THE 2018-2022 ACTION AGENDA FOR PUGET SOUND

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PUGETSOUND PARTNERSHIP

DECEMBER 2018

ACTION AGENDA FOR PUGET SOUND

To the People of Puget Sound,

2018 brought causes for celebration, causes for reflection, and causes for profound sorrow. This summer, the gaze of millions around the world fell on Puget Sound, as Tahlequah – one of only 74 precious Southern Resident orcas left on earth – carried her dead calf for an astounding 17 days and 1,000 miles. In an Executive Order issued a number of months before, Governor Inslee had recognized the desperate plight of our Southern Resident orcas when he convened a Task Force to develop immediate, high-impact solutions to prevent the orcas' increasingly rapid slide toward extinction. As the Task Force has grappled with its herculean assignment, we've all been forced to reckon with the enormity of the undertaking to restore Puget Sound as an ecosystem that will support orcas, salmon, and people.

The 36 recommendations from the Orca Task Force – which mirror many of the 2018-2022 Puget Sound Action Agenda's priorities – touch every part of the Puget Sound ecosystem, and relate to the many ways in which we humans interact with it. We must stem the flow of toxins into Puget Sound, lest they continue poisoning the Chinook salmon that orcas rely on as food. We must remove armor from our shorelines, and protect all of the intact marine and shoreline habitat that remains. We must substantially increase investments in programs that restore habitat in floodplains, rivers, estuaries, and other areas that Chinook salmon rely on. And we must support local governments to create laws that protect habitat, and enforce those laws when they're broken.

The odds we face are steep. Our investments in habitat protection and restoration have not been sufficient, and our relatively few sources of funding compete with other critical societal priorities. We're also reckoning with the fact that our climate is changing, and our human population is growing. Seattle had the second-highest growth rate of any city in the country last year, and the last two smoky summers have shown us that the effects of climate change are real, and are here.

This 2018-2022 Action Agenda charts the course for the recovery and protection of Puget Sound over the next four years. It is rigorous, science-based, and narrowly focused on the highest-impact strategies and actions that will accelerate the recovery of Southern Resident orcas, Chinook salmon, and dozens of other species that call Puget Sound home. Hundreds of partners were involved in its development, and are eager to implement its priorities.

We owe a great debt to our partners from every corner of Puget Sound – tribes, non-profit organizations, representatives of business and agriculture, local, state and federal government entities, and many others – for the exceptional quality of this updated recovery plan for Puget Sound.

With a four-year recovery plan now in front of us, our collective efforts now turn to implementation. We, the Puget Sound Partnership's Leadership Council, will support our partners as they seek new sources of funding for projects, and work to overcome barriers that are preventing them from doing their very best work on behalf of this special place we all call home.

As we shift our focus to implementation, let's not lose sight of the causes for celebration that can help propel us forward even when the task ahead is daunting. The Hood Canal Coordinating Council is leading a multi-year and broad-based effort to recover ESA-threatened summer chum salmon that's bearing fruit; populations up and down the Canal have rebounded, and recovery managers are optimistic that the species could be removed from the Endangered Species List in the coming years. The story of Hood Canal summer chum salmon shows us that recovery is possible and indeed is well within reach, when we engage the entire community and maintain focus on our priorities.

Let us be compelled to action through inspiration from the story of Hood Canal's summer chum salmon, and through grief from watching one of our beloved Southern Resident orcas carry her dead calf through 1,000 miles of the Salish Sea. Second chances are uncertain; our unique opportunity to come together on behalf of Puget Sound is now.

Puget Sound Partnership Leadership Council

Jay Manning, Chair
Stephanie Solien, Vice Chair
Russell Hepfer, Member
Deborah Jensen, Member
Dennis McLerran, Member
Toby Murray, Member
Jim Wilcox, Member

To the People of Puget Sound,

On July 24 of this year, Tahlequah, one of our few remaining Southern Resident orca whales, gave birth. We celebrated the occasion, hopeful that her calf would help turn the tide on the precarious condition of our orca population, which currently hovers at the lowest numbers we have seen in over 30 years. On that same day, our hopes were crushed by the death of that baby. We have seen too many of these deaths. This time, the grieving mother made sure we bore witness to her pain and loss, carrying her dead calf on her head, above the water, for 17 remarkable days. She was joined in her funeral procession by the rest of her pod, traversing the waters of Puget Sound and the greater Salish Sea. They forced us to witness what was happening to their families under our sparkling blue-green waters.

We have not yet definitively lost our orcas, but our three resident pods are struggling mightily to survive. They are fighting starvation, disease, poisoning, and harm from vessels. Reproduction has been difficult. When they do give birth to living calves, the babies are not able to survive for long. A population that cannot reproduce is functionally extinct even if the remaining adults survive for another forty years—they are ghosts in the water.

This document explains the plight of our orcas in greater detail. It is important to remember that even the great orca is but one indicator of the broader health of Puget Sound. The orcas are a top predator and, like humans, their survival depends on our ability to maintain a functioning ecosystem.

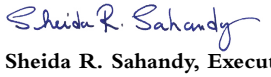
Puget Sound is in trouble. We each have our own story about how we came to live here and what Puget Sound means to us. Some have been here since time immemorial. Others made a choice to travel and settle, with their hopes and dreams in tow, in this breathtaking geography. In all cases, we appreciate the majesty of this exquisite place. Those graced with the experience of seeing a breaching orca know that it is a glimpse into eternity, producing a sense of awe and wonder that at times is in short supply in our modern lives. Whether you are 6, 16, or 60, if you share a moment with an orca, you will be reminded in the depths of your soul that we are all playing but a small role in a much larger picture.

And yet, we do play a role, for better or for worse. We have the capacity and opportunity to make a difference. It is a choice—a difficult choice, and yet simply a choice. Will we finally insist on doing what is needed to prevent ending up where we are headed? Will we insist on a future with clean water for ourselves, for growing our food, and for all the critters with whom we share this region? Will we insist on a future with fishing, recreation and sustainable commerce on the waters; clean beaches for our children; and shellfish that is edible? Will we insist on a future in which the magnificent orca and the storied salmon have not faded to the realm of legend? Will we realize—before it is too late—that in saving the orcas and the salmon and Puget Sound, we are really saving ourselves?

For the past decade, the Puget Sound Partnership has worked relentlessly with hundreds of partners from around the region and the country. We have created, tested, succeeded at times and failed at others, but always worked with passion and perseverance to refine our systems for recovery. By linking arms with our many diverse partners, we as a community have implemented hundreds of projects and countless improvements to existing programs. The Partnership's small and exceptional staff have exceeded expectations, with steel in their spine and passion as their fuel. We have, together, driven much progress and learning. And still, without adequate investment in our efforts, our shared work to heal and protect does not outpace degradation.

And so we, the people of Puget Sound, face a choice. This 2018-2022 Action Agenda charts a course for recovery. It includes actions that tribes, community organizations, businesses, and other partners are willing to take, should funding be made available. It cites programs that must continue to be funded, implemented and enforced. Hundreds of people have worked to build this pathway to the better future. These partners have stepped forward to do their part. It is only when the rest of the people who care about Puget Sound insist on funding to implement these actions that we will finally see success.

It is a choice. It is possible. Please join us.



Sheida R. Sahandy, Executive Director

THE 2018-2022 ACTION AGENDA FOR PUGET SOUND

COMPREHENSIVE PLAN

PUGETSOUND PARTNERSHIP

DECEMBER 2018

COMPREHENSIVE PLAN CONTENTS

LIST OF TABLES AND FIGURES

THE CHALLENGE BEFORE US...AND WHY IT MATTERS

Puget Sound is a special place that nourishes our health, economy, environment, and quality of life. Tribes have honored these lands and fished throughout the region since time immemorial. Its snow-capped mountains and sparkling waters continue to attract people and businesses from around the world. A healthy Puget Sound is essential to sustaining a vibrant economy, meeting our obligations to treaty rights, and supporting our need for connection to the natural world.

Though it may appear beautiful from a distance, Puget Sound is in serious trouble. Over the past 150 years, human use has damaged Puget Sound, causing the degradation of water quality, water quantity, and habitat. Puget Sound's iconic Southern Resident orca whales are starving to death. Chinook salmon struggle to survive. Some shellfish are too contaminated to eat, which jeopardizes the jobs that the region's shellfish industry supports. Puget Sound and its residents cannot afford to lose another Southern Resident orca. We cannot afford to push one more salmon run to extinction. We cannot afford to lose what we love about Puget Sound.

Today, 4.5 million people live in the Puget Sound region. By 2040, the population is projected to grow to 7 million, the equivalent of adding approximately four cities the size of Seattle to our watershed. The rapid population growth, if not addressed thoughtfully, will bring more land development, infrastructure, and pollution. Additionally, planned growth of fossil fuel shipping through the region will increase vessel traffic and the threat of spills. The challenge is further complicated by the effects of changing climate and ocean conditions on the Puget Sound ecosystem. Significant work in Puget Sound recovery and protection is barely able to hold the line against these formidable pressures.

In response to growing awareness that Puget Sound was in serious trouble, in 2007 the Washington State Legislature passed legislation with large bipartisan majorities to create the Puget Sound Partnership. The legislation mandated a comprehensive recovery framework to replace what was seen as fragmented attempts at recovery. Specifically, the legislation mandated that the Partnership coordinate and lead the effort to recover Puget Sound through a strategic, prioritized, science-based Action Agenda "that addresses all of the complex connections among the land, water, web of species, and human needs."

Many partners have worked to implement past Action Agendas and rescue this estuary of national significance. We have made progress, but our efforts have not been at a scale or pace sufficient to restore Puget Sound to health by 2020, as originally envisioned by the Washington State Legislature. The region faces a pivotal point in time. We know that saving Puget Sound will never be as achievable or affordable as it is today. With each passing day, the road to recovery becomes harder. We have the power to prevent Puget Sound's decline and we can preserve the vitality Puget Sound brings to our region if we work together. This is our moment to define what our future can look like, and to fight to make it a reality.

Puget Sound will never be as it was prior to industrialization, and the task of saving Puget Sound is large and complex. Success requires facing hard truths and making difficult decisions with the goal of collaboration, clear direction, and effective action. This collective action will test the limits of our scientific knowledge and our will as a region. But working together, the Puget Sound Partnership and our partner agencies, organizations, and resident can recover Puget Sound by using science-informed, prioritized actions. That is what this Action Agenda is designed to do.

GREATER INVESTMENT NEEDED

This Action Agenda incorporates many lessons learned. Perhaps the most important lesson is that the biggest barriers to implementing needed recovery actions is a lack of broad and sufficient political will to meet true investment needs. Due to its importance, this need is frequently repeated. To learn more about efforts to meet the funding need for Puget Sound recovery, please skip to *Chapter 6, Funding Recovery*.

PUGET SOUND

Puget Sound is the largest estuary by water volume in the United States and connects with international waters to form the Salish Sea. Carved by glaciers and fed by more than 10,000 rivers and streams, Puget Sound is defined by the movement of water. Beginning as snow in the Cascades and Olympics, fresh water flows down from these mountain ranges through streams and fertile river valleys into Puget Sound, connecting to a complex network of salt marshes, wetlands, smaller estuaries, bluffs, beaches, and bays. Puget Sound is a vast and beautiful estuary—a semi-enclosed, glacial fjord—where salt water from the Pacific Ocean mixes with fresh water draining from the surrounding watersheds. From the Canadian border south to Olympia and west to the Pacific Ocean, about 2,800 square miles of inland marine waters and 2,500 miles of shoreline comprise Puget Sound. Nearly 85 percent of Puget Sound's annual surface water runoff comes from 10 major river systems: the Nooksack, Skagit, Snohomish, Stillaguamish, Cedar/Lake Washington, Green/Duwamish, Puyallup, Nisqually, Skokomish, and Elwha.

FIGURE 1-1. PUGET SOUND REGION

Puget Sound orca whales are among the most toxin-contaminated mammals on earth. [a]

Salmon populations are one-third as abundant as they were in 1908 and populations continue to decline. Chinook salmon populations are so low that recreational fishing days have been significantly reduced.

Almost the entire Puget Sound shoreline from Everett to Tacoma has a no harvest advisory for shellfish in place due to shoreline development and potential pollution sources.

Shellfish beds and swimming beaches have to be routinely monitored to prevent illness from bacteria in water.

BEAUTIFUL ON THE SURFACE, BUT HARD TRUTHS ARE DIFFICULT TO IGNORE

Tahlequah, also known as Southern Resident Orca J35, carries her dead calf for 17 days of mourning in the Summer of 2018. CREDIT: Michael Weiss, Center for Whale Research

Over one-quarter of Puget Sound shorelines—almost 700 miles—has been hardened by bulkheads that reduce fish and wildlife habitat.[b]

Hundreds of tons of toxic organic chemicals and metals end up in Puget Sound each year from cars, roofs, wood treatments, wood burning, boat paint, household pesticide use, consumer products, pharmaceuticals, and air emissions.

The rivers and streams that flow into Puget Sound are the lifeblood of our region's ecosystems, yet only 64 percent of the major rivers in Puget Sound meet water quality standards.

During the past 150 years, Puget Sound lost at least two thirds of its remaining old-growth forest, more than 90 percent of its native prairies, and 80 percent of its marshes.

[a] Ross, P.S., G.M. Ellis, M.G. Ikonomou, L.G. Barrett-Lennard, and R.F. Addison. 2000. High PCB Concentrations in Free-Ranging Pacific Killer Whales, Orcinus Orca: Effects of Age, Sex and Dietary Preference. Marine Pollution Bulletin 40:504-515. Available here.

[b] Estuary and Salmon Restoration Program. 2017. Beach Strategies Phase 1 Summary Report. Available here.

CHAPTER 1 | INTRODUCTION TO THE ACTION AGENDA

THE ACTION AGENDA CHARTS THE COURSE FOR PUGET SOUND RECOVERY

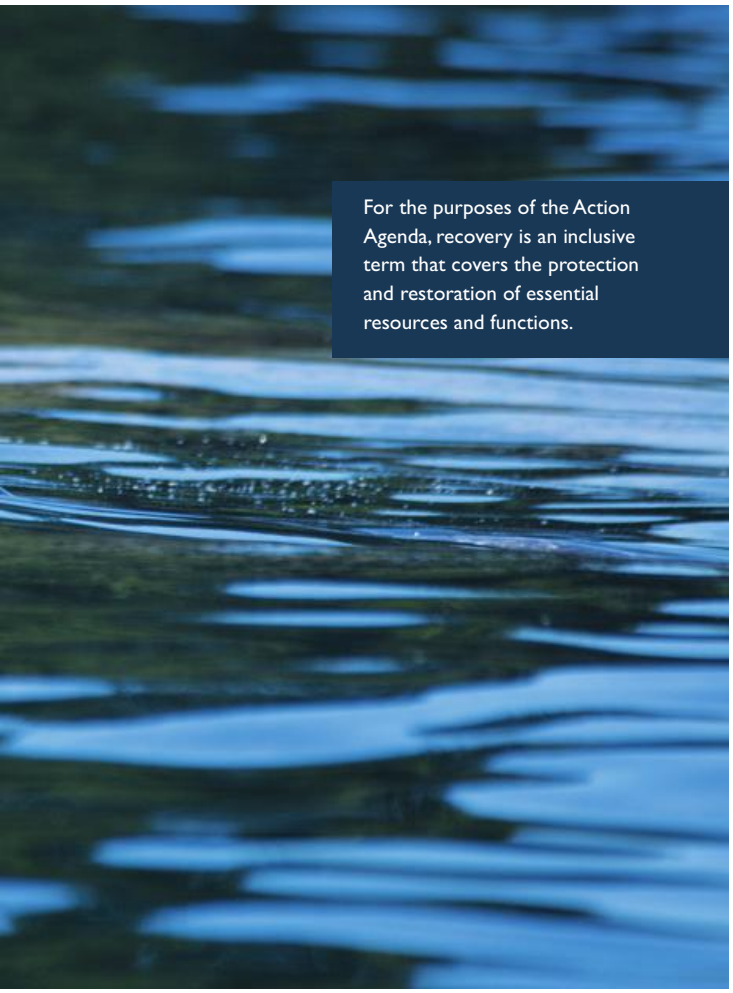
The Action Agenda complements and incorporates the work of many partners from around Puget Sound to describe regional strategies and specific actions needed to recover the Sound. These strategies and actions provide opportunities for federal, state, local, tribal, and private entities to better invest resources and coordinate actions.

