have multiple stocks and species that are threatened with extinction. Over half of the 19 stocks of Puget Sound herring are currently classified as depressed, critical, disappeared or unknown. Fourteen out of seventeen species of rockfish in the North Sound and eleven out of fifteen species in the South Sound are at risk. Three of these Puget Sound rockfish species are listed as either threatened or endangered by the Federal government. Many marine bird species in Puget Sound have declined in population by 50 to 95 percent during the past 20 years. Marine bird populations that feed on fish that live near the surface or in open water have declined anywhere from 80 to 95 percent in numbers. And in 2005, Puget Sound orcas were added to the list of endangered species by the federal government.

It is clear from these trends that Puget Sound and its species are at serious risk.

**Shorelines have been hardened and altered.** Loss of habitat is a primary contributor to species declines. More than 700 miles of Puget Sound's 2500 miles of shorelines have been hardened by the construction of concrete or rock bulkheads and that mileage is increasing by one to two new miles each year. This shoreline hardening interrupts the natural process of erosion that creates and maintains beaches. One example of how this can affect Puget Sound species is the impact on forage fish - small species of fish that are an important source of food for marine mammals, birds and larger species of fish. Some types of forage fish, including surf smelt and sand lance need sandy beaches to lay their eggs. The loss of forage fish numbers affects the whole food web of Puget Sound since they are such an important food source for so many other species.

“Key indicators tell us that important habitat for Chinook salmon is still declining.”

—National Marine Fisheries Service, Puget Sound Chinook Salmon Recovery Plan – 2011 Implementation Status Assessment Final Report, 2011

“Our considerable investment in habitat restoration has not been able to turn the powerful tide of loss and degradation...If salmon are to survive, we must begin to achieve real gains in habitat protection and restoration. The path we are on leads to the extinction of the salmon resource and our treaty-reserved rights.”

—Treaty Rights At Risk—A Report from the Treaty Indian Tribes in Western Washington, July 2011

**Estuaries have been filled and lost.** There are 16 major rivers that flow into Puget Sound, and many other smaller streams. Where each river or stream enters the Sound and the salt water and freshwater mix it creates a unique place called an estuary. Estuaries are a critical habitat for many species. Salmon need estuaries to feed, rest and grow strong in as they make the physiological change from a freshwater fish to a saltwater fish. Scientists have found that Puget Sound salmon that leave the estuary before they reach a certain size have a much higher risk of dying. As the amount of estuary habitat is reduced, more salmon leave at a smaller size because there is not enough room or food for them to stay. Across Puget Sound we have lost almost sixty percent of our historic estuarine wetland habitat.

**Rivers have been channelized and floodplains altered.** Upstream of Puget Sound many of the floodplains of our rivers and streams have been significantly altered. In many places levees have been constructed to narrow channels, prevent movement of the rivers in their floodplains, and to control flooding. Homes and businesses were built in the historic floodplain or the land was drained and converted for agriculture. Native trees were removed from the riverbanks and large fallen trees removed from the rivers. All of these changes significantly alter the natural processes that create instream habitat for fish and other aquatic life. Rivers that move back and forth naturally in their floodplain have a diversity of habitats. Slow water side channels that provide refuge and rest stops for fish, sorted gravel beds for salmon to spawn, large trees that fall naturally into the river and cause the formation of deep pools, and overhanging vegetation that keeps the water cool and provides insects for fish to eat when they fall in the stream are all important elements of a healthy habitat for instream aquatic life. When vegetation is removed and rivers are narrowed and straightened, the rivers become fast moving highways of water with no place for fish to rest or feed.

**There is increasing competition for water and sometimes not enough to go around.** One of the most fundamental and obvious things that aquatic life needs to survive is water – cool, clean water in the right amounts at the right times. In many rivers and streams across Puget Sound where people have diverted water that used to feed stream and river flows to other uses, there is less water in the river. In streams where flows are too low, fish and other aquatic life are threatened.

**We are threatened by oil spills.** Significant threats to habitat include the possibility of a major oil spill in Puget Sound. Memories of the impacts of the Exxon Valdez spill in Alaska or the more recent Deepwater Horizon spill in the Gulf are illustrations of how one event can cause major long-lasting impacts to habitat and the economic productivity of a region. There are over 20 billion gallons of oil and other hazardous chemicals that are being transported through Washington State every year. With this much volume the threat of a major spill is very real if prevention measures are not implemented.

**Habitat loss is a major threat to salmon and other species.** The cumulative effect of the changes we have made to our floodplains, estuaries, marine shorelines, and stream flows has been a significant loss of habitat and declines in populations of the species that depend on those habitats and on one another for their survival. If we are to stop these declines and begin to recover these populations we must immediately stop further habitat loss and significantly restore habitat that has already been lost.

Two papers released in 2011 pointed out that we are still losing critical habitat in Puget Sound. The first was a report released by the National Marine Fisheries Service that assessed Puget Sound Chinook Salmon Recovery Plan implementation progress since it was federally approved in 2007. Among other things it concluded that in the first five years of implementation of the recovery plan, important habitat for salmon was still being lost and that habitat protection efforts needed substantial improvement.

Closely following the NMFS report, the Treaty Tribes of Puget Sound and the Coast released a paper titled “Treaty Rights at Risk – Ongoing habitat loss, the decline of the salmon resource, and recommendations for change.” In the paper the Tribes point out that the right to fish that was reserved to them in the treaties is meaningless if there are no fish left to catch. They cite numerous examples from across the Sound of continued loss of habitat due to shoreline armoring, loss of forest, increase in paved lands, and filling and diking of estuarine wetlands. Their paper is a call to action, intended to galvanize and energize response by federal, state, local and tribal governments and policy makers to reverse the downward slide of our salmon and their habitat.



*Jerry Pearson and his grandson Dylan Pearson, 5, release salmon fry into Issaquah Creek March 21 under the Northwest Sammamish Road crossover with other Issaquah School District classroom students, teachers and parents*

Much of the discussion around loss of habitat in Puget Sound has focused on the impacts on salmon.

This is for a number of reasons. The loss of salmon in Puget Sound has significant social, cultural, and economic impacts. In terms of basic dollars - the value of the Puget Sound salmon fishery is estimated at over \$60 million a year. However, salmon recovery is not just important to those who benefit economically from salmon harvest. Salmon are central to Pacific Northwest Tribal cultural and spiritual practices. In addition, many non-tribal residents of Puget Sound also view salmon as an important part of our area’s heritage and way of life – being able to see salmon spawning in the streams, go fishing for salmon, or buy local salmon at their favorite restaurant or store. Salmon also play a unique role in the nutrient cycle of the ecosystem - as adult salmon return from their ocean journey, they bring back marine nutrients to the rivers and streams in the Puget Sound Basin. Research has shown these salmon nutrients are a critical part of the cycle that results in healthier wildlife and fish populations and even contributes to the growth of streamside forests. Salmon are also a key indicator of the health of Puget Sound as they travel from the freshwater to the saltwater and back again, using all the different types of aquatic habitats that are important to other aquatic species as well. Salmon are our canary in the coal mine – and their declines signal a loss of the Sound’s ability to support all life, not just salmon.

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## WE KNOW WHAT WORKS TO PROTECT SALMON HABITAT

At the tip of Key Peninsula in South Puget Sound are 94 acres of forests, wetlands and a mile of undeveloped shoreline. Eroding bluffs feed the beaches with sand and gravel, creating habitat for shellfish, forage fish, and migrating juvenile salmon. This beautiful property, known as Devil's Head, with views of the Olympic mountains, Mount Rainier, the Nisqually delta, and nearby Puget Sound islands had been slated to be Puget Sound's next resort. This area was under real development pressure; however, a broad coalition of folks including Pierce County Council members, county employees, Forterra, the Nisqually Tribe, the Greater Peninsula Conservancy, the Key Peninsula Parks District and the Washington Water Trails Association, came together to help purchase the property for permanent protection.

Elected officials from Pierce County worked with Forterra to contribute local funds towards the project through the Pierce County Conservation Futures program. Funding from the state's Puget Sound Acquisition and Restoration fund also played a major role. The five different watershed citizen committees that received the PSAR funds all agreed to pool some of their funds and give up other projects in their local area to ensure this property could be protected. One more grant from the state's Wildlife and Recreation Program managed by the Washington State Recreation and Conservation Office, put the final piece in place.