The Action Agenda is developed with the following intentions:

- **It brings efficiency and coordination to a complex system.** The Action Agenda provides a coordinated plan of action and creates ways to identify and apply lessons learned over time. Without the Action Agenda, the Puget Sound recovery effort would be less coordinated, less efficient, and less effective.
- **It uses a "collective impact" approach.** Collective impact is an approach to large-scale change in which groups of people commit to a common agenda to solve a specific problem. This Action Agenda was developed by a diverse group of people all oriented toward the same goals for Puget Sound recovery. These groups of people are also the ones who implement restoration actions, change laws and policies, and communicate with and engage the public.
- **It is an inclusive effort.** By gathering hundreds of diverse partners representing government, tribes, businesses, nonprofits, the public, and other interests, agreeing on a plan with prioritized actions, and sharing a vision for the future of Puget Sound, the Action Agenda charts the course for recovery and offers partners a guide for making investments that will maximize benefits. *Chapter 5* describes the partners in recovery.

- **It is informed by science.** The Action Agenda is based on decisions that are supported by science through input from regional science experts with a variety of public, private, tribal, and academic affiliations and different technical and geographic areas of focus.
- **It guides effective investment in Puget Sound recovery.** The Partnership adopted an adaptive management framework to ensure a scientifically rigorous and systematic approach to developing the Action Agenda. By assessing the effectiveness of actions and outcomes, tracking progress, and reprioritizing needs, the Action Agenda is an evolving indication of the highest return on investment for recovery at any point in time.
- **It meets the National Estuary Program's Comprehensive Conservation and Management Plan requirements.** The National Estuary Program is the primary method through which the U.S. Environmental Protection Agency provides funding for Puget Sound recovery.
- **It meets the Washington State Legislature mandates.** When the State of Washington created the Puget Sound Partnership, the State mandated creation of the Action Agenda to plan and coordinate the science-informed recovery of Puget Sound. It directs the Partnership to tailor programs and activities within the region to meet Puget Sound needs.

The development of the Action Agenda—using a collective effort informed by science and local knowledge—creates a trusted and credible pathway for recovery. The Action Agenda is available for reference by those interested in contributing to Puget Sound recovery—including funders, lawmakers, and decision-makers.



For the purposes of the Action Agenda, recovery is an inclusive term that covers the protection and restoration of essential resources and functions.

THE PUGET SOUND PARTNERSHIP IS THE BACKBONE FOR PUGET SOUND RECOVERY

The Puget Sound Partnership is a Washington State agency[1] and a backbone organization that supports the Puget Sound recovery effort. A backbone organization is one that supports a wide range of groups to work together to achieve common goals. As a backbone organization, the Partnership is committed to continued learning and improvement of our agencies work, the work of our partners, and the Puget Sound recovery effort. The work of the Partnership is directed by a Management Conference that brings scientific expertise, knowledge of local and regional issues, and decades of relevant experience to Puget Sound recovery. The Partnership supports Puget Sound recovery with the following actions:

- **Charting a course for science-informed recovery by leading development of the Action Agenda.** The Partnership works to mobilize partners around a regionally developed, science-based, prioritized set of programs and actions. The goal of this shared document is to provide funders with a credible framework for Puget Sound investment.
- **Maintaining the shared measurement and monitoring infrastructure that enables learning and constant improvement.** The Partnership maintains the infrastructure for reporting data and ensuring progress and accountability. This information contributes to the evaluation of effectiveness of actions, so that priorities are adjusted as appropriate in response to continued learning.
- **Supporting partners in implementation.** The Partnership supports partners who implement recovery work. The Partnership supports implementation by mobilizing funding for recovery actions, assisting to remove barriers to implementation, and helping educate key decision-makers and influencers.

[1] RCW 90.71

ORGANIZATION OF THE ACTION AGENDA

The Action Agenda comprises two components: the **Comprehensive Plan** and the **Implementation Plan**.

This **Comprehensive Plan** charts the course for long-term Puget Sound recovery by outlining overarching strategies for successful protection and restoration. It fully describes the approaches by which issues and activities are prioritized, progress is evaluated, and strategies and actions are adapted over time. It also identifies the scope of funding necessary for recovery. Each chapter of the *Comprehensive Plan* is briefly introduced in Table 1-1.

The *Implementation Plan* is the action component of the Action Agenda. It is the product of the collective effort to prioritize action that will advance Puget Sound recovery over the next 4 years. Based on the fundamental framework and broad strategies described in the *Comprehensive Plan*, the *Implementation Plan* defines the suite of Regional Priorities and Near Term Actions that will advance recovery over the next 4 years. Near Term Actions can be new, expanded, or enhanced programs, specific projects, or scientific investigations. The *Implementation Plan* also includes ongoing programs that are part of existing Puget Sound recovery efforts.

Readers can also access supporting materials that provide additional information, including references, Implementation Strategies, Local Integrating Organization ecosystem recovery plans, Strategic Initiatives, summaries of previous and ongoing planning efforts, and other related topics on the Action Agenda website. Hyperlinks to many of these materials are provided throughout this Action Agenda.

TABLE 1-1. ORGANIZATION OF THE COMPREHENSIVE PLAN

CHAPTER 1	INTRODUCTION TO THE ACTION AGENDA Provides a brief introduction to the challenges facing Puget Sound and the role of the Action Agenda in accelerating recovery.
CHAPTER 2	PUGET SOUND AT RISK Describes how human activities affect Puget Sound and barriers that have consistently hindered recovery efforts over the past decade.
CHAPTER 3	GOALS AND VISION FOR A HEALTHY PUGET SOUND Outlines the goals and vision for a healthy Puget Sound and provides a brief status update on the ecosystem's health.
CHAPTER 4	FRAMEWORK FOR RECOVERING PUGET SOUND Details the framework for recovering Puget Sound and describes how the Action Agenda integrates information and strategies from across the region. The chapter also defines how recovery progress is tracked and evaluated to further prioritize action in the future.
CHAPTER 5	PARTNERS IN RECOVERY Lists the diverse range of partners that are part of the Puget Sound recovery community and the important contributions each partner makes to the Action Agenda.
CHAPTER 6	FUNDING RECOVERY Describes crucial work to mobilize funding for recovery.
GLOSSARY	GLOSSARY Provides a glossary that defines terms that are unique to the Action Agenda or to recovery planning.

THE 2018-2022 ACTION AGENDA BUILDS ON LESSONS LEARNED

The Action Agenda is a living document with a 10-year history. As our knowledge of the ecosystem and of the effectiveness of recovery actions evolves, the Action Agenda needs to keep pace. As noted above, the 2018-2022 Action Agenda has two components: the *Comprehensive Plan* and the *Implementation Plan*. Longer-term content is in the *Comprehensive Plan*, and content that is updated every 4 years is in the *Implementation Plan*. As a living document and in accordance with its adaptive management framework, the Partnership considers revisions and refinements to both components of the Action Agenda when supported by new information. This 2018-2022 Action Agenda builds on past Action Agendas and reflects several new developments that focus and prioritize actions and investments. This Action Agenda's *Implementation Plan* also outlines several important lines of work that will enable significant improvements to the Comprehensive Plan in the coming years.

TRANSITION TO IMPLEMENTATION STRATEGIES

Changes to this Action Agenda reflect the increased prominence of *Vital Sign Implementation Strategies* in setting recovery priorities for the region. Implementation Strategies are plans for achieving specific recovery targets, and are created for *Puget Sound Vital Signs* selected by the Leadership Council. This Action Agenda marks another step forward in the transition towards using Implementation Strategies to develop Regional Priorities and priority Near Term Actions. Implementation Strategies are an improvement over past planning efforts because they result in more targeted and specific strategies to achieve Vital Sign indicator targets built on current scientific knowledge and analyses of existing recovery work. Additionally, the process of creating Implementation Strategies receives greater input from federal, tribal, state, and local governments, non-profit organizations, universities, technical experts, and community members, ensuring that a greater range of perspectives is considered and represented in them. Strategic Initiative leads are instrumental in the development of Implementation Strategies and lead the process of implementation and adaptive management after planning is completed. Read more about Strategic Initiatives in *Chapter 5* of the Comprehensive Plan. New and revised Implementation Strategies will continue to guide funding and implementation decisions throughout the region and in subsequent updates to the *Implementation Plan*.

RESPONDING TO NEW LEARNING AND PARTNER FEEDBACK

The Puget Sound Partnership continually seeks and responds to the feedback of the recovery community through a variety of forums. The 2018-2022 Action Agenda addresses partner feedback by:

- Providing a direct discussion of the pressures on Puget Sound and barriers that continue to impede the recovery effort.
- Re-organizing content in the *Comprehensive Plan* to more clearly communicate the process for building, implementing, and improving the Action Agenda and the Puget Sound recovery effort.
- Updating descriptions of important issues and strategies that apply to all Puget Sound recovery efforts—such as mobilizing funding, integrating science into the recovery framework, climate change, communications, and education and behavior change—and further clarifying how these concepts inform recovery planning.
- Providing a long-term vision for Puget Sound resilience and recovery.

Finally, this Action Agenda provides an updated list of priority recovery actions to accelerate Puget Sound recovery progress in the *Implementation Plan*. This list should guide implementation and funding of Puget Sound recovery efforts for the next 4 years.

CHAPTER 2 | PUGET SOUND AT RISK

Puget Sound is a special place, but it is in serious trouble. Our Southern Resident orca whales are starving. Our Chinook salmon struggle to survive. Shellfish bed closures due to health risks can jeopardize the jobs that our shellfish industry supports.

Puget Sound nourishes our health, economy, environment, and quality of life. A healthy Puget Sound is essential to sustaining a vibrant economy, meeting our obligations to treaty rights, and supporting our need for connection to the natural world. Though it may appear beautiful from a distance, human use has damaged Puget Sound, causing the degradation of water quality, water quantity, and habitat. These changes also affect the health and well-being of people who live in the region. This chapter explores how humans affect Puget Sound, what we lose if we continue apace, and the commitments needed to ensure a healthy Puget Sound for our children and grandchildren.

SALISH SEA AT RISK

This chapter focuses on human pressures on Puget Sound, yet our region's waterbodies are not constrained by geo-political boundaries. The themes and concerns raised here apply to the entire Salish Sea, and human activities on both sides of the border affect the region as a whole. A map of the Salish Sea is available on *page 56*.

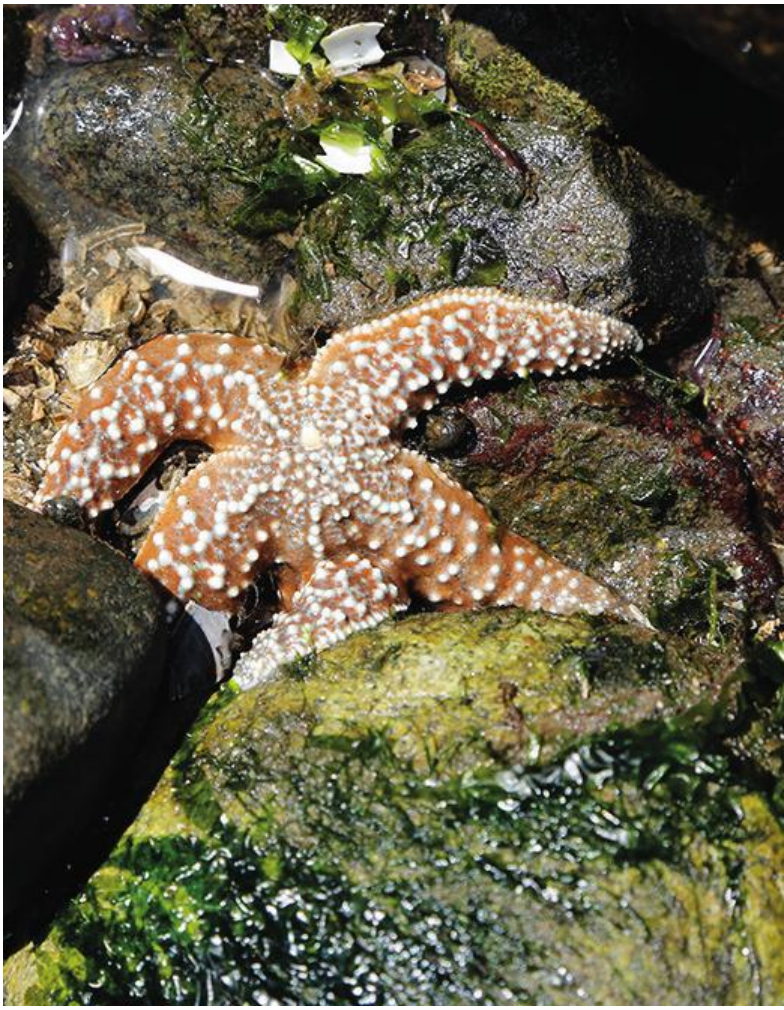
A HEALTHY PUGET SOUND BENEFITS US ALL

A healthy and functioning Puget Sound benefits all who live here, visit or recreate here, or have a connection to this region. A properly functioning ecosystem provides us with food, water, and raw materials; regulates and moderates harmful elements; and provides us with cultural, spiritual, and recreational experiences.

- Puget Sound forests filter rain water of pollutants and bacteria, and marshes and wetlands absorb high waters in storms and buffer our homes and businesses from flooding and other damage.
- Puget Sound is home to 68 state parks and 3 large national parks, including Mt. Rainier, as well as wildlife refuges, forests and other public lands. 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.
- Northwest tribes have harvested shellfish for about 12,000 years. Additionally, shellfish farms are significant contributors to Washington's economy. Shellfish farming is among the top employers for some counties in Puget Sound and directly contributes 3,200 jobs and $270 million annually to Washington's economy, with much of those benefits going to rural communities.
- Tribes throughout the Pacific Northwest celebrate the first salmon to return each spring through spiritual and religious ceremonies.
- Nearly 71 percent of all jobs and 77 percent of total income in Washington State are found in the Puget Sound Basin. Puget Sound is a place where people want to live, work, and raise a family.

Thanks to these benefits, more and more people are drawn to our cherished region and Puget Sound's population and economy are booming. The region is on track to hit 7 million people by 2040.[2]

[2] https://ofm.wa.gov/washington-data-research/population-demographics/population-forecasts-and-projections/growth-management-act-county-projections/growth-management-act-population-projections-counties-2010-2040-0



HUMAN ACTIVITIES AFFECT THE PUGET SOUND ECOSYSTEM

Current residents and new neighbors need places to live, work, and play. As we 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. We alter the land to grow food and raise animals, we build infrastructure that delivers energy and water to us and carries our waste far away, and we construct factories to create things we want and need. And as the region's population continues to grow, so too will the need for new development and infrastructure. Many of these human activities are elements of a healthy society and economy. Yet depending on where and how they occur, they can lead to adverse pressures on ecosystem functions. These pressures have resulted in harm to the land, water, and life in the Puget Sound ecosystem.

In other words, we have compromised the Sound's health as a byproduct of how we live and prosper—how we cover the land with buildings and pavement, how we treat our waste, and how we transport ourselves. As a result, the Puget Sound ecosystem is impaired and less resilient to human pressures.

PRESSURES

Development and land conversion of ecologically important land degrades habitat that is necessary for native species to feed, rest, hide from predators, reproduce, and survive. Land conversion may result from residential and commercial development, agriculture and aquaculture, energy production and mining, or transportation infrastructure.

Additional impervious surfaces from new development increase stormwater runoff that carries nutrients, toxic chemicals, and other pollutants into Puget Sound waterways.

Wastewater from homes and businesses adds nutrients, toxic chemicals, and other pollutants to Puget Sound's waterways, even when properly treated or managed to current standards by wastewater treatment plants or septic systems.

Increasing demand for freshwater resources and hydrologic modifications such as dams affect the flow of freshwater and degrade rivers and streams.

Greenhouse gas emissions from power generation, agriculture, and transportation cause climate change and ocean acidification. Climate change degrades Puget Sound habitats by affecting temperature, precipitation patterns, and sea level. Ocean acidification impairs the ability of marine organisms—particularly shellfish—to grow and thrive.

Other important pressures include marine debris, oil spills, air pollution, and vessel traffic.

HARMS

Puget Sound habitats have been reduced in size, diminished in quality, and fragmented. During the past 150 years, Puget Sound has lost at least two-thirds of its remaining old growth forest, more than 90 percent of its native prairies, and 80 percent of its saltwater and freshwater marshes.

Legacy pollutants persist and many sources continue to release contaminants into the Sound. Persistent toxic substances that were banned decades ago, such as PCBs, remain in sediments, particularly around urban bays, such as Elliott Bay and Commencement Bay. Additional new contaminants are making their way into Puget Sound waters every day, such as oil and heavy metals from roads, nutrients from agricultural runoff, and wastewater from businesses and homes. Contaminants of concern for Puget Sound include excess nutrients, pathogens, sediments, and toxic chemicals.

Puget Sound has experienced steep declines in populations of revered species such as salmon and orca that are now facing extinction. The 22 remaining populations of Chinook salmon are well below federal recovery goals and the Southern Resident orca population is dangerously low. Degraded habitat, water pollution, and other human activities drive these declines.

Changing climate and ocean conditions continue to pose serious risks to human health and safety, water quality and quantity, and species of concern. For example, warmer water temperature and greater variability in streamflow will increase the challenges that Puget Sound salmon face in making their way to upstream breeding grounds.

Ecosystem benefits to humans are at risk. Habitat degradation reduces the protection that native habitats provide humans from flooding and coastal storm surges, diminishes food that sustains us and is exported around the world, and affects outdoor recreation opportunities. Likewise, water pollution has led to the closure of beaches and shellfish beds that are important to the region's culture and economy. When we lose native species and habitats we also lose our natural heritage and the quality of life that makes Puget Sound an attractive place to live, work, and play.

SOUTHERN RESIDENT ORCA AT RISK

The health of the Southern Resident orcas can tell us a lot about Puget Sound. They are one of Puget Sound's top predators and therefore rely on a healthy Puget Sound ecosystem for their survival. Since 2015, however, no Southern Resident orca newborn has survived, and the population faces the possibility of extinction. Three key threats are driving this crisis: lack of food, toxic contaminants, and disturbance from noise and vessel traffic. If our Southern Residents are to survive, urgent and immediate action is needed.

In November 2018, the Southern Resident Orca Task Force released *36 recommended actions* to address the threats to the Southern Residents. The goal of the Task Force and its recommendations is to ensure a healthy and resilient ecosystem that supports a thriving Southern Resident orca population. This aligns with the goals and vision of the Action Agenda, outlined in Chapter 3 of this Comprehensive Plan. The Puget Sound recovery community was instrumental in developing these recommendations, which draw on approaches identified in this Action Agenda's Implementation Plan. The Partnership supports the final recommendations of the Task Force and will work to enable their implementation.

Learn more about the task force deliberations and findings.

The actions and pathways described in the Action Agenda address many of the threats to the Southern Residents. These include habitat and ecosystem restoration, Chinook salmon recovery, and actions aimed at reducing toxins washing into Puget Sound.

Learn more about how the Action Agenda contributes to saving the Southern Resident orca in the Implementation Plan.

CLIMATE CHANGE IN PUGET SOUND

Changing climate and ocean conditions will affect much of what we value in Puget Sound. Warming temperatures, unusual storm events, sea level rise, and ocean acidification have all been observed in Puget Sound and are projected to increase.

Temperature. Additional warming for the 21st century will be two to ten times as large as warming experienced in the 20th century.

Precipitation. Precipitation patterns will show larger variation between years and decades—a less consistent environment in terms of rainfall. Winter streamflow is projected to increase in snow-influenced watersheds, while most locations are projected to experience a decline in summer streamflow.

Heavy rainfall. Heavy rainfall events will be more frequent and more intense.

Sea level rise. Sea levels have been rising and are projected to continue to rise over the coming century, with a wide range of possible futures. Varied level of increase around Puget Sound will affect coastal flooding risks.

Ocean acidification. Carbon dioxide will continue to accumulate in the atmosphere; pH levels in Puget Sound will continue to decrease; acidification will continue to increase and affect marine species, from seagrasses to fish and shellfish. If conditions persist or worsen, ocean acidification could impose some of the most significant and direct climate change impacts on the Puget Sound ecosystem and the aquaculture industry.

SOURCE: *State of Knowledge: Climate Change in Puget Sound,* University of Washington Climate Impacts Group 2015

CHANGING CLIMATE AND OCEAN CONDITIONS EXACERBATE MANY PRESSURES

A *Preliminary Climate Change Assessment* underscores the potential for climate change to exacerbate current stressors. Healthy, well-functioning, resilient systems are more likely to withstand perturbations, such as fires or flooding. For example, the presence of shoreline-armoring structures can limit the natural ability of the beach to adjust to changes in sea level, increase wave energy scour, and block the delivery of sediment from upland sources. Natural shorelines improve coastal resilience by allowing adaptation of habitats in the face of sea level rise, maintaining the geomorphic processes that build and sustain nearshore ecological function and providing a protective buffer for communities.

The Puget Sound region is home to a growing population and a rich diversity of cultural, institutional, and economic resources, many of which will be affected by climate change. Tribes are particularly vulnerable to climate change impacts on Puget Sound, which will affect species such as salmon and shellfish that play central roles in their cultures, health, identity, and ways of life.[3]

LACK OF FUNDING, BROAD AND SUFFICIENT POLITICAL WILL, AND CAPACITY FOR IMPLEMENTING ACTION ARE BARRIERS TO RECOVERY

Despite ongoing efforts of the recovery community, why are we not making adequate progress toward recovery goals? Knowing that critical habitat is necessary for the survival of Chinook salmon and Southern Resident orca, why are we still allowing the loss of habitat at a rate that exceeds restoration and protection efforts? Why are we still relying heavily on short-term technical fixes to address a challenge that is ongoing, extremely complex, and requires new and bold actions?

[3] http://nwifc.org/w/wp-content/uploads/downloads/2017/01/CC_and_Our_NR_Report_2016-1.pdf

In addition to the ecosystem challenges identified above, the recovery community has pinpointed a number of barriers to recovery that have consistently and significantly limited implementation of necessary actions and progress toward recovery. These barriers continue to challenge our commitment and creativity in pursuing Puget Sound recovery. Examples of these barriers include:

- **Conflicting government programs and incentives**. In many cases, our governance systems encourage or support human actions that degrade Puget Sound. For example, complex permitting processes and lack of enforcement provisions or budgets in key laws frequently limit habitat protection and restoration. Likewise, insurance programs or a desire to expand local taxpayer bases may enable or incentivize further land conversion of ecologically important lands. Aligning the goals and incentives of government programs with Puget Sound recovery is necessary to achieve positive outcomes for recovery.
- **Difficult decisions and resistance to change**. Actions to recover Puget Sound may sometimes require individuals or communities to give up valued privileges and interests. For example, few can deny the appeal of waterfront property, yet restoring nearshore habitat by reducing or preventing shoreline armoring may call for larger buffers between homes and the shore. Likewise, increasing demand for limited freshwater resources has challenged our ability to meet the needs of all humans and the ecosystem. These tradeoffs and others require difficult conversations to identify underlying values that drive resistance to change and, in some cases, compromise by diverse interests to ensure recovery progress.
- **Funding**. Funding is the most frequently cited barrier to implementing the recovery actions identified in the Action Agenda. Protection and restoration actions require time and money to implement. Enabling conditions such as scientific research, monitoring, planning, and collaboration also require time and resources. Puget Sound residents need to prioritize and advocate for the sustained investment needed to maintain the long-term health of the Sound and its benefits to the region's people and economy.

A COMMITMENT TO PUGET SOUND RECOVERY

Many of the challenges listed above cannot be solved unless we all make a commitment to recovery. We must tackle politically challenging issues and build capacity for action among our friends, neighbors, and local communities. As provided in a set of objectives from the Washington Legislature, Puget Sound recovery is only possible if we commit to the following:

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

The rest of this Action Agenda describes an approach to fulfilling this commitment. Chapter 3 of the *Comprehensive Plan* describes goals and quantitative targets to measure progress toward the commitment. And Chapter 4 of the *Comprehensive Plan* describes the process through which the recovery community identifies and prioritizes actions necessary for recovery. Most importantly, the Action Agenda *Implementation Plan* describes the actions necessary to advance Puget Sound recovery over the next 4 years, and the people and organizations that are ready and willing to implement them.

KEY SOURCES

Many sources of information on the Puget Sound ecosystem and recovery efforts have informed the content in this section and Action Agenda. These sources include:

Puget Sound Partnership. Vital Sign Website. http://www.psp.wa.gov/vitalsigns/index.php. (use left hand navigation to access reports for indicators, organized within Vital Signs, within Goals)

Puget Sound Partnership. 2017. 2017 State of the Sound. http://psp.wa.gov/sos.php.

Puget Sound Partnership. 2016. 2016 Action Agenda for Puget Sound. http://psp.wa.gov/action-agenda-archive.php.

Puget Sound Partnership. 2014. 2014/2015 Action Agenda for Puget Sound. http://psp.wa.gov/action-agenda-archive.php.

Puget Sound Partnership. 2014. The 2014 Puget Sound Pressures Assessment. http://www.psp.wa.gov/science-puget-sound-pressures-assessment.php.

Puget Sound Partnership. 2011. 2011 Puget Sound Science Update. http://www.psp.wa.gov/downloads/pssu2011/01Puget%20Sound%20Science%20Update%2012%20April%202011.pdf.

Puget Sound Partnership. 2008. Habitat and Land Use Topic Forum Discussion Paper. http://www.psp.wa.gov/downloads/AA2008/Revised%20Discussion%20Paper%20Habitat%20and%20Land%20Use.pdf.

Puget Sound Partnership. 2008. Human Health Topic Forum Discussion Paper. http://www.psp.wa.gov/downloads/AA2008/Revised%20Discussion%20Paper%20Human%20Health.pdf.

Puget Sound Partnership. 2008. Species and Biodiversity Topic Forum Discussion Paper. http://www.psp.wa.gov/downloads/AA2008/Revised%20Discussion%20Paper%20Species%20and%20Biodiversity.pdf.

Puget Sound Partnership. 2008. Water Quality Topic Forum Discussion Paper. http://www.psp.wa.gov/downloads/AA2008/Water%20Quality%20Final%20Discussion%20Paper.pdf.

Puget Sound Partnership. 2008. Water Quantity Topic Forum Discussion Paper. http://www.psp.wa.gov/downloads/AA2008/Revised%20Discussion%20Paper%20Water%20Quantity.pdf.

Puget Sound Partnership. 2006. Sound Health, Sound Future. https://www.eopugetsound.org/articles/sound-health-sound-future-2006.

Shared Strategy Development Committee and National Marine Fisheries Service. 2007. Puget Sound Salmon Recovery Plan. http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/puget_sound/chinook/pugetsoundchinookrecoveryplan.pdf.

Sound Science: Synthesizing Ecological and Socioenconomic Information and the Puget Sound Ecosystem. 2007. M. Ruckleshaus and M. McClure, coordinators. Prepared in cooperation with the Sound Science collaborative team. U.S. Department of Commerce, National Oceanic & Atmospheric Administration, Northwest Fisheries Science Center, Seattle, Washington. https://www.eopugetsound.org/articles/sound-science-2007.

University of Washington Climate Impacts Group. 2017. Preliminary Climate Change Assessment for Puget Sound Partnership. https://cig.uw.edu/wp-content/uploads/sites/2/2017/08/Preliminary-Climate-Assessment-for-PS-Partnership-FINAL.pdf.

University of Washington Climate Impacts Group. 2015. State of Knowledge: Climate Change in Puget Sound. http://cses.washington.edu/picea/mauger/ps-sok/PS-SoK_2015.pdf.

CHAPTER 3 | GOALS AND VISION FOR A HEALTHY PUGET SOUND

To guide the recovery effort, the Action Agenda defines the attributes of a healthy Puget Sound. This definition is grounded in a set of goals from the Washington Legislature and the community's vision for a resilient ecosystem.

THE RECOVERY MANDATE: GOALS AND TARGETS

LEGISLATIVE GOALS

The Washington State statute that created the Puget Sound Partnership defines six recovery goals.

RECOVERY GOALS

- **Healthy human population.** Healthy people are supported by a healthy Puget Sound.
- **Vibrant quality of life.** Our quality of life is sustained by a healthy Puget Sound.
- **Thriving species and food web.** Puget Sound species and the web of life thrive.
- **Protected and restored habitat.** Puget Sound habitat is protected and restored.
- **Abundant water quantity.** Puget Sound rivers and streams flow at levels that support people, fish, and wildlife.
- **Healthy water quality.** Puget Sound marine and fresh waters are clean.

FIGURE 3-1. PUGET SOUND VITAL SIGNS

The outer ring shows each of the six recovery goals for Puget Sound, established by the Washington State Legislature. The inner wedges represent the 25 Vital Signs, each associated with its primary recovery goal.