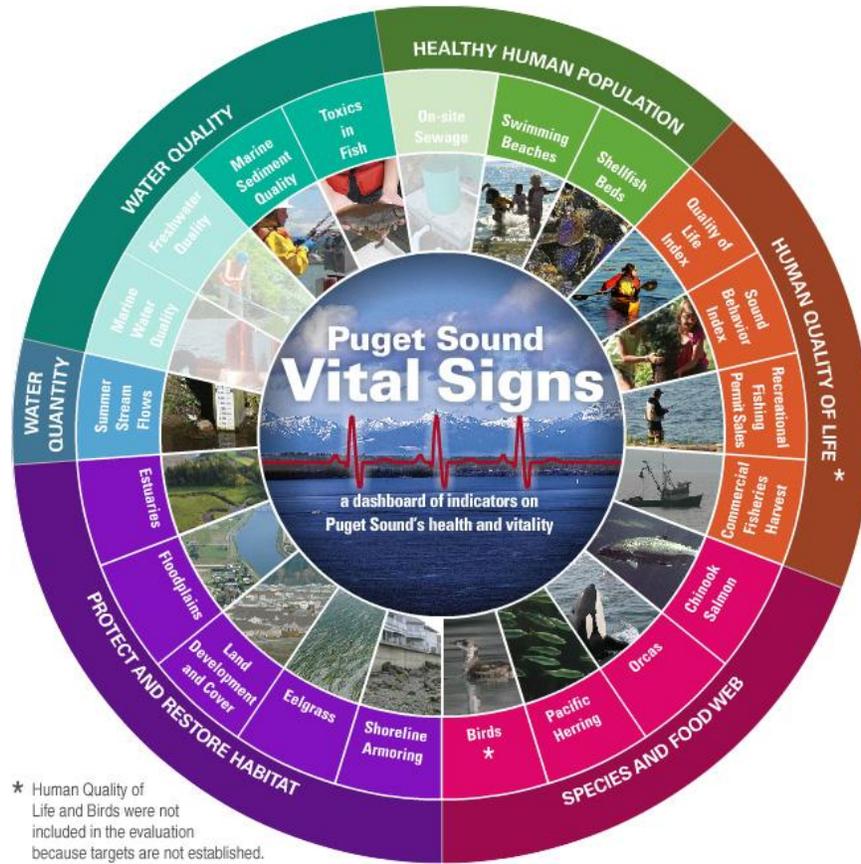
The Devil's Head project is a great example of how people and organizations can come together to find a way to protect valuable Puget Sound habitat now and for future generations.

Now we have this jewel in the Sound for the people of this region to enjoy forever.

—Ryan Mello,  
Pierce County conservation director for the group, said in the news release.

### **Link to Relevant Recovery Targets**

The strategic initiative to protect and restore habitat to support salmon recovery will directly contribute to progress toward the 2020 ecosystem recovery targets for swimming beaches, shellfish beds, Chinook salmon, orcas, Pacific Herring, shoreline armoring, eelgrass, land development and land cover, floodplains, estuaries, stream flows, marine sediment quality, and toxics in fish.



## Taking Action – what we can do in the next two years

This strategic initiative is intended to highlight some of the most important strategies and actions we can take over the next two years to address the critical need to protect and restore habitat and reverse the trend of continued loss. The content was developed collaboratively by a subcommittee of the Puget Sound Partnership's Ecosystem Coordination Board that included representatives of local, state, and federal governments, Tribes, salmon recovery watershed coordinators, environmental groups, and the business community. In its work the group acknowledged that these are not all the things we need to do to protect and restore habitat -many additional good actions are included in the full Action Agenda; however these are the strategies and actions they identified as the most critical and valuable. The group also emphasized in their discussions that the three overarching needs for the strategic initiatives were critical to this initiative's success: funding, outreach, and keeping these initiatives in a watershed context. While the ECB subcommittees worked on strategic initiative content, the Puget Sound treaty tribes have been developing their own proposal for content related to the strategic initiatives. A draft of the tribal proposal was not available by the July 2 posting date, but will be considered by the Leadership Council in their final decision on the Action Agenda in August.

The strategies and actions in the habitat initiative are summarized in its three main themes: protect habitat through regulations, protect habitat through incentives (including acquisition), and remove barriers to restoration of habitat.

There is unanimous agreement that to be successful we must first stop the further loss of habitat. It is not effective or efficient to allow the continued loss of habitat while we try to repair the damage in other places. This initiative brings forward strategies and actions that address both increasing regulatory protections for habitat and providing greater incentives for landowners to protect valuable habitat. Our biggest challenges in habitat protection are the lack of widespread public understanding of the significance of habitat loss, the lack of strong public support for the regulatory changes necessary to protect habitat, and the need for greater incentives for landowners to voluntarily protect valuable habitat. Previous attempts to strengthen protective regulations and to work with landowners on a voluntary basis have been difficult to implement because of these challenges. We must find a way to address regulatory exemptions that allow the continued degradation of habitat. This is one of the reasons that the Habitat Strategic Initiative subcommittee emphasized that an overarching outreach strategy and an overarching funding strategy is essential to this initiative's success. One other critical element of habitat protection identified as a priority was the prevention of oil spills. Although this area has not recently experienced a major oil spill at the scale seen in some other parts of the country it was recognized by the subcommittee that we must remain vigilant and make sure we have good policies and programs in place that continue to reduce our risk of such an oil spill happening.

There also was agreement that we cannot stop at only protecting what habitat still remains. Without restoring critical habitat we will not be able to reverse the declines in salmon and other Puget Sound species. The two major habitat restoration actions are implementation of the salmon recovery 3 year workplans, and the projects identified by the Puget Sound Nearshore Ecosystem Restoration Project (PSNERP). The salmon recovery 3 year workplans are prioritized lists of the projects needed to advance salmon recovery in each of the watersheds of Puget Sound. They are updated every year by a local technical and citizen's committee and compiled by the Puget Sound Partnership.

There is recognition in these salmon recovery plans that long term salmon recovery requires projects that restore the whole Puget Sound ecosystem. As a result, implementation of these projects will restore habitat for other Puget Sound species, not just salmon. Many of the current 3 year workplan projects are large complex, expensive projects that are difficult to fund using existing fund sources that are more narrowly focused or not at the scale of the needed funding. This is another reason that the subcommittee emphasized that an overarching funding strategy is critical to success.

Another significant barrier to implementing priority restoration projects in some places is local community support or landowner willingness. Success in this initiative will require successful outreach strategies to engage landowners and local communities to develop support for priority restoration projects. Finally, protecting and restoring stream flows was identified as an important action by the subcommittee. Ensuring that instream flows are set at adequate levels to support instream habitat needs is a critical first step to making sure there is enough water in our streams.

The recommended actions in this strategic initiative are generally associated with the substrategies that were ranked the highest by technical experts using ecological criteria.

## Key Strategies and Actions for Habitat Protection and Restoration

### Protect Through Regulations

- Protect and Restore Stream Flows. We must finish setting in-stream flows and pay attention to enforcing in-stream flow rules in the Puget Sound Basin if we are going to protect and restore vital habitat. In particular, we must set flows in the remaining priority Puget Sound watersheds that

currently do not have instream flow rules such as the Dungeness and the Elwha; we must deliver on our promise to develop and implement the comprehensive basin flow protection and enhancement programs called for in the recovery plans for Puget Sound Chinook and Hood Canal/Strait of Juan de Fuca summer Chum; and we must establish a local compliance presence for in-stream flows protect the resource, support mitigation, reduce water use, and protect senior water rights. This set of actions is addressed in the Action Agenda in sub-strategy A7.1.

- Floodplain protection and policy team actions. PSP will advance floodplain protection and restoration by facilitating actions, policy changes, and program changes necessary to reduce critical barriers to habitat protection and restoration. Funding will be focused on the places that have the greatest potential to recover floodplain functions. (A5.1 NTA 1)
- Levee vegetation. PSP will continue to work with the Army Corps of Engineers to craft a regional variance to their vegetation on levees policy. (A5.3 NTA 4)
- Hydraulic Code Rules Revision. By December 2014, WDFW will use best available science to revise Hydraulic Code Rules (chapter 220-110 WAC) and clarify conditions under which hydraulic projects must be conducted to prevent or mitigate the impacts to fish life and habitat. (B1.3 NTA 2)
- ECB address regulatory exemptions. The ECB will address regulatory exemptions to provide effective oversight and mitigation sequencing for activities that impact the ecosystem (e.g., HPA and SMA). (A1.3 NTA 1)
- Land Use Planning Barriers, BMPs and Example Policies. By December 2012, Ecology and Commerce, working with local governments, will identify the primary barriers to incorporating policies consistent with implementation of the Action Agenda into local land use planning and decisions and identify best practices and assistance needed to overcome these barriers. This will address implementation of protection strategies, encouraging compact growth patterns, increased density, water quality standards, redevelopment, and rural lands protection. By December 2012, Ecology and Commerce will distribute example growth policies that include best practices that are consistent with protection and recovery targets and the Growth Management and Shoreline Management Acts. (A1.2 NTA 1)
- Evaluate Risk Assessments for Update Needs. Ecology will evaluate existing Puget Sound marine transportation oil spill risk assessments, identify any gaps in marine safety and work with experts to develop and apply appropriate risk reduction measures. (C8.1 NTA 2)

## Protect Through Incentives

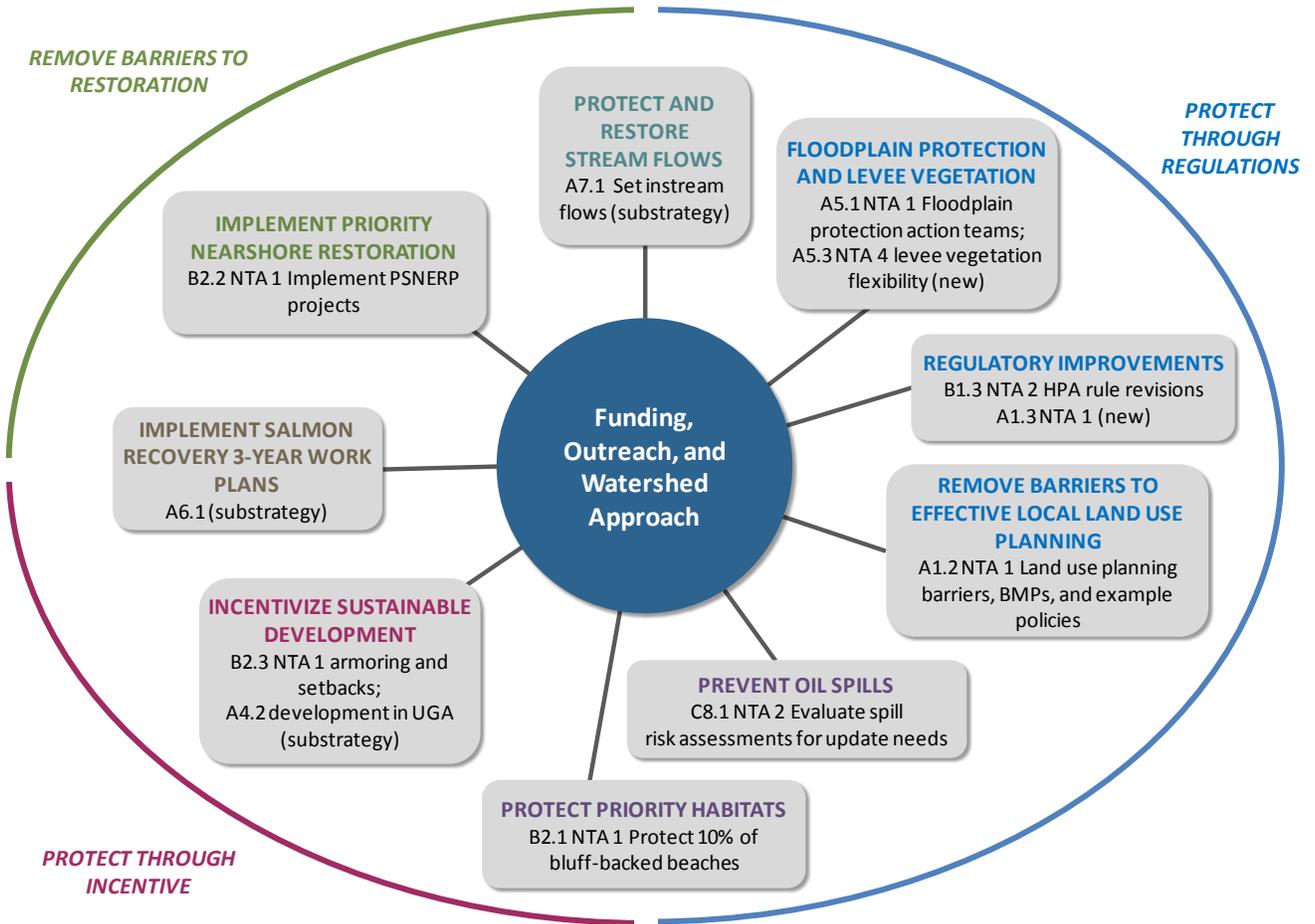
- Protect 10% of Bluff-Backed Beaches. PSP will promote acquisitions, easements, or other protective covenants to permanently protect at least 10% of bluff-backed beaches with high sediment supply or other priority nearshore habitats facing potential shoreline development pressure by June 2014. (B2.1 NTA 1)
- Homeowner Incentives for Landward Setbacks. PSP will convene a process with partners to develop and recommend incentives that help homeowners permanently remove armoring and encourage setback of houses by June 2014. Incentives could include, but would not be limited to financial, regulatory, low interest loans or grants. This work will help restore nearshore processes, promote landward retreat of homes facing sea level rise, and promote progress toward shoreline armoring target. (B2.3 NTA 1)
- Provide for growth. Provide infrastructure and incentives to accommodate new and re-development within urban growth areas. (A4.2)

## Remove Barriers to Restoration

- Implement Salmon Recovery 3-year Workplans. This was identified by the ECB Subcommittee as the most important action in the Habitat Strategic Initiative. Full implementation will involve implementation of near-term actions addressing securing the annual investment as required to fully implement the approved Puget Sound Chinook Salmon Recovery Plan, and work to align that funding in support of the highest priority protection and restoration projects as identified by salmon recovery lead entities (A6.1 NTA 1), address barriers to faster permitting of salmon recovery restoration projects so that the majority of restoration projects can begin construction within one year of completing design and securing funding (A6.1 NTA 2), and developing a cooperative agreement with Burlington Northern Santa Fe Railroad to enable the implementation of high priority salmon recovery projects that intersect with the railroad right of way (A6.1 NTA 3). Many of the Action Areas also have identified priority work in support of implementing the 3-year salmon recovery workplans. (A6.1)
- Implementation of Projects Identified by PSNERP. By December 2014, WDFW and the Corps will advance implementation of projects identified by Puget Sound Nearshore Ecosystem Restoration Project (PSNERP), including those described in the Strategic Restoration Conceptual Engineering Final Design Report. Implementation will occur both through Corps programs as anticipated through the General Investigation process, and through other non-Corps federal, state, tribal and local programs by 2013. (B2.2 NTA 1)

Strategic initiative content is summarized in Figure 2, and details of the priority actions for the habitat strategic initiative are listed in Table 2. In addition, as discussed earlier, each strategic initiative individually and the initiatives collectively must be supported by an overarching funding strategy, an overarching outreach strategy, and keen attention to ensuring that implementation takes a watershed-based approach.

**Figure 2: Habitat Strategic Initiative**



**Table 2: Protection and Restoration of Habitat - Strategies and Actions**

| STRATEGY | #   | SUB-STRATEGY   | NTA # | NTA   | PERFORMANCE MEASURE   | OWNER   | SECONDARY OWNER |
|----------|-----|--|-------|---|---|---------|-----------------|
| A        | 1.2 | Support local governments to adopt and implement plans, regulations, and policies consistent with protection and recovery targets, and incorporate climate change forecasts. | 1     | <u>Land Use Planning Barriers, BMPs and Example Policies.</u> By December 2012, Ecology and Commerce, working with local governments, will identify the primary barriers to incorporating policies consistent with implementation of the Action Agenda into local land use planning and decisions and identify best practices and assistance needed to overcome these barriers. This will address implementation of protection strategies, encouraging compact growth patterns, increased density, water quality standards, redevelopment, and rural lands protection. By December 2012, Ecology and Commerce will distribute example growth policies that include best practices that are consistent with protection and recovery targets and the Growth Management and Shoreline Management Acts. | Example growth policies distributed or not; extent to which local land use planning and decision making is consistent with the Action Agenda  | Ecology | Commerce        |
| A        | 1.3 | Improve, strengthen, and streamline implementation and enforcement of laws, plans, regulations, and permits consistent with protection and recovery targets.                 | 1     | <u>ECB Address Regulatory Exemptions.</u> The ECB will address regulatory exemptions to provide effective oversight and mitigation sequencing for activities that impact the ecosystem (e.g., HPA and SMA).   | By December 2013, deliver recommended changes to current regulation to the ECB.   | ECB     |                 |
| A        | 4.2 | Provide infrastructure and incentives to accommodate new and re-development within urban growth areas.   |       | <i>All of sub-strategy A4.1 is a priority for the habitat protection and restoration strategic initiative.</i>  |   |         |                 |
| A        | 5.1 | Improve data and information to accelerate floodplain protection, restoration, and flood hazard management.  | 1     | <u>Floodplain Protection and Policy Team Actions.</u> PSP will advance floodplain protection and restoration by facilitating actions, policy changes, and program changes necessary to reduce critical barriers to habitat protection and restoration. Funding will be focused on the places that have the greatest potential to recover floodplain functions.  | By December 2012, PSP convenes a Puget Sound Floodplain Protection and Recovery Policy Team to establish a working definition of 'floodplain' and 'floodplain function' in the context of the 2020 floodplains recovery target; By December 2012, work with local levee owners to identify the barriers to implementing levee setbacks and habitat friendly levee management practices and work with key parties to address barriers; By June 2013, identify the policy and program changes of federal, state and local flood risk management, flood mitigation and | PSP     |                 |