VITAL SIGNS, INDICATORS, AND TARGETS

To understand the health of the Puget Sound ecosystem and to describe desired future conditions, the Legislature required the Partnership to develop clear, measurable indicators and targets for achieving the six recovery goals. To accomplish this, the recovery community developed, and the Leadership Council adopted, indicators and targets and classified them within a series of *Vital Signs* as Puget Sound measures of health. The Vital Signs are directly aligned with the six recovery goals (Figure 3-1) and each represents an important component of the ecosystem.

Most Vital Signs are represented by one or more specific and measurable metrics, called indicators. The Vital Signs and their indicators have become the foundation of a shared measurement system that provides information about the condition of the Puget Sound ecosystem, including human well-being. The Puget Sound Partnership has also adopted 2020 ecosystem recovery targets for many of the Vital Sign indicators. The recovery targets are science-informed statements of desired future conditions for each Vital Sign indicator. Figure 3-2 provides an example of a Vital Sign—orcas—and its associated indicator and 2020 target. In this case, the Vital Sign is represented by a single indicator, the number of Southern Resident orcas. A full list of Vital Signs, indicators, and targets is available on the *Vital Signs webpage*. To ensure relevance of the Vital Signs, indicators, and targets, the Puget Sound Partnership and its boards periodically consider revisions to the Vital Signs, indicators, and targets.

ADAPTIVELY MANAGING RECOVERY

To learn more about near-term efforts to update Vital Signs, indicators, and targets, go to ***Chapter 2 of the Implementation Plan***.

FIGURE 3-2. RELATIONSHIP OF RECOVERY GOALS, VITAL SIGNS, INDICATORS, AND TARGETS

FIGURE 3-3. GETTIING BETTER OR WORSE? PROGRESS OF VITAL SIGN INDICATORS

GETTING BETTER

10 INDICATORS
Indicator made gains relative to the baseline reference

ESTUARIES
Area of estuarine wetlands restored to tidal flooding

FLOODPLAINS
Restoration of floodplains

LAND DEVELOPMENT AND COVER
Rate of forest loss to development
(on or near 2020 target)

LAND DEVELOPMENT AND COVER
Riparian restoration

MARINE SEDIMENT QUALITY
Percent of chemical measurements exceeding Sediment Quality Standards

ONSITE SEWAGE SYSTEMS
Inventory, inspection, and repair of onsite sewage systems

SHELLFISH BEDS
Acres of shellfish beds re-opened for harvest

SHORELINE ARMORING
Net change in amount of permitted shoreline armor

SHORELINE ARMORING
Armor on feeder bluffs
(on or near 2020 target)

SUMMER STREAM FLOW
Summer low flows

MIXED RESULTS

9 INDICATORS
Metrics show varying results (applicable to indicators composed of multiple metrics)

BIRDS
Marine bird population abundance

ECONOMIC VITALITY
Employment in natural resource industries

ECONOMIC VITALITY
Natural resource industry output

FRESHWATER QUALITY
Benthic Index of Biotic Integrity

MARINE SEDIMENT QUALITY
Sediment Quality Triad Index

TOXICS IN FISH
Contaminants in adult salmon

TOXICS IN FISH
Contaminants in English sole

TOXICS IN FISH
Contaminants in juvenile salmon

TOXICS IN FISH
Contaminants in Pacific herring

NOT IMPROVING

6 INDICATORS
No trend or change relative to the baseline reference

CHINOOK SALMON
Chinook salmon population abundance

EELGRASS
Eelgrass area

FRESHWATER QUALITY
Water Quality Index

MARINE SEDIMENT QUALITY
Sediment Chemistry Index
(on or near 2020 target)

OUTDOOR ACTIVITY
Condition of swimming beaches

SOUND STEWARDSHIP
Sound Behavior Index

GETTING WORSE

4 INDICATORS
Indicator worsened relative to the baseline reference

LAND DEVELOPMENT AND COVER
Conversion of ecologically important lands

MARINE WATER QUALITY
Marine Water Condition Index

ORCAS
Number of Southern Resident killer whales

PACIFIC HERRING
Biomass of spawning Pacific herring

CHANGING CLIMATE AND OCEAN CONDITIONS THREATEN RECOVERY EFFORTS

A *Preliminary Climate Change Assessment* examined how changing climate and ocean conditions projected for the 2050s will affect the region's ability to achieve recovery goals. The assessment found that all six recovery goals are threatened by climate change impacts, and the majority of Vital Signs are at high risk to be negatively affected by climate change by 2050. This underscores the importance of integrating climate change into recovery planning, as described in *Chapter 4, Framework for Recovering Puget Sound*.

In addition to describing desired future conditions, the Vital Sign indicators and recovery targets can show how the ecosystem is improving or declining relative to baseline conditions and the desired future conditions across the six recovery goals.

RECOVERY PROGRESS IS SLOW

The 2017 *State of the Sound* reported that the Vital Sign indicators are slow to change, at best. As shown in Figure 3-3, just three are on or near their 2020 targets. Detailed data and reporting on the status and trends for each indicator is available on the Partnership's *Vital Sign website*.

For decades, many partners have worked to rescue this estuary of national significance. We have made progress, but our efforts have not been at a scale or pace sufficient to restore Puget Sound to health by 2020, as originally envisioned by the legislature. This slow progress is disappointing and dangerous. The recovery community continues to examine past recovery efforts to identify necessary improvements and course corrections. This Action Agenda builds on many of these course corrections to move Puget Sound toward an acceptable recovery trajectory.

NEXT PAGE: OUR VISION AND CALL TO ACTION

In 2018, the Puget Sound Partnership's Leadership Council adopted a resolution that articulates a vision for Puget Sound recovery beyond 2020. This is a living vision that we may continue to modify and use to inform our future work, based on ongoing discussion and learning.

OUR VISION AND CALL TO ACTION

We are people who care about Puget Sound. We span borders and boundaries, sectors and strata. We envision a future in which generations can hear the calls of whales, witness the spawning of salmon, taste locally harvested shellfish, swim in clean water, and experience the unique cultural fabric that ties our region together. Our vision includes a resilient ecosystem—one that can adapt to the impacts of climate change and the pressures of a growing human population, while meeting the needs of its native creatures. Our vision includes a thriving economy, sustainable farms and forests, and human communities with high quality of life and the businesses that support them. And most importantly, our vision includes a broad community of engaged citizens who commit to save Puget Sound.

We pledge to make this vision a reality. We will do so by challenging ourselves to pursue ambitious action, secure needed funding, seek supporting legislation, apply our resources and legal tools, and hold ourselves accountable for implementing all actions needed to make Puget Sound resilient. Because we are all connected to Puget Sound, we issue this call to action to ask everyone to make the same commitment. We ask you to join us in protecting habitat, recovering iconic species, and ensuring that our lands and waters sustain generations to come.

To implement this vision, the Partnership and our partners follow a set of guiding principles for ecosystem recovery.

OUR GUIDING PRINCIPLES

We guide our efforts with principles that recognize innovative thinking and effective action. To meet our goals, we evolve these principles and our vision based on ongoing discussions that honor a broad diversity of views and values.

A. **We Act with Urgency:** We act with focus to advance habitat protection and to prioritize sustainable and effective actions that address the greatest risks, threats, and opportunities.

B. **We Inspire and Engage:** We advance effective education and outreach to foster stewardship because recovery will only happen if it is a priority for all people. To support the economy that is essential to a resilient Puget Sound, we listen, learn, and collaborate with our business partners.

C. **We Make Science-informed Decisions:** We inform recovery decisions by using the best available science and knowledge of the processes that affect the Puget Sound ecosystem.

D. **We Continuously Learn and Adapt:** Because we live in a dynamic environment, we systematically monitor, assess, and adjust to expected and unexpected changes. We recognize that recovery efforts should be bold, energetic, adaptively managed, and sustained over time to capitalize on new information, local knowledge, and lessons learned.

E. **We Apply a Holistic Approach:** Tribal treaty rights and the diverse values of society and the economy are integral to the Puget Sound ecosystem. Our recovery actions apply ecological and socio-economic insights through a systems-based approach. We explicitly consider tradeoffs, equity, disproportionate impacts and benefits, and behavior changes that can lead to resilience.

F. **We Look Forward Together:** We collaborate with tribes and all sectors of society to anticipate future opportunities and challenges. We ensure our actions consider relevant plans and governance at the local, state, and federal levels.

CHAPTER 4 | FRAMEWORK FOR RECOVERING PUGET SOUND

The Puget Sound Partnership is tasked with leading the effort to address the pressures on Puget Sound described in *Chapter 2* and to achieve the goals and vision outlined in *Chapter 3*. The Partnership leads this effort using an adaptive management framework, which helps the recovery community to prioritize and implement recovery strategies and actions based on evaluations of recovery progress and shared learning. This chapter describes each of the four steps of this adaptive management framework, and how they are carried out. The roles and responsibilities of the Partnership, its boards, and partners in this framework are described in *Chapter 5, Partners in Recovery*.

THE FRAMEWORK FOR RECOVERY

Adaptive management is a way of learning continuously from past actions in order to improve future actions. The Puget Sound Partnership adopted a specific adaptive management model in 2009, called the *Open Standards for the Practice of Conservation* (Open Standards). The Open Standards framework builds on explicitly structured interactions among decision-makers, implementers, scientists, and partners to encourage innovation, sharing of successful practices, and adaptation. The framework provides a structured, transparent, replicable approach to using all types of best available information to inform decisions, and relies on coordinated monitoring and reporting. The framework also enables more effective communication between people and integration of plans by providing a consistent language and taxonomy for all recovery partners to use.

Conservation efforts informed by the shared languages and process of the Open Standards are among the most effective and highly regarded internationally, a standard the Puget Sound recovery community hopes to achieve for our region.

A simplified adaptive management framework is illustrated in Figure 4-1 below, followed by descriptions of its key steps.

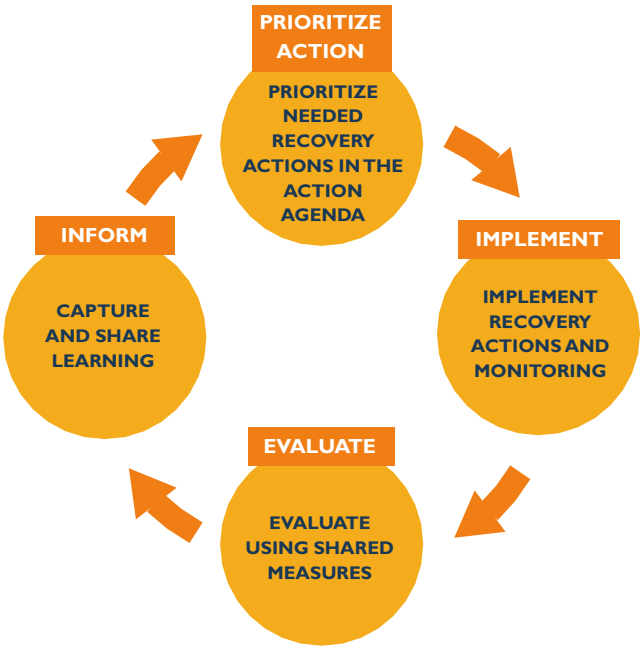


FIGURE 4-1. A SIMPLIFIED ADAPTIVE FRAMEWORK FOR PUGET SOUND ECOSYSTEM RECOVERY

Prioritize Action. The Action Agenda charts the course for Puget Sound recovery. Developing the Action Agenda and other regional and local plans is the focus of this step. The process involves using the best available information and engaging local and regional experts to identify the problem, scope the overarching approach, define desired future conditions, analyze current conditions, identify and prioritize recovery actions for implementation based on anticipated effectiveness, and plan monitoring actions.

Implement. Partners implement programs and projects identified in the Action Agenda to support Puget Sound recovery. The Puget Sound Partnership supports these efforts by mobilizing funding, removing barriers, catalyzing progress, assessing effectiveness, and educating key decision-makers and influencers so that partners have the resources they need to succeed. The ongoing programs and Near Term Actions for Puget Sound recovery are included in the *Implementation Plan*.

Evaluate. The Puget Sound Partnership and partners monitor and evaluate action effectiveness and progress toward recovery based on shared measurements. Monitoring, assessment, and reporting feed the adaptive management process with scientific findings.

Inform. The Puget Sound Partnership and partners capture and share knowledge gained from evaluating effectiveness and ecosystem responses. Based on this evaluation and learning, the recover community then adjusts priorities and adapts action planning based on information gathered through the development, implementation, and evaluation of the previous planning cycle.

By developing and continually improving this adaptive management framework, coordinating and supporting its implementation across the region, and monitoring and evaluating progress, the Partnership aligns and continually improves recovery efforts across partners' missions, jurisdictions, and funding approaches.

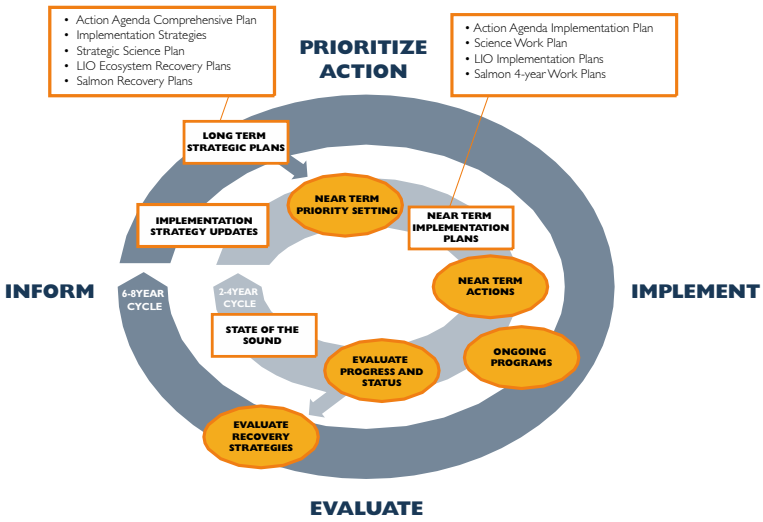
PRIORITIZING RECOVERY ACTION

After a decade of developing plans and implementing actions under the umbrella of the Action Agenda, the recovery community has learned a great deal about what is needed to recover Puget Sound. Therefore, the process of prioritizing recovery action starts with considering the effectiveness of recovery efforts to-date and prioritizing actions that have proven most effective. This Action Agenda and associated local and regional plans are all premised on this concept. All are incorporating new learning and constantly improving; none are planning from scratch.

The Action Agenda provides the common framework for recovery in Puget Sound by gathering and integrating content from a variety of planning processes at the regional and local level. Providing this common framework advances Puget Sound recovery by coordinating the diverse efforts and priorities of many regional partners. Consistent with the Action Agenda recovery framework, each of the local and regional long-term plans described below are science-based and define goals and overall strategies for recovery. Necessary actions identified in these plans include scientific research, policy changes, restoration work, public engagement, or education and behavior change. Accomplishments, lessons learned, and new science help to inform the development and updating of these plans.

This section describes many of these plans and Figure 4-2 depicts how long-term and near-term recovery plans are integrated and adapted as we recover Puget Sound.