| STRATEGY | #   | SUB-STRATEGY   | NTA # | NTA   | PERFORMANCE MEASURE  | OWNER | SECONDARY OWNER |
|----------|-----|--|-------|---|--|-------|-----------------|
|          |     |  |       |   | ecosystem protection and restoration programs to foster multi-objective floodplain management. By June 2013, identify floodplain areas; prioritize those most important for protection, restoration, farmland preservation or other compatible and non-compatible uses; and identify the implementation steps needed to protect functioning floodplain areas. By June 2013, draft an action plan to address the programs and target programmatic recommendations for legislative change, rule amendments, and administrative changes, needed to achieve the floodplains pressure reduction target using the results in the July 2010 "Floodplain Management: A Synthesis of Issues Affecting Recovery of Puget Sound" report, the report developed in A5.1 NTA 2, and other relevant and timely information. |       |                 |
| A        | 5.3 | Protect and maintain intact and functional floodplains.  | 4     | PSP will continue to work with the Army Corps of Engineers to craft a regional variance to their vegetation on levees policy.   | By June 2013, new language for regional variance developed and adopted.  | PSP   | USACE           |
| A        | 6.1 | Implement high priority projects identified in each salmon recovery watershed's three-year work plan.  |       | <i>All of sub-strategy A6.1 is a priority for the habitat protection and restoration strategic initiative.</i>  |  |       |                 |
| A        | 7.1 | Update Puget Sound instream flow rules to encourage conservation   |       | <i>All of sub-strategy A7.1 is a priority for the habitat protection and restoration strategic initiative.</i>  |  |       |                 |
| B        | 1.3 | Improve, strengthen, and streamline implementation and enforcement of laws, regulations, and permits that protect the marine and nearshore ecosystems and estuaries. | 2     | <u>Hydraulic Code Rules Revision</u> . By December 2014, WDFW will use best available science to revise Hydraulic Code Rules (chapter 220-110 WAC) and clarify conditions under which hydraulic projects must be conducted to prevent or mitigate the impacts to fish life and habitat. | Rulemaking complete  | WDFW  |                 |

| STRATEGY | #   | SUB-STRATEGY  | NTA # | NTA   | PERFORMANCE MEASURE   | OWNER   | SECONDARY OWNER |
|----------|-----|---|-------|---|---|---------|-----------------|
| B        | 2.1 | Permanently protect priority nearshore physical and ecological processes and habitat, including shorelines, migratory corridors, and vegetation particularly in sensitive areas such as eelgrass beds and bluff backed beaches. | 1     | <u>Protect 10% of Bluff-Backed Beaches.</u> PSP will promote acquisitions, easements, or other protective covenants to permanently protect at least 10% of bluff-backed beaches with high sediment supply or other priority nearshore habitats facing potential shoreline development pressure by June 2014.  | By Sept 2012, identify location of bluff-backed beaches with high sediment supply and development pressure or other priority nearshore habitats facing development pressures; By December 2012, convey the location information to salmon recovery watershed groups and LIOs for consideration; By December 2012, convene at least one meeting with each watershed group and LIO; By May 2013, identify candidate locations and local projects, and incorporate into salmon recovery three year work plans if appropriate for each area. Capital projects awarded grants by March 2014. By June 2014, any new regulatory protections are in place. By August 2014, 10 % of the bluff-backed beaches with high sediment supply or priority nearshore habitats facing development pressure are protected. | PSP     |                 |
| B        | 2.2 | Implement prioritized nearshore and estuary restoration projects and accelerate projects on public lands.   | 1     | <u>Implementation of Projects Identified by PSNERP.</u> By December 2014, DFW and the Corps will advance implementation of projects identified by Puget Sound Nearshore Ecosystem Restoration Project (PSNERP), including those described in the Strategic Restoration Conceptual Engineering Final Design Report. Implementation will occur both through Corps programs as anticipated through the General Investigation process, and through other non-Corps federal, state, tribal and local programs by 2013. | Number of projects funded; number implemented; amount of various nearshore habitats restored<br>Milestone: Final Feasibility Report for the PSNERP GI is completed by August 31, 2012, advancing projects for construction authorization through the Corps process.   | WDFW    | USACE           |
| B        | 2.3 | Remove armoring, and use soft armoring replacement or landward setbacks when armoring fails, needs repair, is non protective, and during redevelopment.   | 1     | <u>Homeowner Incentives for Landward Setbacks.</u> PSP will convene a process with partners to develop and recommend incentives that help homeowners permanently remove armoring and encourage setback of houses by June 2014. Incentives could include, but would not be limited to financial, regulatory, low interest loans or grants. This work will help restore nearshore processes, promote landward retreat of homes facing sea level rise, and promote progress toward shoreline armoring target.        | By December 2012, identify the group and complete the scoping process including holding at least two meetings with partners; By June 2013, complete technical steps including identifying where to target the program for highest ecological value; By December 2013, identify draft possible incentive options for discussions; By June 2014, present options and recommendations to ECB and Leadership Council including miles of bulkheads that could be replaced with soft armoring or setbacks and a homeowner outreach plan.  | PSP     |                 |
| C        | 8.1 | Prevent and reduce the risk of oil spills.  | 2     | <u>Evaluate Risk Assessments for Update Needs.</u> Ecology will evaluate existing Puget Sound marine transportation oil spill risk assessments, identify any gaps in marine safety and work with experts to develop and apply appropriate risk reduction measures.  | Gaps identified by Ecology, PSP, technical consultant and/or Cross Partnership Oil Spill Work Group.  | Ecology |                 |

## **Federal activities consistent with and supportive of the Puget Sound Action Agenda**

Federal agencies in the Puget Sound region are undertaking a coordinated effort to contribute to Puget Sound habitat protection and restoration. This work is being driven by the federal response to Western Washington treaty Tribes' concerns over declining habitat and its effect on natural resources. Appendix G of this document contains a description of that effort and a matrix of actions federal agencies are taking related to habitat. This work is captured under sub-strategy A6.2 NTA 1. Federal agencies will continue to seek opportunities to cooperate with state agencies and tribal governments to protect and restore Puget Sound habitat.

# We Must Recover Shellfish

## The Challenge

When the public goes to Puget Sound beaches, they want to dig shellfish that are safe to eat and swim in safe waters. Shellfish play a significant role in the biological, cultural, and historical context of Puget Sound. The cool, clean waters of the “Jewel of the Northwest” provide some of the finest shellfish habitat in the world, contributing to Washington’s distinction as the nation’s leading producer of farmed bivalve shellfish.

The framework and content of this strategic initiative were developed collaboratively by a subcommittee of the Ecosystem Coordination Board that included representatives of local, state, and federal governments, Tribes, salmon recovery watershed coordinators, environmental groups, and the business community. In its work the subcommittee acknowledged that these not all the actions we need to take to recovery shellfish beds, many additional actions are included in the full Action Agenda; however, these are the actions they identified as the most critical and valuable for the next two years.

Shellfish beds are essential to Puget Sound’s ecosystem diversity and complexity, and require excellent water quality and pollution control in order to thrive. Many influences affect water quality in the Sound. On-site sewage systems, wastewater treatment plants, marinas, animal-keeping activities, and wildlife can negatively impact water quality through direct discharges to Puget Sound or stormwater runoff that flows to the Sound.

The extent of approved shellfish harvesting areas in Puget Sound reflects the health of Puget Sound. Identifying “trouble spots” in shellfish growing areas helps detect and correct pollution sources. We are committed to restoring and maintaining a healthy marine system that can both feed us and sustain us.

Shellfish are also critical to the health of Washington’s economy. Washington leads the country in production of farmed clams, oysters and mussels with an annual value of over \$107 million. Washington shellfish growers directly and indirectly employ over 3,200 people and provide an estimated total economic contribution of \$270 million. Ceremonial and subsistence harvest of shellfish in Puget Sound and Coastal waters is invaluable and unquantifiable to tribes.

Annually, tourists and residents purchase 160,000 licenses to harvest shellfish from Washington waters, providing more than \$1 million in state revenues. WDFW estimates that the 125,000 shellfish harvesting trips made each year to Puget Sound beaches provide a net economic value of \$5.4 million to the region.

Polluted runoff from rural and agricultural lands must stop if we are to meet shellfish recovery related targets. These targets include a net increase from 2007 to 2020 of 10,800 harvestable shellfish acres, which includes 7,000 acres where harvest is currently prohibited in Puget Sound. However, the recent shellfish downgrade in



Samish Bay is a reminder of the constant vigilance needed by landowners, businesses and local, state, federal and tribal governments to protect and restore shellfish beds.

The actions included in this strategic initiative are consistent with the Washington State Shellfish Initiative (WSSI) which is a convergence of the National Oceanic and Atmospheric Administration's (NOAA) National Shellfish Initiative and the state's interest in promoting a critical clean water industry. As envisioned, the WSSI will protect and enhance a resource that is important for jobs, industry, citizens and tribes. It includes measures to reduce sources of pollution, collaborative partnerships with local governments and the public to enhance the resources and research efforts to enhance productivity of the resource and identify solutions to threats. The actions in the shellfish strategic initiative in the Action Agenda do not encompass all of the actions in the WSSI. They are a subset of actions that need to begin immediately and that need extra effort in order to move us toward our 2020 recovery goals.



*Photo courtesy USFWS Pacific (CC BY 2.0)*

Contamination in rural and agricultural areas comes from a variety of human and natural sources. Ongoing regional efforts have focused on pollution from poorly maintained or failing on-site sewage systems, runoff contaminated with animal waste, and untreated sources from recreational uses in the watershed. Strategies to address these threats have included a variety of regulatory and voluntary incentive-based approaches. These approaches include NRCS incentive programs and the Ruckelshaus Center process which focuses on incentives to encourage good riparian and ecosystem stewardship practices on agricultural lands in critical areas. It will be crucial to identify long term sustainable funding for these programs.

Like reducing pollution from urban areas, preventing pollution from rural areas is an important part of a climate change adaptation strategy. These actions help protect our vulnerable species and habitats. In addition, these actions are part of the overall state strategy to reduce shellfish vulnerability to ocean acidification.

Many of the specific actions identified by the ECB subcommittee for the shellfish strategic initiative are related to substrategies that did not rank high according to ecological criteria. However, the subcommittee determined that other factors related to overall Puget Sound recovery goals justify highlighting those actions for implementation. The actions contribute to the economy (shellfish model permitting program), human health (regional OSS programs) or focus in limited geographic areas (priority areas for voluntary incentive and regulatory programs). The ecological ranking process also ranked substrategies lower if they did not result in immediate environmental outcomes. Many of the actions in the shellfish strategic initiative are first steps that will eventually result in long-term durable change.

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## WHAT REALLY WORKS TO RECOVER SHELLFISH BEDS: ACTIONS FOR RESTORING WATER QUALITY WITH THE GOAL OF LIFTING SHELLFISH HARVEST RESTRICTIONS

For the first time since the 1980s, in February 2010 the state Department of Health reopened 240 acres of shellfish-growing tidelands for harvest without weather restrictions in Henderson Inlet in Thurston County. In the face of increased development, and contrary to predicted trends, water quality in the inlet has improved, and these improvements have been maintained. This success was the result of strong coordination among stakeholders to identify and implement a series of specific actions that could be replicated elsewhere in Puget Sound. In fact, a similar cooperative model is currently being followed in Oakland Bay in Mason County and already is bearing results. These actions include:

- Reach out to local opinion leaders and neighborhood groups and work locally, on the ground, to understand problems and develop solutions.
- Focus on actions that directly address local sources of water pollution such as septic systems, stormwater, agriculture, and land-use. In Henderson Inlet the County developed a septic system operation and maintenance program which reduced fecal coliform pollution from on-site sewage systems and worked to reduce runoff locally and to Woodard Creek.
- Engage and educate the homeowners in the watershed with a dedicated outreach strategy and multiple venues for involvement including public meetings, newsletters, and hands-on opportunities that invest people in taking action to maintain success, in Henderson Inlet; among other things, they formed a community shellfish farm.
- Set goals and monitor progress. Thurston County Develop an action plan specifically targeted at reducing water pollution which includes performance measures to evaluate implementation success and provides clear reporting requirements and schedule (e.g., annually) for transparency.
- Involve a multi-stakeholder advisory group/committee in action plan development and implementation. Representatives should include local businesses and associations of varied interests, local citizens, and city, county, state, and tribal government.
- Secure multiple viable funding sources including conservation district, grants, county and city resources, and public taxes.
- Establish and implement enforcement mechanisms.

County staff worked with many agencies including the state Departments of Health and Ecology on this effort and put in many, many hours of their own. But a lot of credit also goes to Henderson Inlet area residents for their individual efforts to reduce the impacts of poorly operating septic systems, and to the citizen members of the Shellfish Protection District Committee.

—*Thurston County Commission Chair  
Sandra Romero*

### Link to Relevant Recovery Targets

The initiative to recover shellfish beds will contribute to progress toward the Partnership’s 2020 ecosystem recovery targets for shellfish beds, land development and land cover, marine water quality, freshwater quality, marine sediment quality, toxics in fish, on-site sewage, swimming beaches, Chinook salmon, orcas, and Pacific Herring.



## Key Strategies and Actions for Recovery of Shellfish Beds

The shellfish strategic initiative has three themes: prevent pollution through existing regulations and programs; prevent pollution through incentives; and encourage beneficial use of shellfish. Actions are included in this strategic initiative that help citizens connect the impact of individual actions on Puget Sound Health. Establishing no discharge zones will educate recreational boaters about the importance of clean water to shell fish and human health. The OSS program helps to educate homeowners about the importance of maintaining their septic systems to Puget Sound health and provides an opportunity to develop a public private partnership to repair polluting systems. This program could not only improve the health of Puget Sound but would also increase property values of home owners who participate in the program and help low to moderate income people afford to maintain their residences on the water.

### Prevent Pollution through Existing Regulations and Programs

- Increase enforcement capacity. We must increase the capacity for enforcement, and enforce all regulations pertaining to the discharge of pathogens and contaminants to the waters of the state to ensure achievement of approved shellfish growing water certification. (C1.1 NTA 7)
- Pollution Control Action Team. Ecology, working with DOH, WSDA, EPA and the Tribes will form a Pollution Control Action Team (PCAT) to respond quickly when areas are identified where water quality problems threaten shellfish areas. They will initiate community outreach and education, pollution identification, inspection, technical assistance to local agencies and landowners and finally,

enforcement. The team will focus its work in priority areas and support PIC programs where they are established. The first effort will be in Drayton Harbor and Portage Bay. (C7.1 NTA 3)

- Pollution Identification and Correction Programs. DOH and Ecology, in collaboration with EPA and counties, will create sustainable pollution identification and correction programs (PIC) that are designed to improve and protect water quality. (C9.4 NTA 1)
- No Discharge Zone Evaluation and Petition. By December 2013 Ecology and DOH, in coordination with the Department of Natural Resources, will conduct an evaluation and draft a petition to EPA to establish a NDZ for commercial and recreational vessels to eliminate bacteria, nutrients, and pathogens from being discharged to all or parts of Puget Sound. The evaluation will include researching petition requirements; gathering background information and pump-out station data for the petition; identifying, reaching out to, and getting input of stakeholders; identifying and prioritizing which areas of the Puget Sound are feasible for petition; and evaluating how to implement the designation. (C1.5 NTA 1)
- Outfall Strategy on State-Owned Aquatic Lands. DNR, in collaboration with Tribal Governments, Ecology, DFW, and DOH, will develop and implement a strategy to reduce impacts from outfalls on state-owned aquatic lands in Puget Sound. (B3.1 NTA 2)
- Priority Areas for Voluntary Incentive and Regulatory Programs. The State Conservation Commission and the Washington State Departments of Agriculture, Ecology, and Health will identify priority areas to better target and coordinate implementation of voluntary incentive and regulatory programs for rural landowners, small-acreage landowners, and working farms. (C3.2 NTA 1)