FIGURE 4-2. INTEGRATION AND ADAPTATION OF RECOVERY PLANS



THE ROLE OF THE ACTION AGENDA IN PRIORITIZING ACTION

The Action Agenda is the region's overarching strategic plan that prioritizes needs from throughout the region. The Action Agenda clearly identifies needed actions for Puget Sound recovery by synthesizing the information and science-based recovery strategies contained in local and regional plans. The Action Agenda not only considers and incorporates these plans, but is developed through a process that engages the people that developed them—hundreds of diverse partners from state and federal agencies, tribal governments, local governments, and business and environmental groups. As these partners come together to agree on and prioritize needed actions, they develop a shared vision for the future of Puget Sound recovery. As a result, the Action Agenda becomes a trusted and credible source that partners can use to guide implementation and investment decisions in the coming years.

The Puget Sound Partnership is required to prioritize actions in the Action Agenda *Implementation Plan* to inform the allocation of limited federal, state, and local resources. Based on the framework described here, the *Implementation Plan* identifies the actions necessary to advance the regional and local plans over the next 4 years. The following resources inform development of the Action Agenda *Implementation Plan*:

- Implementation Strategies
- LIO ecosystem recovery plans
- Tribal Priorities
- Salmon Recovery Plan
- Science Work Plan

Each of these resources is described in more detail below.

The framework for integrating these plans and defining the priority recovery actions for the next four years is outlined below and illustrated in Figure 4-3.

> ***Chapter 1 of the Implementation Plan*** describes the most recent process for prioritizing action and setting Regional Priorities for the next 4 years.
>
> ***Chapter 3 of the Implementation Plan*** lists the Regional Priorities.

The *Implementation Plan* provides details on the most recent process for prioritizing action. It describes how regional and local plans are used to identify the Regional Priorities that guide the next 4 years of implementation and inform the selection of Near Term Actions. The priority-setting process is collaborative, fact-based, transparent, and replicable, and illuminates where knowledge gaps or uncertainty are particularly relevant to our understanding of what various actions might achieve. Setting priorities often requires addressing the delicate balance of ecological and human needs.

The process for integrating these resources and prioritizing action in the Action Agenda continues to become more systematic and replicable. The recovery community believes that developing plans that focus on achieving ecosystem recovery targets is the most effective approach to recovery. This approach relies on thoughtful and scientifically-based Implementation Strategies developed to achieve Vital Sign indicator targets. As the process for integrating LIO ecosystem recovery plans, salmon recovery efforts, science, and tribal priorities into Implementation Strategies improves, the Action Agenda's reliance on Implementation Strategies will increase.

FIGURE 4-3. CONCEPTUAL FRAMEWORK FOR SETTING THE ACTION AGENDA

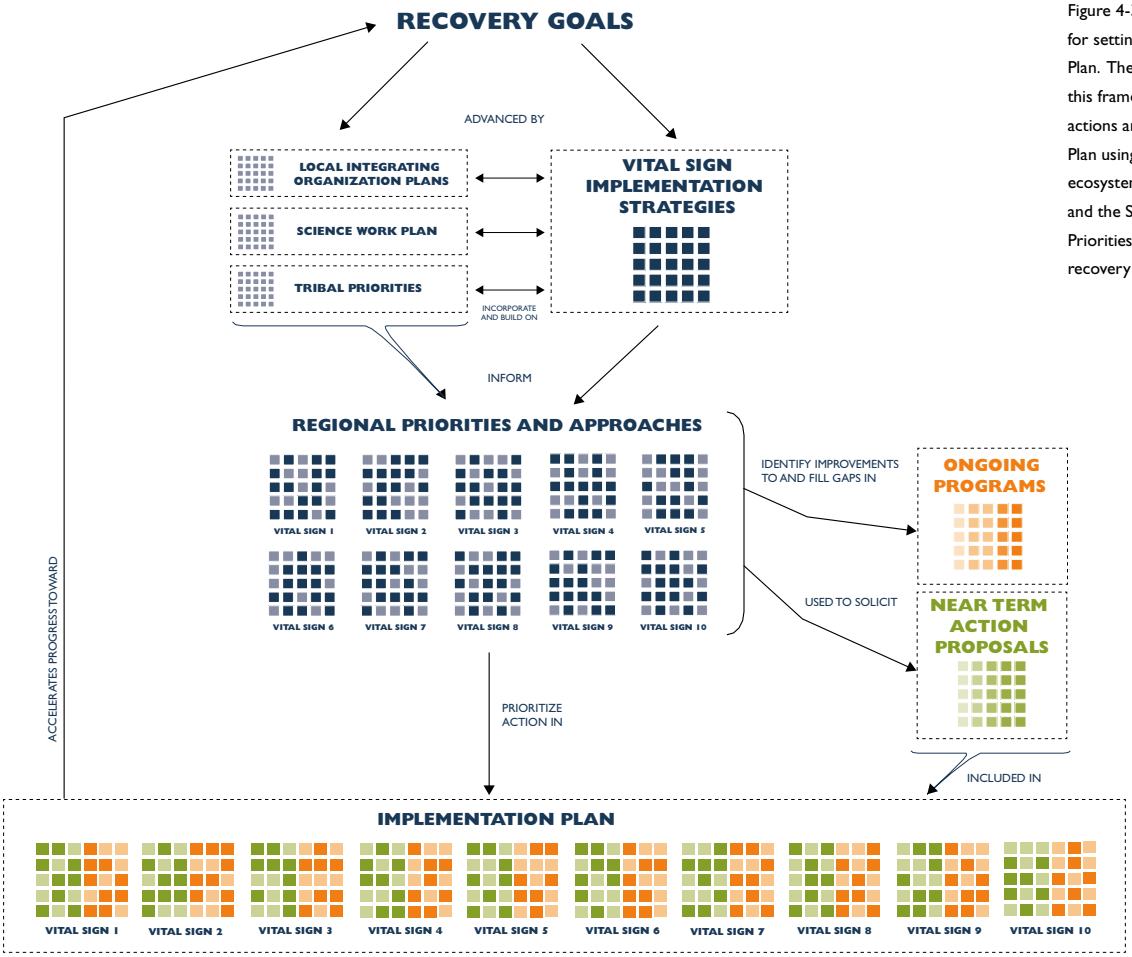


Figure 4-3 depicts the conceptual framework for setting the Action Agenda Implementation Plan. The *Comprehensive Plan* describes this framework for defining the focus of actions and programs in the Implementation Plan using Implementation Strategies, LIO ecosystem recovery plans, Tribal Priorities, and the Science Work Plan to identify Regional Priorities that guide the next 4 years of recovery work.

STRATEGIES FOR PUGET SOUND RECOVERY

Over the past decade, the Partnership, its recovery partners, and the Management Conference have identified and refined strategies needed to achieve Puget Sound recovery targets. These strategies and sub-strategies are approaches to address pressures on the Puget Sound ecosystem. A full list of the strategies and sub-strategies is included in an *Appendix to the Action Agenda*. The strategies and sub-strategies were originally developed to define the full range of approaches required to meet the six recovery goals. As such, the Partnership used these strategies and sub-strategies as the basis for soliciting Near Term Actions for the Implementation Plan. In addition, over the past ten years, many local and regional plans—including LIO ecosystem recovery plans and Implementation Strategies—have considered or incorporated these strategies and sub-strategies. More recently, however, the recovery community has moved toward the development and use of Implementation Strategies as our principal framework for prioritization and for soliciting Near Term Actions needed for inclusion in the *Implementation Plan*.

The approaches outlined in the original set of strategies and sub-strategies are still relevant, and are considered to constitute the full body of work needed to recover Puget Sound. The Implementation Strategies, Regional Priorities, and Regional Priority approaches are more targeted and strategic plans and actions for accelerating progress toward specific Vital Sign targets. In general, strong correlation exists between the comprehensive list of existing strategies and sub-strategies and the Regional Priorities and Regional Priority approaches being identified through the Implementation Strategy development process. The Partnership is working to determine the relationship between the two and how the two should guide recovery efforts into the future.

THE ROLE OF SCIENCE

Adaptive management relies on scientists' advice, scientific information, and scientific processes. Science informs prioritization of action by telling us which human actions affect the health of Puget Sound and what efforts are most effective in reducing pressures. Science is also crucial to evaluating past efforts and informing future decisions about prioritizing and implementing action, as described in detail in the sections titled *Evaluating Recovery Progress* and *Informing Future Prioritization of Recovery Action*. Scientific advice, information, and processes improve decisions about how to recover Puget Sound.

To guide planning for recovery, the Puget Sound Partnership relies on scientific advisors and partner organizations, including the Science Panel, Puget Sound Ecosystem Monitoring Program, Washington State academic institutions, many government and non-profit organizations, and the broader scientific community. These advisors and partners provide scientific information and input through a variety of reports and engagement forums.

ADAPTIVELY MANAGING RECOVERY

To learn more about near-term efforts to improve the scientific basis for recovery, go to ***Chapter 2 of the Implementation Plan.***

Specific examples of how science informs recovery planning include:

- **Science tells us how human pressures affect the ecosystem and which pressures are the most important to address.** The *Puget Sound Pressures Assessment* informs understanding of the pressures on Puget Sound's freshwater, marine, nearshore, and terrestrial resources. The assessment identifies the critical ecosystem vulnerabilities that must be addressed to achieve sustainable, long-term recovery. The assessment provides the scientific input for prioritizing Vital Signs and informs Implementation Strategy development.
- **Science provides a foundation for understanding what approaches are most effective for achieving recovery targets.** To jumpstart the development of an Implementation Strategy, the Puget Sound Institute compiles existing resources and knowledge on the challenge at issue. The initial materials include information about status and trends of key ecosystem indicators; underlying drivers, pressures, and stressors that inhibit recovery; current approaches to recovery and whether they are effective; and key uncertainties that require resolution.
- **Scientific processes help us consider scientific and other relevant information in a structured and consistent way.** Many of the local and regional plans mentioned in this section use scientific processes to identify and select alternative actions or strategic recovery approaches. Factors considered in decision analyses may include the potential ecological impact of actions, geographic scope and severity of pressures, feasibility of actions across different decision-makers and partners, irreversibility of stresses, and resilience of ecosystems. Decision-makers use ratings on each factor to select items to include in a recovery plan.
- **Social science helps us understand how individual and collective human behavior can enable or limit progress.** *Social science* is increasingly used to develop and hone recovery strategies in Implementation Strategies, LIO ecosystem recovery plans, and the Action Agenda. Social science research can inform policy decisions and the design of recovery strategies by exploring relationships between human societies and the natural environment. A Social Science Advisory Committee comprising social science academics and professionals advises the Science Panel on relevant social science and reviews Partnership products and plans. The Partnership continues to develop new tools and guidance for incorporating social science into recovery planning.

The Strategic Science Plan and Science Work Plan, which are produced by the Science Panel with assistance from the Puget Sound Partnership, guide the incorporation of science into recovery planning.[4] The *Strategic Science Plan* provides the overall framework for development and coordination of the science activities necessary to support Puget Sound recovery under the Action Agenda. The plan describes at a high level how science should inform policy for Puget Sound recovery, through identifying indicators and setting targets, assessing risks, evaluating potential management strategies, and monitoring and evaluating progress. The plan is a high-level document that is revised as needed.

As articulated in the Strategic Science Plan, the Science Panel envisions a science enterprise that provides science infrastructure and capacities for:

- Application of scientific information and processes to fuel the adaptive management cycle.
- Ongoing, two-way engagement between science and policy participants.
- Carrying out and coordinating monitoring, modeling, data management, and research.
- Synthesis, products, and venues to communicate scientific information to the right people at the right time.
- Periodic peer review of science activities.
- Education and outreach to build public awareness of the value and roles of science, foster consensus around what we know, and support learning about science and the Puget Sound.

[4] Past Science Work Plans were updated every two years and referred to as Biennial Science Work Plans. Science Work Plans are now updated every four years. The current Science Work Plan was developed for a biennial timeframe (2016-2018), but a new Science Work Plan will not be developed until 2020.

The *Science Work Plan* identifies the near-term scientific advancements needed to recover Puget Sound. The plan also suggests how science can better support recovery. By identifying science work actions and recommending improvements to ongoing science in this plan, the Science Panel helps inform the allocation of limited resources to the issues where they are most needed for resolving uncertainties in knowledge and assisting with informed decision-making. Both the Strategic Science Plan and Science Work Plan are key companions to the Action Agenda and are incorporated into the Action Agenda by reference. One example of how the Science Work Plan has influenced the direction of the recovery effort over time is found in the 2014 Biennial Science Work Plan, which originally defined the elements of recovery planning that have been adopted as standard components of an Implementation Strategy. The Action Agenda's reliance on Implementations Strategies and these standard components for defining needed recovery action has increased over time, as explained in the following section.

THE ROLE OF IMPLEMENTATION STRATEGIES

Implementation Strategies are strategic plans for accelerating progress toward *Vital Sign indicator targets*. Implementation Strategies are developed by and belong to the entire Puget Sound recovery community, and identify specific actors that must implement specific approaches to accelerate recovery. Approaches identified through the Implementation Strategies process are considered the best approaches for accelerating progress toward recovery, and play a central role in defining where to focus the collective actions in Puget Sound. Specifically, they inform the Regional Priorities articulated in the Action Agenda *Implementation Plan*.

This section describes what Implementation Strategies are, how they are developed and updated to incorporate the best available scientific understanding and other available information, and why the Action Agenda is increasing its reliance on them to advance recovery.

The *2016 Action Agenda* introduced Implementation Strategies and described a transition toward using Implementation Strategies to prioritize recovery actions and achieve specific recovery targets. The Action Agenda has continued to increase its reliance on Implementation Strategies because they result in more targeted and specific approaches to achieve Puget Sound recovery based on current scientific knowledge and analyses of existing recovery work. Additionally, the robust and inclusive process ensures that these shared plans include input from a variety of perspectives and consider factors such as feasibility, potential local and regional impact, and cost effectiveness. The process is designed to incorporate as many views as possible, while still remaining focused on how to move forward with implementation.

To achieve these benefits and to ensure a consistent process, each Implementation Strategy is developed following best practices as defined by the *Open Standards for the Practice of Conservation*. As described at the beginning of *Chapter 4*, the Open Standards framework provides a framework to make decisions based on best available information and a consistent language and taxonomy for all recovery partners to use. The Partnership has developed a *guidance document* that outlines the process for developing each Implementation Strategy. This guidance is revised and improved as the recovery community learns and identifies best practices.

The first step in developing an Implementation Strategy is identifying and making use of existing resources that are relevant to the particular focus area. This includes scientific information, local and regional strategic planning documents, an analysis of ongoing programs, social and environmental justice considerations, and other relevant information. For example, LIO ecosystem recovery plans are a source of existing information that provide a

IMPLEMENTATION STRATEGIES ARE DEVELOPED BY AND BELONG TO THE ENTIRE RECOVERY COMMUNITY

Each Implementation Strategy is developed by groups of people who are experts on the subject matter and who reflect a diversity of professional and working backgrounds and perspectives.

Any individual with the interest, time, and capacity may contribute to Implementation Strategies. For example, individuals representing the following perspectives have contributed to Implementation Strategies.