## Prevent Pollution through Incentives

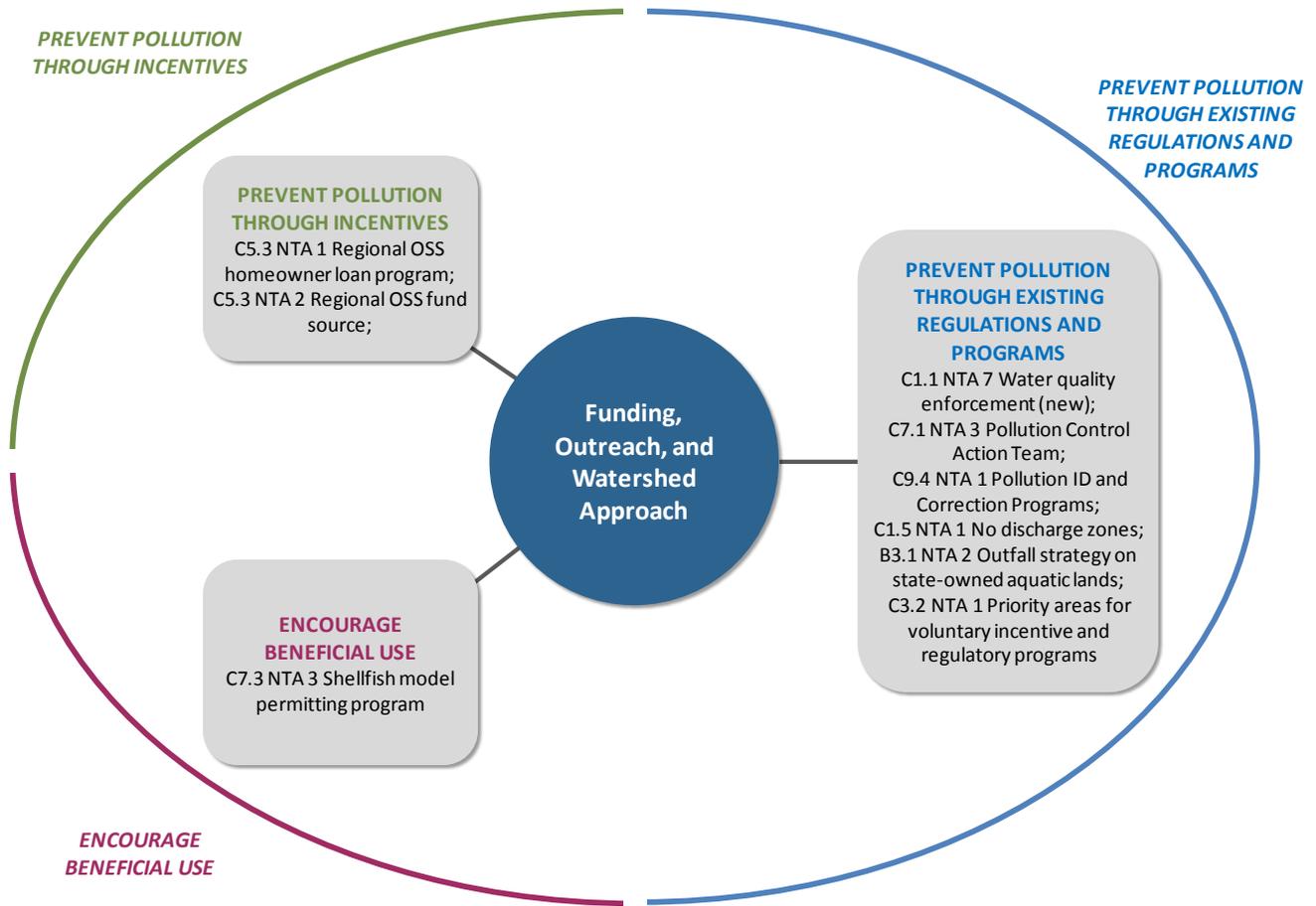
- Regional OSS Homeowner Loan Program. DOH, Ecology, and PSP will help evaluate options and support proposals to fund a unified, self-sustaining, low-interest loan program in the Puget Sound region to help OSS owners repair and replace their systems by June 2014. (C5.3 NTA 1)
- Regional OSS Program Funding Source. DOH will evaluate approaches and mechanisms (e.g., a regional flush tax or sewer surcharge) to establish a regional funding source for local OSS management plans and programs by June 2014. (C5.3 NTA 2)

## Encourage Beneficial Use of Shellfish

- Shellfish Model Permitting Program. The Governor's Office of Regulatory Assistance (ORA) will lead and facilitate a state team to develop and implement a Model Permitting Program that ensures early and continued coordination among state and federal agencies, tribes and local governments for permitting and licensing of shellfish aquaculture. (C7.3 NTA 3)

Strategic initiative content is summarized in Figure 3, and details of the priority actions for the strategic initiative are listed in Table 3. In addition, as discussed earlier, each strategic initiative individually and the initiatives collectively must be supported by an overarching funding strategy, and overarching outreach strategy, and keen attention to ensuring that implementation takes a watershed-based approach.

Figure 3: Shellfish Strategic Initiative



**Table 3: Recovery of Shellfish Beds - Strategies and Actions**

| STRATEGY | #   | SUB-STRATEGY  | NTA # | NTA  | PERFORMANCE MEASURE   | OWNER                   | SECONDARY OWNER |
|----------|-----|---|-------|--|---|-------------------------|-----------------|
| B        | 3.1 | Protect intact marine ecosystems particularly in sensitive areas and for sensitive species.                             | 2     | <u>Outfall Strategy on State-Owned Aquatic Lands.</u> DNR, in collaboration with Tribal Governments, Ecology, DFW, and DOH, will develop and implement a strategy to reduce impacts from outfalls on state-owned aquatic lands in Puget Sound.   | Strategy development, including an implementation work plan, will be complete by December 2013  | DNR                     | Ecology         |
| C        | 1.1 | Implement and strengthen authorities and programs to prevent toxic chemicals from entering the Puget Sound environment. | 7     | <u>Increase Enforcement Capacity.</u> (Owner needs to be identified) Increase the capacity for enforcement, and enforce all regulations pertaining to the discharge of pathogens and contaminants to the waters of the state to ensure achievement of approved shellfish growing water certification.  | To be determined  | To be determined        |                 |
| C        | 1.5 | Control wastewater and other sources of pollution such as oil and toxics from boats and vessels.                        | 1     | <u>No Discharge Zone Evaluation and Petition.</u> By December 2013 Ecology and DOH, in coordination with the Department of Natural Resources, will conduct an evaluation and draft a petition to EPA to establish a NDZ for commercial and recreational vessels to eliminate bacteria, nutrients, and pathogens from being discharged to all or parts of Puget Sound. The evaluation will include researching petition requirements; gathering background information and pump-out station data for the petition; identifying, reaching out to, and getting input of stakeholders; identifying and prioritizing which areas of the Puget Sound are feasible for petition; and evaluating how to implement the designation. | Completion of draft elements of an evaluation by July 2012 (Phase I).<br>Completion of stakeholder outreach, surveys, geographical locations by July 2013 (Phase II).<br><br>Completion of draft petition to EPA by September 2013. | Ecology                 | DOH             |
| C        | 3.2 | Ensure compliance with regulatory programs designed to reduce, control, or eliminate pollution from working farms.      | 1     | <u>Priority Areas for Voluntary Incentive and Regulatory Programs.</u> The State Conservation Commission and the Washington State Departments of Agriculture, Ecology, and Health will identify priority areas to better target and coordinate implementation of voluntary incentive and regulatory programs for rural landowners, small-acreage landowners, and working farms.  | By Dec. 31, 2012, the WSCC will convene at least two meetings to identify priority areas. By June 30, 2013, WSCC will implement voluntary incentive programs in 5 target areas.   | Conservation Commission | WSDA            |
| C        | 5.3 | Improve and expand funding for on-site sewage systems and local OSS programs.   | 1     | <u>Regional OSS Homeowner Loan Program.</u> DOH, Ecology, and PSP will help evaluate options and support proposals to fund a unified, self-sustaining, low-interest loan program in the Puget Sound region to help OSS owners repair and replace their systems by June 2014.   | Project design completed by August 2012, draft analysis of issues and proposed actions completed by March 2014, and final analysis completed by June 2014.  | DOH                     | PSP             |
| C        | 5.3 | Improve and expand funding for on-site sewage systems and local OSS programs.   | 2     | <u>Regional OSS Program Funding Source.</u> DOH will evaluate approaches and mechanisms (e.g., a regional flush tax or sewer surcharge) to establish a regional funding source for local OSS management plans and programs by June 2014.   | Project design completed by August 2012, draft analysis of issues and proposed actions completed by March 2014, and final analysis completed by June 2014.  | DOH                     |                 |

| STRATEGY | #   | SUB-STRATEGY   | NTA # | NTA   | PERFORMANCE MEASURE  | OWNER   | SECONDARY OWNER |
|----------|-----|--|-------|---|--|---------|-----------------|
| C        | 7.1 | Improve water quality to prevent downgrade and achieve upgrades of important current tribal, commercial and recreational shellfish harvesting areas. | 3     | <u>Pollution Control Action Team.</u> Ecology, working with DOH, WSDA, EPA and the Tribes will form a Pollution Control Action Team (PCAT) to respond quickly when areas are identified where water quality problems threaten shellfish areas. They will initiate community outreach and education, pollution identification, inspection, technical assistance to local agencies and landowners and finally, enforcement. The team will focus its work in priority areas and support PIC programs where they are established. The first effort will be in Drayton Harbor and Portage Bay. | Reduce fecal coliform loading in each priority area to upgrade the status of closed areas and prevent further degradation for those with a negative trend  | Ecology | DOH             |
| C        | 7.3 | Ensure environmentally responsible shellfish aquaculture based on sound science.   | 3     | <u>Shellfish Model Permitting Program.</u> The Department of Ecology will work with the Governor's Office of Regulatory Assistance (ORA) to lead and facilitate a state team to develop and implement a Model Permitting Program that ensures early and continued coordination among state and federal agencies, tribes and local governments for permitting and licensing of shellfish aquaculture.  | By June 2012, sign operation agreement; by September 2012, identify pilots; by November 2012, establish pilot project timelines  | Ecology | ORA             |
| C        | 9.4 | Develop and implement local and tribal pollution identification and correction programs.   | 1     | <u>Pollution Identification and Correction Programs.</u> DOH and Ecology, in collaboration with EPA and counties, will create sustainable pollution identification and correction programs (PIC) that are designed to improve and protect water quality.  | Award PIC funds and distribute Agricultural BMP funds to at least six(6) Puget Sound counties by July 2012. Metric for each program will be individually set to reflect targets for numbers of BMPs implemented and maintained and systems repaired to address water quality | DOH     | Ecology         |

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## COLLABORATION TO RESTORE SHELLFISH BEDS IN THE SAMISH

Sharing the workload and responsibility for addressing water quality contamination problems has been the cornerstone of the effort in the Samish watershed to upgrade the status of local shellfish resources. Collaboration at all levels among each of the agencies involved when reporting to the community, working in the field, and deliberating in the boardroom, has made a significant difference in obtaining landowner support, reducing individual sources of pollution and attracting financial resources that are critical to the long term success of the program. This is a model that can be replicated around Puget Sound. Each effort will be unique to the individual community problems and personalities. The results — building community understanding, reducing pollution in both the fresh and marine water environment and enhancing the value of our shellfish resources — are the keys to success.