- Community advocates
- County Planners
- Engineers
- Environmental advocates
- Environmental or Technical Consultants
- Hydrogeologists
- Land Trust Conservation Directors
- Municipal Forest Managers
- Municipal Utility Managers
- Port Managers
- Puget Sound Residents
- Shellfish Biologists
- Social Scientists
- State Grant Managers
- State Natural Resource Managers
- State or Federal Regulators
- Tribal Commissioner or Councilmembers
- Tribal Scientist or Resource Managers
- Watershed Ecologists
- And many, many more

local lens through which to view regional problems and strategies. The information is gathered and presented to partners involved in creating an Implementation Strategy as a way to set a baseline of knowledge and shared work on which to advance more effective strategies. The Partnership and partners continually seek to improve the Implementation Strategies development processes by more effectively integrating local planning efforts, changing climate and ocean conditions, and the best available social science to inform and prioritize regional actions.

As each Implementation Strategy is developed, it includes a set of standard elements. Each Implementation Strategy clarifies the pressures or behaviors and external drivers that created the problem it is intended to address. Taking into account existing strategies or ongoing programs, the Implementation Strategy next describes where intervention will be most impactful. Approaches are then developed and ranked based on agreed upon criteria such as technical and financial feasibility, the likelihood of reducing adverse environmental effects, and whether approaches will reduce adverse effects for vulnerable populations without incurring additional hardship. Needed approaches and actions called for in Implementation Strategies focus on addressing gaps and barriers that hinder progress toward recovery and may include policy changes, site-specific recovery projects, regional programs, or additional scientific research and inquiry. External review and comments by technical experts and interested members of the public help to round out the content, ensuring that approaches are relevant, accurate, and understandable to a wider audience.

Creating an Implementation Strategy is just the beginning; it sets in motion a process of implementation and adaptation informed by effectiveness monitoring and evaluation. Implementation Strategies inform the priority setting in the Action Agenda, and focus efforts on the approaches, actions, and programs most likely to accelerate recovery progress. For example, the Implementation Strategies directly inform the setting of Regional Priorities for the Action Agenda. Implementation Strategies also inform implementation and funding decisions for Puget Sound recovery and the Action Agenda. Partners in recovery, such as state agencies, may also directly take action on strategies identified in the Implementation Strategies that are relevant to their work.

A specific example of how an Implementation Strategy influenced action is provided in the call-out box below.

HOW THE SHORELINE ARMORING IMPLEMENTATION STRATEGY DRIVES RECOVERY

PRIORITIZING ACTION

The Shoreline Armoring Implementation Strategy recognizes...

- Grants and incentives successfully encourage homeowners to remove hard armor.
- Homeowners willing to remove hard armor outnumber incentives to help.

The Shoreline Armoring Implementation Strategy recommends...

- More incentives to accelerate armor prevention and removal on residential properties, including site visits and technical, permit, and financial assistance.

To implement this recommendation...

IMPLEMENTING ACTION

- The Habitat Strategic Initiative co-hosted a workshop with Kitsap County and the Ecosystem Coordination Board to brainstorm solutions for funding shoreline incentive programs and projects.
- The Ecosystem Coordination Board supported a WDFW budget request to the Washington State Legislature for long-term funding of shoreline incentive programs and projects.

As Implementation Strategies and the Action Agenda are carried out, new information may emerge about what works best—or what doesn't work at all. Consistent with the Action Agenda's adaptive management framework, Implementation Strategies are living documents that are adaptively managed and updated. For example, recognition of unaccounted-for barriers or shifts in opportunities to carry out plans effectively may necessitate updates to the logic chains that inform Implementation Strategies to ensure they are sound, consistent, and accurate. This means that as new information becomes available, as additional engagement changes the direction, or as evidence emerges that strategies are no longer effective without significant changes, the recovery community can update the Implementation Strategies to keep them current and effective. New and updated Implementation Strategies may identify new information needs or approaches for accelerating recovery progress. If so, the recovery community may recognize gaps in the 2018-2022 Action Agenda *Implementation Plan* and pursue options for incorporating and acting upon the most recent learning and priorities. This flexible approach will help to ensure that decisions about ecosystem recovery priorities are based on the best available information about the effectiveness of management investments. This approach will also help accommodate the profound uncertainties about how the Puget Sound ecosystem—human and ecological—responds to stresses and to different management efforts.

THE ROLE OF LIO ECOSYSTEM RECOVERY PLANS

Local Integrating Organizations (LIOs) are diverse stakeholder forums that focus on local ecosystem recovery and protection for distinct geographies around Puget Sound and develop *5-year ecosystem recovery plans*. Their ecosystem recovery plans strategically guide recovery and protection at the local level, inform regional planning and decision making, and identify local contributions toward achieving the Puget Sound Vital Sign targets.

An LIO uses its ecosystem recovery plan to guide recovery and protection in its LIO geography. The ecosystem recovery plans identify pressures facing human wellbeing and environmental recovery and protection, long-term strategies to address pressures, quantitative goals, chronic barriers to recovery, gaps in research and data essential for recovery, and specific actions and programs that align with prioritized strategies.

LIO ecosystem recovery plans:

- Build on and work in conjunction with related recovery efforts, including salmon recovery, local growth management, Total Maximum Daily Loads (TMDL) to improve water quality, shellfish Pollution Identification and Correction (PIC) programs, and others.
- Consider and incorporate content from other local plans, to ensure consistency with regional terminology and planning frameworks, so that local priorities can inform decision-making and sequencing of recovery actions at the regional level.
- Use a rigorous, defensible technical and policy process that identifies the highest-priority recovery strategies and actions in each LIO area and thereby help direct limited funding to where it will be most effective.
- Serve as a longer-term, more durable strategic framework from which local Near Term Actions can be developed and implemented.
- Inform development of regional Implementation Strategies.
- Account for existing ongoing programs in the LIO area and identify gaps where additional work is needed.

To inform the Action Agenda LIOs use their LIO ecosystem recovery plans to recommend recovery priorities for the Action Agenda and create *local context for each of the regional priorities*. LIOs also use their ecosystem recovery plans as guidance to review and tier submitted Near Term Actions for the *Implementation Plan*, in coordination with the regional review process.

LIO ecosystem recovery plans chart the course for ecosystem recovery at the local level.

The LIO ecosystem recovery plans are the foundation for communicating local recovery goals with local legislators, decision makers, and the public. They also are the formal document for communicating local recovery goals and needs to regional planning processes. Information from LIO ecosystem recovery plans is synthesized and tailored to inform Implementation Strategies and other regional planning processes. Efforts for synthesizing LIO ecosystem recovery plans tailored to decision makers and planners began in 2017 and will continue through 2019.

THE ROLE OF SALMON RECOVERY PLANNING EFFORTS

Salmon are integral to the identity and culture of Puget Sound. Yet several Puget Sound salmon runs are threatened and the 22 remaining populations of Chinook salmon are dangerously below federal recovery goals. The *Puget Sound Salmon Recovery Plan* outlines strategies and actions for achieving recovery of threatened Chinook salmon stocks in Puget Sound. Although the plan was written to meet federal requirements under the *Endangered Species Act*, most—if not all—of its strategies and actions contribute to overall ecosystem recovery. Likewise, many of the strategies in the Action Agenda are essential for salmon recovery. Connecting these two efforts seamlessly and efficiently is necessary to achieve the Partnership's twin goals of Chinook salmon recovery and ecosystem recovery.

The Partnership and its partners strive to integrate salmon recovery and Puget Sound recovery efforts in several ways:

- Many of the *partners in recovery* have formal roles in the statewide salmon recovery effort. The Leadership Council is the regional salmon recovery organization for Puget Sound and works closely with the Puget Sound Salmon Recovery Council (PSSRC) to oversee funding and implementation of the *Puget Sound Salmon Recovery Plan*. Similarly, the Science Panel has incorporated the PSSRC's recovery planning priorities into the development of the *Science Work Plan*. The Salmon Science Advisory Group—a joint workgroup of the Science Panel and PSSRC—provides the PSSRC with scientific advice. The Hood Canal Coordinating Council is the salmon recovery organization for Hood Canal and Eastern Strait of Juan de Fuca summer chum.
- Priorities and actions for salmon recovery in the Action Agenda derive from the Chinook Salmon Implementation Strategy—developed by the Partnership and PSSRC—and the Puget Sound Salmon Recovery Plan. Therefore, the Action Agenda reinforces the Salmon Recovery Plan's call to action and enables the coordination of investment and implementation across the two efforts.
- At the local scale, *Lead Entities* are organizations that oversee implementation of *watershed chapters* of the Puget Sound Salmon Recovery Plan. Lead Entities identify and prioritize habitat protection and restoration projects that will make the largest contribution to salmon recovery within their watersheds. Salmon recovery Lead Entities and watershed groups participate in Local Integrating Organizations, ensuring that LIO Ecosystem Recovery Plan long-term strategies and Near Term Actions incorporate salmon recovery priorities.
- The Partnership continues to pursue options for further integrating salmon recovery and Puget Sound recovery efforts, including Lead Entities and Local Integrating Organizations. Both the Puget Sound recovery and salmon recovery efforts engage many of the same people, allowing more effective use of resources to benefit both salmon and the broader Puget Sound ecosystem. Integrated decision making for Puget Sound and its salmon can bring together the multiple interests engaged in recovery efforts to find common agreement for more integrated ecosystem recovery visions, strategies, and actions.

More information on Puget Sound salmon recovery and how that effort is integrated with Puget Sound recovery is available on the *Partnership's website*.

THE ROLE OF PUGET SOUND TRIBES

> *My dad only walked on this earth for 100 years, and that's not a long time. To us, that's not a long time. We manage way out in the hundreds of years for our resources.*
>
> – Billy Frank Jr.

Since time immemorial, the tribes of Puget Sound have managed their ancestral homelands and abundant natural resources in accordance with tribal values and teachings. Puget Sound ecosystems have become degraded and now only supply a fraction of that abundance. Because their livelihoods and cultural identities are at stake, tribes are on the front lines of Puget Sound recovery and are fiercely committed to protecting salmon. Their tireless commitment is remarkable and inspirational.

Tribes are leaders in Puget Sound recovery and indispensable partners who have made substantial investments in recovery efforts. Tribes contribute traditional knowledge of natural resources gained over thousands of years. They also offer significant contributions to the body of science that can shape recovery efforts, employing experts who conduct research, monitoring, and evaluation. Tribes develop and implement strategic initiatives that connect science with policy and action, which has contributed to hundreds of successful recovery projects.

As sovereign nations, tribes co-manage treaty-protected resources through a government-to-government relationship with the State of Washington and U.S. federal government. The right of tribal people to access the ecosystems of Puget Sound was recognized through treaties signed with the federal government in the mid-1850s. These treaties are the "Supreme Law of the Land" under the U.S. Constitution. When tribes ceded their land under the treaties, they reserved their right to fish, hunt, and gather at all usual and accustomed grounds and stations. U.S. v. Washington (Boldt decision) and related cases affirmed the tribes' role as co-managers of treaty-protected resources and their right to up to 50 percent of the harvestable salmon and shellfish. As affirmed by the U.S. Supreme Court, implicit in this treaty right is the responsibility of the State to protect and restore salmon habitat in some circumstances.

Without the persistent and vigorous efforts of tribes to defend their treaty rights, many salmon runs would most likely already be extinct. However, threats to tribal treaty rights remain because salmon populations decline as their habitat is being degraded or developed faster than it can be restored and protected. This threat is described in detail in *Treaty Rights at Risk*, a report written by tribes in 2011 that calls upon the federal government to fulfill its trust responsibility. Tribes also produced the *2016 State of Our Watersheds* report, which shows a steady decline in salmon habitat and the harmful effects of culverts, diminishing riparian buffers, and groundwater withdrawals.

Tribes recently produced *gwədzadad* (pronounced gwa-zah-did), a tribal approach to identifying and protecting the lands, waters,and ecological processes critical to their rights, resources, and homelands. As translated from Lushootseed, *gwədzadad* means "Teaching of our Ancestors." It acknowledges that tribes' beliefs and teachings are learned within their homelands, which can never be separated from tribal culture and heritage.

Tribal reports have identified—and this Action Agenda recognizes—that efforts to recover Puget Sound and treaty-protected resources have been inadequate. Tribes have been instrumental in identifying

TRIBAL MANAGEMENT CONFERENCE

The following language was provided by the Tribal Management Conference and individual tribes.

"The Tribal Management Conference is a forum created by the U.S. Environmental Protection Agency's new funding and decision model for the National Estuary Program for Puget Sound, and has been further formed and initiated by the Tribes. The Tribal Management Conference is a forum where Tribes coordinate their participation in the Action Agenda update, and will set priorities for Puget Sound recovery in the Action Agenda and provide direct input into the National Estuary Program decisional framework.

The Tribal Management Conference forum is intended to complement the government-to-government relationship between the State of Washington and Treaty Tribes identified in the *Centennial Accord* without relieving state and federal agencies of their obligations to consult directly on a government-to-government basis with individual Tribes.

As a guiding framework, the Tribal Management Conference will work from the Tribal Treaty Rights at Risk initiative and Tribal Habitat Priorities. The Tribal Management Conference is a forum that will focus tribal participation in the protection and restoration of the Puget Sound ecosystem to protect alll tribal teraty reserved rights, and with further emphasis on creating opportunities to actually protect and recover Puget Sound through the implementation of the actions necessary to produce sustainable and harvestable salmon and shellfish populations, and to provide clean water."

and vocalizing the persistent barriers that impede recovery efforts, including a lack of political will to take on the most challenging and necessary actions for recovery.

Tribes work closely with state agencies and local organizations on recovery efforts, including the Puget Sound Partnership. The Partnership is committed to supporting the principles of the *Centennial Accord (1989)*, which recognizes the sovereign status of tribes and institutionalizes government-to-government relationships. Tribal representatives serve on the Leadership Council, Ecosystem Recovery Board, Science Panel, and Salmon Recovery Council. The Tribal Management Conference provides forums to involve the tribes in Puget Sound Partnership activities, including policy development and project prioritization.

COMMON ISSUES ADDRESSED BY ALL PLANS

Certain issues are pervasive, affecting each of the ecosystem problems that face Puget Sound. As a result, they appear throughout the previously referenced local and regional planning processes and are also integrated into the Regional Priorities in the *Implementation Plan*. These challenges are briefly introduced here:

- **Changing climate and ocean conditions:** The *Preliminary Climate Change Assessment* results identified significant climate related risks to ecosystem recovery and long-term protection. Each recovery goal and Vital Sign is likely to be negatively affected by climate impacts in some way, although the pathways and degree of risk vary. As the Action Agenda and associated plans are developed and adaptively managed, they continue to build on available knowledge to identify strategies and actions for reducing risks and supporting social, institutional, and ecological resiliency to the effects of climate change. The Partnership and its recovery partners continue to expand and improve guidance and build capacities for considering the effects of climate change during recovery planning to support resiliency. Regarding ocean acidification, the Marine Resource Advisory Committee continues to lead efforts to identify actions that address the causes and consequences of acidification. Findings from the Committee's most recent report, an addendum to the 2012 report of the *Washington State Blue Ribbon Panel on Ocean Acidification*,[5] will inform future recovery efforts.

ADAPTIVELY MANAGING RECOVERY

To learn more about near-term efforts to improve how changing climate and ocean conditions are incorporated into plans, go to ***Chapter 2 of the Implementation Plan***.