## Inside the Full Action Agenda

The full Action Agenda is a 654 page document that describes Puget Sound recovery targets and the work needed to achieve them in detail. It is divided into four sections:

1. **Freshwater and Terrestrial Protection and Restoration**, which includes strategies and actions related to land development and restoration, stewardship of working forest and agriculture lands, floodplains, salmon recovery, and freshwater flows;
2. **Marine and Nearshore Protection and Restoration**, which includes strategies and actions related to shoreline protection, alteration, and restoration; marine area protection and restoration; working waterfronts and public access; and biodiversity and invasive species;
3. **Pollution Prevention and Cleanup**, which includes strategies related to reducing toxic threats, polluted runoff from urban and rural lands, wastewater management, shellfish bed restoration, oil spill preparedness, and clean up;
4. **Strategic Leadership and Collaboration**, which includes much of the core work of the Puget Sound Partnership agency, as well as some partners, including strategies related to setting priorities, performance management, science and ecosystem monitoring, and promoting stewardship;
5. **Funding Strategy**, which describes how increased financial capacity to implement priority ongoing and new actions in the Action Agenda can be achieved through identifying new sources of funding, using existing funding more strategically and efficiently, and developing innovative, market-based programs.

**Strategies, sub-strategies, and actions.** In each section of the Action Agenda, strategies and sub-strategies identify the overall, long-term directions and approaches that are needed for Puget Sound protection and recovery. Descriptions of key activities of ongoing programs and near-term actions are nested under strategies and sub-strategies. Both are critical to recovery. **Ongoing program activities** are the foundation for recovery efforts and create the regulatory, policy, and incentive-based framework upon which the near-term actions are built. **Near-term actions** are considered the “change agenda.” These are important new initiatives, critical next steps in ongoing work, and targeted efforts to improve implementation of ongoing programs or ensure these programs have adequate resources to deliver on their objectives.

**Target views and linkages.** There is a many-to-many relationship between the strategies and actions needed to achieve recovery targets and ecosystem goals. That is, individual strategies and actions contribute towards multiple goals and individual goals drive multiple strategies and actions. For that reason, throughout the Action Agenda, “Target Views” describe the eighteen specific Puget Sound recovery targets and show how strategies and actions map to the recovery targets and which strategies and actions are most important to achieving progress toward targets. Table 4, below, reiterates this information by showing the key sub-strategies in the Action Agenda and illustrating the links between goals, indicators, targets, and recovery strategies.

**Local contributions.** Many of the priorities, strategies, and actions in the Action Agenda will be implemented at the local level. Since 2008, local areas have been working toward to develop structures and approaches to implement and integrate local community efforts to advance the Action Agenda. Local area profiles describe each area’s work to-date to identify local ecosystem pressures and strategies and actions for addressing them. Each area is at a unique point in identifying their priorities. Some areas have prioritized strategies and actions with performance measures which are presented with the relevant regional strategies and sub-strategies and included in the near-term action table. Other areas are continuing to refine their priority strategies and actions. Where identified, local priority strategies and actions are integrated into the Action Agenda.

**Table 4: Relationships between Goals, Indicators, Recovery Targets, and Recovery Strategies**

| GOAL                        | INDICATOR FOR GOAL                | 2020 TARGET SUMMARY   | KEY STRATEGIES   |
|-----------------------------|-----------------------------------|---|--|
| 1. Healthy human population | Shellfish beds reopened           | Increase harvestable shellfish acres  | <ul style="list-style-type: none"> <li>● Abundant, healthy shellfish for commercial, subsistence, recreational harvest (C7.1, C7.2, C7.3, C7.4, C7.5)</li> <li>● Prevent, reduce, eliminate pollution from decentralized wastewater treatment systems (C5.1, C5.2, C5.3)</li> <li>● Focus development away from ecologically important &amp; sensitive nearshore areas &amp; estuaries (B1.1, B1.2)</li> </ul> |
|                             | Swimming beaches                  | All monitored Puget Sound beaches meet enterococcus standard  | <ul style="list-style-type: none"> <li>● Address and clean up cumulative water pollution impacts in Puget Sound (C9.1, C9.3, C9.4)</li> <li>● Agricultural runoff strategies (C3.1, C3.2)</li> <li>● Prevent, reduce, eliminate pollution from decentralized wastewater treatment systems (C5.1, C5.2, C5.3)</li> </ul>  |
|                             | On-site sewage                    | Systems are current with inspections, failed systems are fixed, and marine shorelines not served by sewers are covered by marine recovery areas | <ul style="list-style-type: none"> <li>● Prevent, reduce, eliminate pollution from decentralized wastewater treatment systems (C5.1, C5.2, C5.3)</li> <li>● Abundant, healthy shellfish for commercial, subsistence, recreational harvest (C7.1, C7.2, C7.3, C7.4)</li> <li>● Address and clean up cumulative water pollution impacts in Puget Sound (C9.3, C9.4)</li> </ul>                                   |
| 2. Human quality of life    | Puget Sound quality of life index | Adoption of index and target anticipated in 2013  | <ul style="list-style-type: none"> <li>● Protect and steward ecologically sensitive rural and resource lands (A3.1, A3.2)</li> <li>● Protect and steward working waterfronts and improve public access to Puget Sound (B4.1, B4.2)</li> <li>● Achieve abundant, healthy shellfish for ecosystem health and harvest (C7.1, C7.3, C7.4)</li> </ul>   |
|                             | Puget Sound behavior index        | Adoption of index anticipated later in 2012; no target anticipated until next Action Agenda revision  | <ul style="list-style-type: none"> <li>● Cultivate broad-scale stewardship practices and behaviors among Puget Sound residents (D5.1 – D5.7)</li> <li>● Build issue awareness and understanding to increase public support and engagement (D6.1 – D6.5)</li> <li>● Build social and institutional infrastructure that supports stewardship behaviors (D7.1 – D7.6)</li> </ul>                                  |
|                             | Recreational fishing permit sales | No target adopted; desired future condition to be expressed as part of quality of life index  | <ul style="list-style-type: none"> <li>● Protect and recover salmon (A6.1, A6.2, A6.3, A6.4, A6.5)</li> <li>● Protect and restore the native diversity and abundance of species (B5.1, B5.2)</li> </ul>  |
|                             | Commercial fisheries harvest      | No target adopted; desired future condition to be expressed as part of quality of life index  | <ul style="list-style-type: none"> <li>● Protect and recover salmon (A6.1, A6.2, A6.3, A6.4, A6.5)</li> <li>● Protect and restore the native diversity and abundance of species (B5.1, B5.2)</li> </ul>  |
| 3. Species and food web     | Chinook salmon                    | Stop the decline and see improvements in wild Chinook abundance   | <ul style="list-style-type: none"> <li>● Implement high priority projects in salmon recovery 3 year work plans (A6.1)</li> <li>● Implement high priority salmon recovery actions throughout the Action Agenda (A6.2)</li> <li>● Maintain &amp; enhance the community infrastructure that supports salmon recovery (A6.5)</li> </ul>  |
|                             | Orcas                             | Increase end-of-year census of southern residents to 95 whales  | <ul style="list-style-type: none"> <li>● Implement species recovery plans in a coordinated way (B5.1)</li> <li>● Effectively prevent, plan for and respond to oil spills (C8.1, C8.2, C8.3)</li> <li>● Provide education and technical assistance to prevent and reduce releases of pollution (C1.4)</li> </ul>  |
|                             | Pacific herring                   | Increase spawning biomass   | <ul style="list-style-type: none"> <li>● Implement species recovery plans in a coordinated way (B5.1)</li> <li>● Protect intact marine ecosystems particularly in sensitive areas and for sensitive species (B3.1)</li> <li>● Effectively prevent, plan for and respond to oil spills (C8.1, C8.2, C8.3)</li> </ul>  |
|                             | Birds                             | Target not yet set  | <ul style="list-style-type: none"> <li>● Implement species recovery plans in a coordinated way (B5.1)</li> </ul>   |