[5] Washington Marine Resources Advisory Council (2017): 2017 Addendum to Ocean Acidification: From Knowledge to Action, Washington State's Strategic Response. EnviroIssues (eds). Seattle, Washington. http://oainwa.org/assets/docs/2017_Addendum_BRP_Report_fullreport.pdf

ACTION AGENDA PRIORITIES AND ACTIONS ADDRESS CHANGING CLIMATE AND OCEAN CONDITIONS

The Action Agenda integrates many local and regional plans and describes the most important recovery work for the next 4 years through a set of Regional Priorities. Many of these local and regional plans consider changing climate and ocean conditions, which are then incorporated into the Regional Priorities. Additionally, the Puget Sound Climate Advisory Team reviews the Regional Priorities and suggests improvements for how they can better consider and integrate climate-related risks.

As a result, the Action Agenda Regional Priorities integrate changing climate and ocean conditions. In some cases, Regional Priorities focus directly on research, planning, and implementation specific to addressing changing climate and ocean conditions. In other cases, the Regional Priorities provide guidance or example actions to ensure proposed activities are designed to reduce the risk that changing conditions pose to successful recovery outcomes. The Action Agenda's Regional Priorities also align with recommendations of the Marine Resource Advisory Committee to address ocean acidification by, for example, prioritizing reductions in nutrient runoff and embracing strategies to address ocean acidifications impacts on shellfish. Because these Regional Priorities were the basis for soliciting Near Term Actions, the Near Term Actions in the Implementation Plan also consider and address changing climate and ocean conditions.

- **Regulation and enforcement.** Regional partners at all levels of government can make progress toward addressing each of the ecosystem problems facing Puget Sound through the creation of laws and regulations. Yet a recurring barrier to this progress is a lack of compliance with existing laws. Increasing compliance through education, incentives, enforcement, or other means thus has the potential to advance recovery in many areas without the need for major policy or legislative change. Improved compliance with existing laws is a common strategy for recovery identified in local and regional plans.
- **Science and monitoring.** Sound science provides the continued basis for decisions made by partners and policymakers on how best to recover Puget Sound. Although the Puget Sound Partnership is charged with assessing the region's overall progress toward recovery targets and describing the status of recovery efforts, there are numerous gaps in our collective understanding that scientific study and monitoring can address with shared efforts and resources. Each of the local and regional plans identifies relevant gaps in scientific knowledge and recommends research and monitoring efforts to fill those gaps.
- **Social approaches to recovery.** How individuals and groups think, value, and act in daily life has direct and indirect consequences on the success of ecosystem recovery. The actions and methods that address people's attitudes, behaviors and choices in day-to-day life are called social approaches. Social approaches include formal and informal education programs, outreach projects, efforts to increase public involvement or stewardship by raising awareness of issues, programs intended to change behavior such as social marketing campaigns, technical assistance programs, and enforcement activities. Local and regional plans recognize projects and programs that focus on raising awareness and changing human behavior as powerful tools to advance recovery.

ADAPTIVELY MANAGING RECOVERY

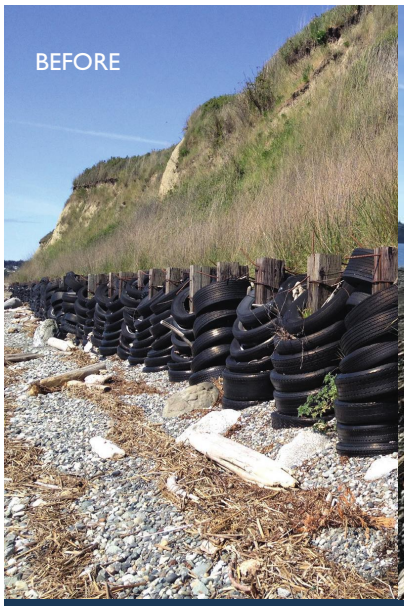
To learn more about near-term efforts to improve how local and regional plans incorporate social approaches, go to ***Chapter 2 of the Implementation Plan.***

IMPLEMENTING RECOVERY

Prioritizing action is only the beginning; it will not achieve our goals unless the actions are implemented. Project sponsors and partners implement the Near Term Actions and ongoing programs identified in the Action Agenda *Implementation Plan*. Additionally, partner organizations such as state and federal agencies, tribes, Local Integrating Organizations, and Lead Entities implement other local and regional plans. The Puget Sound Partnership supports implementation by mobilizing funding for recovery actions, assisting to remove barriers to implementation, and helping educate key decision-makers and influencers.

NEAR TERM ACTIONS

Near Term Actions are discrete, measurable activities and initiatives that contribute to achieving recovery targets and that can reasonably begin or achieve specific milestones within the next 4 years. Near Term Actions may be proposed by governments, academic institutions, nonprofit organizations, businesses, and individuals. They must be consistent with the Regional Priorities included in the *Implementation Plan* and local recovery plans developed by the Local Integrating Organizations. City and county governments, tribes, and state agencies are the primary implementers of the Near Term Actions. *Chapter 4 of the Implementation Plan* provides a list of Near Term Actions for this Action Agenda that contribute directly to achieving Puget Sound recovery goals through the Regional Priorities. *Chapter 6* of this Comprehensive Plan describes established and possible funding sources for Near Term Actions.



RECOVERY IN ACTION

Maylors Point Feeder Bluff Armoring Removal

NTA 2016-0088

Forage fish require fine beach sediments to spawn. The removal of armoring structure that includes tires, chemically-treated timber posts and planks, as well as concrete, stone, and boulders will restore natural sediment transport processes at Maylors Point, creating beach conditions more suitable for forage fish spawning in the nearshore. It will also help increase food supply for fish and birds using the nearshore and increase the natural resiliency to respond to rising sea levels. This project will directly contribute to the Shoreline Armoring Vital Sign target and was funded by the Habitat Strategic Initiative.

FOR MORE INFORMATION

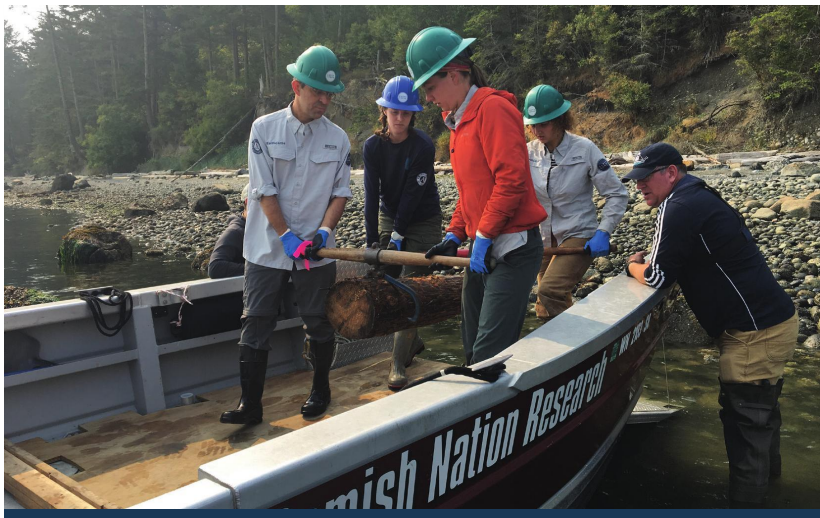
https://nwstraitsfoundation.org/project/maylor-point-shoreline-armor-removal/

ONGOING PROGRAMS

Ongoing programs have been and continue to be the critical foundation for Puget Sound recovery efforts. They are continuing efforts that provide regulatory oversight, technical support, implementation resources, or other guidance. Ongoing programs are essential for protecting the health of Puget Sound and its residents. These programs must continue to receive funding, implementation, and enforcement support from lawmakers and the public in order to achieve recovery goals. Examples include programs related to implementation of the Growth Management Act at both the state and local levels, salmon recovery programs, and Washington State Department of Ecology Clean Water Programs. They are not considered Near Term Actions because they are not discrete recovery actions—they are *ongoing*. However, the Near Term Action solicitation did request actions that were designed to improve, expand, or otherwise change an ongoing program, providing an opportunity for actions related to ongoing programs to be included in the ranking of Near Term Actions. This is necessary to ensure accountability of ongoing programs to Puget Sound recovery goals, to avoid duplication of efforts, and to fill any gaps in actions necessary for recovery. Many ongoing programs are associated with state, federal, tribal, and local land use and environmental regulatory programs and have independent, long-term funding.

Chapter 5 of the Implementation Plan provides a list of ongoing programs that contribute to achieving Puget Sound recovery goals.

The *Partnership's website* provides tools to track the status of Near Term Actions, current funding and barriers to implementation, and progress toward desired results.



RECOVERY IN ACTION

Department of Natural Resources Aquatics Puget Sound Creosote Removal Program

NTA 2016-0161

Creosote is a wood preservative that treats phone poles, railroad ties, docks and floats. Creosote piles from derelict structures leach toxic chemicals into sensitive freshwater, impacting marine Puget Sound habitats and aquatic species. This project will result in removal of creosote pilings and debris in focused areas of Puget Sound, including 1,000 static creosote-treated pilings—one of the highest concentrations of derelict creosote-treated pilings located on state-owned aquatic lands—and over 8,000 square feet of overwater structure at the Dickman Mill site in Tacoma. Supporting these actions will reduce the amount of toxics that may impact Pacific herring and salmon, improve marine water and sediment quality, and provide additional areas for eelgrass natural growth and restoration opportunities. This project will contribute to the Toxics in Fish Vital Sign and was funded by the Habitat Strategic Initiative.

FOR MORE INFORMATION

http://www.dnr.wa.gov/programs-and-services/aquatics/restoration/creosote-removal

EVALUATING RECOVERY PROGRESS

Although tracking implementation of actions is necessary, it is not sufficient; the recovery community must also understand the effectiveness of these actions and how they are contributing to progress toward ecosystem recovery targets. Partners collaborate to evaluate progress toward Puget Sound recovery in the following ways.

- Assessing the effectiveness of individual recovery actions in achieving desired outcomes.
- Monitoring the overall health of the Puget Sound ecosystem through Vital Sign indicators.
- Collaborating to monitor, share, summarize, and utilize scientific information in support of Puget Sound recovery through the Puget Sound Ecosystem Monitoring Program.

To support these efforts, the Partnership works closely with many partners, which collect data on ecosystem status and trends, human wellbeing, and recovery progress.

EFFECTIVENESS ASSESSMENT

The Puget Sound Partnership works with the recovery community to evaluate the effectiveness of individual actions. Information on the effectiveness of recovery actions is gathered by Partnership staff, distilled from existing reports, and vetted by local experts to share stories about what's working to recover Puget Sound. For Near Term Actions that collect information about effectiveness, the Partnership works with Near Term Action owners to evaluate results and provide additional information to interpret results. Some Near Term Actions do not collect data to evaluate effectiveness; in these cases, staff look for relevant information from other projects that could be used to assess effectiveness. Nonetheless, the effectiveness of many Near Term Actions is challenging to quantify; for example, when project actions are to develop programs or materials. At a larger spatial scale, quantifying the cumulative effect of individual local projects remains difficult and will require new analysis methods. The Partnership shares results about what's working to recover Puget Sound in the State of the Sound, as topical fact sheets, and during outreach events.

ADAPTIVELY MANAGING RECOVERY

To learn more about near-term efforts to improve how the recovery community evaluates progress, go to ***Chapter 2 of the Implementation Plan***.

VITAL SIGN MONITORING

Ecosystem conditions—including human wellbeing—and progress toward achieving the recovery targets are assessed by the indicators in the *Puget Sound Vital Signs*. The best available status and trend data for many indicators are compiled by the Partnership from a variety of monitoring programs in Puget Sound, including state and federal agencies, tribes, local jurisdictions,

and nongovernmental organizations. Technical and scientific experts from those organizations provide the data and oversee the interpretation of the results for each Vital Sign indicator. Data quality assurance and documentation remain the primary responsibility of the individual contributors. The Partnership's *Vital Sign website* is rich with information on each Vital Sign indicator, and includes: the monitoring program responsible for collecting data and reporting on each indicator; data summaries, graphical displays of results, and links to the original data sources when publicly available; descriptions of methods and quality assurance protocols; and a summary of the status and trends of the indicator and progress toward targets. For example, detailed data on the status and trends of the Southern Resident orca Vital Sign indicator is *available here*. In addition, the *Vital Sign website* also includes key messages for each of the 25 Vital Sign—which may cover one or more indicators—that are produced by Puget Sound Ecosystem Monitoring Program workgroups.

PUGET SOUND ECOSYSTEM MONITORING PROGRAM (PSEMP)

The Puget Sound Ecosystem Monitoring Program (PSEMP) is a collaborative network of subject matter experts and practitioners who collect, share, analyze, and synthesize data and information about the status of the Puget Sound ecosystem and the effectiveness of recovery actions. The Puget Sound Partnership supports coordination of PSEMP as part of its monitoring program to provide vetted, scientific information about ecosystem conditions, progress toward recovery, and effectiveness of actions. PSEMP brings together diverse partners—from state, federal, tribal and local government agencies, non-governmental organizations, watershed groups, businesses, academia, Local Integrating Organizations (LIOs), and other private and volunteer groups and organizations—with the goal of coordinating data collection, findings, and assessments that are most relevant to Puget Sound recovery. For example, many of the organizations and individuals that monitor Vital Sign indicators engage in PSEMP.

The Partnership and PSEMP have collaborated to develop a *strategic plan* that outlines a mission and objectives for PSEMP.

Mission: Convene a collaborative network of subject matter experts who organize, synthesize, and communicate scientific information from many monitoring organizations and different parts of the ecosystem to directly address foundational management and science questions critical to recovery of the ecosystem.

To achieve this mission, PSEMP has adopted the following objectives:

1. Create and maintain forums to increase ***collaboration*** across monitoring programs to improve effectiveness and efficiency of monitoring programs and their ability to meet the information needs of planners, managers, and decision-makers. Organize and synthesize the data being gathered by existing monitoring programs to increase access to available information, and highlight priority knowledge gaps to be filled.
2. Support ***adaptive management*** of recovery efforts by: evaluating the effectiveness of recovery actions and approaches so that those actions can be prioritized; engaging PSEMP members in planning processes such as Implementation Strategies; and facilitating the exchange of knowledge among PSEMP members and with planners, managers, and decision-makers.
3. Improve ***communication*** within the monitoring and assessment community and to audiences specified in a new communications plan in order to improve access to and use of credible information in decisions about Puget Sound recovery efforts.

INFORMING FUTURE PRIORITIZATION OF RECOVERY ACTION

Once the recovery community has evaluated the effectiveness of implemented actions, results are communicated to decision-makers as they plan the next round of recovery actions. By communicating these results, the recovery community can describe the return on investment or benefit of recovery efforts. When the return or benefit meets or exceeds expectations, sharing results can encourage more implementation of successful approaches. When the benefit does not meet expectations, the recovery approaches can be modified. Knowledge gained is reported in a variety of scientific and policy reports and studies from tribes, academia, and government agencies. The Puget Sound Partnership's biennial State of the Sound report is one example. The knowledge gained is then reflected in updates to local and regional plans and the next Action Agenda *Implementation Plan*—the strategies, regional priorities, and actions prioritized for the next cycle.