| GOAL                           | INDICATOR FOR GOAL       | 2020 TARGET SUMMARY   | KEY STRATEGIES   |
|--------------------------------|--------------------------|---|--|
| 4. Protect and restore habitat | Land development         | Minimize basin-wide loss of vegetation cover and focus growth within urban growth areas   | <ul style="list-style-type: none"> <li>Enhance and expand the benefits of living in compact communities (A4.3)</li> <li>Protect &amp; conserve ecologically important lands at risk of conversion (A2.1)</li> <li>Adopt &amp; implement local plans, regulations, policies that protect nearshore &amp; estuaries (B1.2)</li> </ul>  |
|                                | Land cover               | Minimize loss of forested land cover and restore riparian vegetation  | <ul style="list-style-type: none"> <li>Improve, strengthen, streamline implementation &amp; enforcement of laws, plans, regulations, permits (A1.3)</li> <li>Protect &amp; conserve ecologically important lands at risk of conversion (A2.1)</li> <li>Compact regional growth; dense, attractive mixed-use &amp; transit-oriented communities (A4.2, A4.3, A4.1)</li> </ul> |
|                                | Estuaries                | Meet 10-year salmon recovery goals for restoration of river mouth estuaries and increase quality acres basin-wide               | <ul style="list-style-type: none"> <li>Adopt &amp; implement local plans, regulations, policies that protect nearshore &amp; estuaries (B1.2)</li> <li>Implement priority nearshore &amp; estuary restoration projects (B2.2)</li> <li>Prevent &amp; respond to the introduction of terrestrial &amp; aquatic invasive species (B5.3, B5.4)</li> </ul>                       |
|                                | Floodplains              | No additional loss of floodplain function and progress in restoring degraded floodplains  | <ul style="list-style-type: none"> <li>Protect &amp; restore floodplain function (A5.1, A5.2, A5.3, A5.4)</li> <li>Infrastructure &amp; incentives to accommodate new &amp; re-development within urban growth areas (A4.2)</li> <li>Adopt &amp; implement local plans, regulations, policies (A1.2)</li> </ul>  |
|                                | Shoreline armoring       | The total amount of armoring removed is greater than the total amount of new armoring; focus on feeder bluffs and soft armoring | <ul style="list-style-type: none"> <li>Removal armoring and use soft armoring replacement or landward setbacks (B2.3)</li> <li>Implement priority nearshore &amp; estuary restoration projects (B2.2)</li> <li>Improve, strengthen and streamline implementation and enforcement of laws, regulations, permits (B1.3)</li> </ul>   |
|                                | Eelgrass                 | Increase extent of eelgrass   | <ul style="list-style-type: none"> <li>Permanently protect priority nearshore physical and ecological processes and habitat (B2.1)</li> <li>Coordinated strategy for eelgrass recovery (B2.4)</li> <li>Effectively prevent, plan for and respond to oil spills (C8.1, C8.2, C8.3)</li> </ul>   |
| 5. Water quantity              | Summer stream flows      | Maintain flows where stable and restore flows in decreasing trend rivers  | <ul style="list-style-type: none"> <li>Update Puget Sound instream flow rules to encourage conservation (A7.1)</li> <li>Implement effective management programs for groundwater (A7.3)</li> <li>Identify and prioritize areas for protection, restoration, and best suitable for (low impact) development (A1.1)</li> </ul>  |
| 6. Water quality               | Insects in small streams | Retain excellent B-IBI scores and improve fair scores to good in lowland streams  | <ul style="list-style-type: none"> <li>Comprehensive approach to manage urban stormwater runoff at the site &amp; landscape scales (C2.1, C2.2, C2.3)</li> <li>Agricultural runoff (C3.1, C3.2)</li> <li>Infrastructure &amp; incentives to accommodate new &amp; re-development within urban growth areas (A4.2)</li> </ul>   |
|                                | Freshwater quality       | Freshwater Water Quality Index scores improve and a decrease in impaired waters   | <ul style="list-style-type: none"> <li>Comprehensive approach to manage urban stormwater runoff at the site &amp; landscape scales (C2.1, C2.5)</li> <li>Manage surface runoff from forest lands (C4.1 C4.2)</li> <li>Prevent, reduce and/or eliminate pollution from centralized wastewater systems (C6.1, C6.2, C6.3, C6.4)</li> </ul>                                     |
|                                | Marine water quality     | Human-related contributions do not significantly reduce dissolved oxygen  | <ul style="list-style-type: none"> <li>Prevent, reduce and/or eliminate pollution from centralized wastewater systems (C6.1, C6.2, C6.4)</li> <li>Comprehensive approach to manage urban stormwater runoff at the site &amp; landscape scales (C2.1, C2.5)</li> <li>Adopt and implement plans and control strategies to reduce air emissions (C1.3)</li> </ul>               |
|                                | Marine sediment quality  | Achieve “unimpacted” conditions and Sediment Quality Standards chemical criteria  | <ul style="list-style-type: none"> <li>Prevent, reduce and/or eliminate pollution from centralized wastewater systems (C6.1, C6.2, C6.3, C6.4)</li> <li>Comprehensive approach to manage urban stormwater runoff at the site &amp; landscape scales (C2.1, C2.5)</li> <li>Clean up contaminated sites (C9.2)</li> </ul>  |

| GOAL | INDICATOR FOR GOAL | 2020 TARGET SUMMARY   | KEY STRATEGIES  |
|------|--------------------|---|---|
|      | Toxics in fish     | Toxics in fish are below effects threshold levels for PCBs, PBDEs and PAHs. | <ul style="list-style-type: none"> <li> Prevent, reduce and/or eliminate pollution from centralized wastewater systems (C6.1, C6.2, C6.3, C6.4)</li> <li> Comprehensive approach to manage urban stormwater runoff at the site &amp; landscape scales (C2.1, C2.5)</li> <li> Clean up contaminated sites (C9.2)</li> </ul> |

# Using the Action Agenda to Drive Investment and Progress

The Action Agenda was created to drive investment and action. All of the work it describes is important and needed to protect and recover Puget Sound. At the same time, the Partnership recognizes the need to think practically about how work might be sequenced, both for maximum efficiency and because resources are scarce and declining. The Action Agenda should be used to guide decision making related to allocation of funding or other resources in the following way.

**Focus on the Strategic Initiatives:** Strategic initiatives are the highest priorities for 2012 and 2013. First consider whether the new or discretionary funding source can support an unfunded or partially funded priority regional or related local action in one or more of the strategic initiatives. Strategic initiatives are the top priority for funding and the allocation of other resources. Strategic initiatives should also guide the development of policy agendas.

**Maintain Effective Ongoing Programs:** The Action Agenda builds on the ongoing work of partners to protect and restore Puget Sound. Funding should not be reallocated away from those programs at this time. Following this Action Agenda Update, the Partnership will conduct an evaluation of ongoing programs in accordance with RCW 90.71.370, which may result in ongoing program funding recommendations.

**Prioritize the Science Needed to Better Understand a Complex System:** Ensure that the science needed to successfully implement priority actions is funded and implemented. First fund and implement the biennial science work plan.

**Use the Lists of Sub-strategies Ranked Based On Ecological Criteria and Local Priorities As One Piece of Information for Decision Making:** If the funding source or other resource cannot be used to support implementation of a strategic initiative, refer to the ranked list of sub-strategies and related implementation information. Extract the sub-strategies eligible for funding by the source in question and generally fund near term actions or local actions related to the highest ranked sub-strategies first except where implementation information or local priorities may be used to justify funding actions related to lower-ranked sub-strategies. A final list of sub strategies ranked based on ecological criteria will be available in August 2012.

## The Future of the Action Agenda

The Action Agenda is a living document. Future updates will build on lessons learned and strengthen our shared resolve to protect and recover Puget Sound. Our ongoing work to strengthen the Action Agenda and the Partnership includes:

- Completion of a risk analysis for Puget Sound that will identify the highest risks in geographic areas.
- Refine the ecological ranking process and develop a process to integrate ecological, community and economic criteria into a prioritization method.
- Continue and increase specificity on local priorities and actions.
- Continue integration and increase emphasis on climate change adaptations since taking action now reduces the costs of current and future climate impacts.
- Continue innovation in developing market-based solutions and funding beyond government sources.

- Establish quantitative links between actions and recovery targets, including a better understanding of the strengths of the relationships between individual actions, predicted results, and anticipated changes in the ecosystem, and better identify interim milestones towards achievement of targets.
- Complete a more rigorous evaluation of strategy effectiveness, ongoing programs, new actions. Eventually including the ability to discuss investment priorities that span ongoing programs and new work.