- **State of the Sound.** The *State of the Sound* reports on recovery progress as tracked by monitoring of implementation, the *Puget Sound Vital Signs* and *effectiveness* program. It helps partners and decision-makers understand the state of the Puget Sound ecosystem, where progress is being made, where challenges remain, and where future action and focused investment are needed. The *State of the Sound*, which is updated every two years, addresses the following questions.
    - How is the ecosystem doing?
    - Are we making progress in implementing identified recovery actions?
    - What have we learned about the effectiveness of recovery efforts and what are our next steps?
- **Salish Sea Ecosystem Conference.** The Salish Sea is a transboundary water body that includes the Strait of Georgia in the Canadian province of British Columbia, and Puget Sound and the Strait of Juan de Fuca in Washington State. Every two years, the Salish Sea recovery community—including scientists, First Nations and tribal government representatives, resource managers, community and business leaders, policy makers, educators, and students—gets together to present and share the latest research on the state of the ecosystem, and to guide future actions for protecting and restoring the Salish Sea ecosystem.

The evaluation effort provides essential information about the success and efficiency of various approaches and activities and helps inform decisions on how to prioritize actions in the future. All local and regional plans—including LIO ecosystem recovery plans, the Puget Sound Salmon Recovery Plan, Implementation Strategies, and the Action Agenda—are periodically updated to capture this new information. This Action Agenda and the Regional Priorities and Near Term Actions outlined in the *Implementation Plan* incorporate lessons learned over the past decade. As the recovery community continues to learn about the Puget Sound ecosystem, the most effective recovery actions, and the best ways to engage with and meet the needs of all the partners in recovery, the Action Agenda and collective recovery effort becomes more effective and efficient over time.

The Action Agenda cannot overstate the work of the entire recovery community and their contributions to recovery. Puget Sound recovery is simply not possible without collaboration and coordination throughout.

CHAPTER 5 | PARTNERS IN RECOVERY

Ecosystem recovery and long-term protection is a responsibility shared by many, including government agencies, tribes, private-sector institutions, academia, nongovernmental organizations, and the public. The Puget Sound region is home to more than 4 million residents, many of whom belong to tribes and organizations with diverse interests in Puget Sound recovery. The Puget Sound Partnership was created to steward the work of a broad set of partners that reflect this diversity toward recovery in a region with a growing, multicultural population.

This chapter describes the governing structure of the Partnership and the roles and responsibilities of the partners involved in Puget Sound recovery—and, specifically, in the development of the Action Agenda. The boards and organizations formally associated with the Partnership are depicted in Table 5-1. These groups and additional partners are described below. Any interested members of the public are welcome to engage in many of the supporting groups described in this section. Additionally, members of the public can support the recovery effort through their actions, their votes, and their tax dollars.

TABLE 5-1. STRUCTURE, RELATIONSHIPS, AND ROLES OF THE PARTNERSHIP AND PARTNERS

PUGET SOUND PARTNERSHIP	SUPPORTING ORGANIZATIONS AND WORK GROUPS	GOVERNMENT PARTNERS
Leadership Council*	Strategic Initiative Leads and Advisory Teams	Federal Puget Sound Task Force
Ecosystem Coordination Board*	Local Integrating Organizations	Tribes
Science Panel*	Puget Sound Ecosystem Monitoring Program	State agencies
Puget Sound Partnership: Executive Director & Staff	Salmon Recovery and Watershed groups, including the Puget Sound Salmon Recovery Council	Local governments
	NW Straits Commission & Marine Resources Committees	Transboundary government work groups and coordinating bodies
	Environmental Caucus	
	Academic Institutions	

*Puget Sound Partnership Boards

WHO ARE THE PARTNERS IN RECOVERY?

PUGET SOUND PARTNERSHIP

The Puget Sound Partnership coordinates the region's collective effort to recover Puget Sound. The Partnership brings together hundreds of partners to mobilize action and investments around a common agenda. The Partnership is not a regulatory, grant, nor implementation agency. It facilitates collaboration to optimize Puget Sound recovery.

The Partnership provides leadership through the collective development of the Action Agenda, measurements, and funding strategy. Chapter 1 of this Action Agenda provides more detail on the Partnership's backbone role. The Executive Director is appointed by and reports to the Governor to strategically focus, manage, and guide the work of the Partnership.

PUGET SOUND PARTNERSHIP BOARDS

The *Puget Sound Partnership's three boards* (Leadership Council, Ecosystem Coordination Board, and Science Panel) direct and support the Partnership in its charge of mobilizing and accelerating the science-informed effort to recover Puget Sound. These three boards are integral to the Partnership's role, and coordinate their priorities for maximum effectiveness via system-wide shared goals related to increasing and mobilizing diverse sources of funding for the recovery effort, supporting local governments in their efforts to protect habitat and better manage stormwater, and broadening partnerships with the private sector.

Leadership Council

The Governor appoints the seven at-large members of the *Leadership Council*, which sets policy and strategic direction for Puget Sound recovery. The Leadership Council adopts, revises, and guides implementation of the Action Agenda. It oversees the allocation of funds and ensures accountability. In addition, the Leadership Council serves as the regional salmon recovery organization for Puget Sound salmon species (except Hood Canal summer chum) and oversees implementation of the *Puget Sound Salmon Recovery Plan* with advice and support from the Puget Sound Salmon Recovery Council. Advice and recommendations from boards, the Puget Sound Salmon Recovery Council, partners, and the public inform the Leadership Council's decisions.

Puget Sound Partnership Staff

THE LEADERSHIP COUNCIL ADVANCES RECOVERY

Stephanie Solien, the Council's current Vice Chair, is co-chairing the Governor's Southern Resident Orca Task Force, which is charged by the Governor with developing a suite of recommendations that have a high likelihood of immediately stemming the decline of Puget Sound's critically-endangered Southern Resident orcas. Another Leadership Council member, Dennis McLerran, co-chairs the Washington Maritime Blue Strategy, which is tasked with developing a strategy for accelerating the economy, technology innovation, and sustainability in Washington's maritime industry.

As citizen leaders from around Puget Sound, Council members work on high-priority policy issues that accelerate the recovery effort and mobilize funding for recovery plans.

Ecosystem Coordination Board

Designed to serve as the voice for diverse partner groups, the *Ecosystem Coordination Board* includes one representative from each geographic action area, two representatives from the business community, two representatives from environmental interests, three representatives from tribal governments, one representative each from counties, cities, and port districts, and three representatives each from state and federal agencies with environmental management responsibilities in Puget Sound. The diverse 27-member board focuses on problem solving and the practical aspects of Action Agenda and Implementation Strategy implementation.

MANAGEMENT CONFERENCE

Each estuary under the Environmental Protection Agency's National Estuary Program has a Management Conference, which directs governance for the estuary. For the Puget Sound estuary, the Partnership and its statutory boards are the Management Conference.

The board advises the Leadership Council and the Executive Director on major strategic and implementation decisions. The board is responsible for seeking funding and other resources, assisting with public education activities, and encouraging communication and collaboration among all the partners involved in Puget Sound recovery. Consisting of effective project and program implementers, the board focuses a significant amount of its attention on helping to overcome persistent barriers to the success of the Puget Sound recovery effort. Many board members are also elected officials, including state representatives and senators, city councilmembers, county commissioners and tribal representatives. These members have the ability to share their diverse perspectives on recovery programs and actions, to learn from each other about what is needed to recover Puget Sound, and to ensure government programs and actions are designed with Puget Sound recovery in mind.

THE ECOSYSTEM COORDINATION BOARD ADVANCES RECOVERY

In spring of 2018, the board collaborated with the Habitat Strategic Initiative to convene a workshop focused on identifying solutions to sustain funding for sub-regional programs and projects that incentivize the removal of hard shoreline armoring. Commonly referred to as the "Shore Friendly" network, these programs have enjoyed great success in providing outreach, education, and technical assistance to shoreline homeowners interested in removing hard armoring. Unfortunately, National Estuary Program funds that have supported these programs will no longer be available for this purpose beginning in 2019. The board has identified and is actively advancing several potential solutions at the state level to sustain funding for these important programs, as well as the shoreline restoration projects they support.

Science Panel

The *Science Panel* provides independent scientific advice to the Leadership Council and guidance for preparing the Action Agenda and the *State of the Sound*. The Science Panel has assisted in developing an ecosystem-level strategic science program, establishing indicators of ecosystem health, setting policy-based recovery targets, and ensuring the scientific basis for the Action Agenda and Implementation Strategies. The Science Panel is specifically responsible for guiding development and implementation of a regional monitoring program, identifying critical research needs, and preparing the *Strategic Science Plan*, *Science Work Plan*, and *Puget Sound Science Update*. The Panel's guidance to the Partnership, Leadership Council, and Ecosystem Coordination Board forms the basis of the strategic approach to Puget Sound recovery articulated in the Action Agenda.

THE SCIENCE PANEL ADVANCES RECOVERY

Beginning with its comments on the 2017 State of the Sound report, the Panel has led an effort to reframe the goal of the recovery effort as a fully restored and recovered Puget Sound to a Puget Sound ecosystem that is resilient enough to withstand current and future impacts of population growth, climate change, and other pressures. From this perspective, our recovery efforts are aimed at restoring a regenerative ecosystem that continues to support native species, habitat, and the exceptional quality of life of its human inhabitants, despite shocks and the continued acceleration of pressures on the ecosystem.

SUPPORTING ORGANIZATIONS AND WORK GROUPS

Multiple boards, work groups, advisory bodies, and implementing networks affiliated with the Puget Sound Partnership provide scientific, advisory, and implementation support for Puget Sound recovery. These groups provide strategic advice on the Action Agenda update process, setting recovery targets, and the *Science Work Plan*. They also provide specific guidance on the strategies for protecting and restoring watersheds, protecting and restoring nearshore and marine habitat, and preventing, reducing, and controlling nutrient, toxic, and pathogen loadings in Puget Sound. Many of these groups exist for reasons independent of Puget Sound Recovery and give generously of their time for our collective effort.

Many standing subcommittees and advisory groups support the Puget Sound Partnership. Members are drawn from state and federal agencies and leadership bodies, as well as key partners with subject expertise and interest in Puget Sound recovery. Contributors with explicit roles are described below.

Strategic Initiative Leads and Advisory Teams

Strategic Initiatives are a way of categorizing priority topics for recovery: Stormwater, Habitat, and Shellfish (all discussed in the *Implementation Plan*). The Strategic Initiatives direct action and resources toward the most significant problems facing Puget Sound. Strategic Initiatives are increasingly informed by Implementation Strategies.

- **Strategic Initiative Leads** provide technical leadership to the Strategic Initiative Advisory Team. They coordinate with each other and with the Puget Sound Partnership, make and manage subawards of National Estuary Program funding, and implement Strategic Initiative work approved in the *Implementation Plan*. Strategic Initiative Leads are selected by the U.S. Environmental Protection Agency through a competitive process.
    - Shellfish lead – *Washington Department of Health*
    - Habitat lead – *Washington Department of Natural Resources and Department of Fish and Wildlife*
    - Stormwater lead – *Washington Department of Ecology*
- **Strategic Initiative Advisory Teams** are an opportunity for partners representing diverse organizations and perspectives to provide technical and policy input to the Strategic Initiative Leads on priorities and funding. Team members are technical and policy experts that represent a range of local, regional, and tribal experience and perspectives. The Advisory Teams were first established in 2016 and members serve for two-year terms. The Strategic Initiative Leads and Puget Sound Partnership jointly coordinate the Strategic Initiative Advisory Teams, with the Strategic Initiative Leads providing technical and policy leadership and the Partnership providing process support.

Together, the Strategic Initiative Leads and Strategic Initiative Advisory Teams are essential to the development of the Action Agenda and have the following responsibilities:

- Propose regional recovery and protection priorities to the Puget Sound management community.
- Coordinate with regional, Tribal, and local partners to improve and adaptively manage Puget Sound strategic planning processes.
- Collaborate to address issues that affect all three Strategic Initiatives, such as climate change.
- Develop, manage, and implement Implementation Strategies.
- Establish the key sequences of actions to lead from present conditions to long term goals.
- Solicit, identify, review, and prioritize local and regional Near Term Actions.
- Manage grants which implement priority Puget Sound recovery work from the Action Agenda *Implementation Plan*.

Local Integrating Organizations

Local Integrating Organizations (LIOs) are committees of dedicated stakeholders that support and guide the implementation of the Action Agenda at a local level. LIOs may consist of an executive body, a technical body and/or a full membership. Each LIO varies in structure. Participants may include elected officials, local government staff, business representatives, marine resource committees, educational organizations, non-profits, special interest groups, salmon recovery groups, and members of the public.

LIOs meet regularly to coordinate projects, discuss how to obtain and spend funds, exchange research, and identify priority ecosystem recovery strategies and actions that are science-based and that regard community needs and values.

As of December 2018, the Leadership Council has recognized LIOs in ten geographic areas (Figure 5-1). Each organization receives capacity funding to support planning and coordination efforts. The lack of a Local Integrating Organization in the Samish/Skagit watershed has been identified as an important gap in the planning process.

LIOs adaptively manage geographically focused ecosystem recovery plans and continually identify priority actions that align with their recovery plans and best serve their communities. LIO ecosystem recovery plans are formal products that guide local recovery through the LIO and are used to communicate to regional decision makers, planners, and the public.

LIOs provide several substantial contributions to the development and implementation of the Action Agenda:

- Identify near-term ecosystem recovery priorities and local context
- Lead or guide the development of Near Term Actions that affect the local geography
- Review and tier Near Term Actions for consistency with local priorities
- Support local actions that are identified in the Action Agenda
- Recommend LIO-supported actions to receive a portion of National Estuary Program Puget Sound geographic funds
- Support implementation of ongoing programs (for example, NPDES permit coordination/implementation, implement Capital Improvement Projects/Plans, salmon recovery plans, land use regulations, etc.)
- Coordinate across government jurisdictions, tribal governments, and community groups to elevate and activate Puget Sound recovery issues

FIGURE 5-1. LOCAL INTEGRATING ORGANIZATIONS*

*For the most up-to-date map of LIO geographies, *click here*.

The LIOs contribute significant time and resources to develop products, such as *LIO ecosystem recovery plans*, and they are among the key partners who provide opportunities for public involvement. Their work provides an essential link to integrating salmon recovery priorities into the Action Agenda framework through the LIO ecosystem recovery plans. They also connect regional efforts to the unique and diverse local communities of Puget Sound. Detailed information about these organizations is available on the *Local Integrating Organizations website*.

Puget Sound Salmon Recovery Council

The Puget Sound Salmon Recovery Council (PSSRC) predates the Puget Sound Partnership and remains in place to advise the Leadership Council in carrying out its salmon recovery responsibilities as the designated regional organization for salmon recovery in Puget Sound (*RCW 77.85.090*). The PSSRC developed the Chinook Implementation Strategy, with assistance from the Partnership, and also oversees adaptive management and regional implementation of the *Puget Sound Salmon Recovery Plan*. The PSSRC includes representatives of each of the 14 watershed areas covered by the plan, state and federal agencies, tribal governments, businesses, local governments, environmental interests, and the agricultural, forestry, and angling communities.

The PSSRC currently has several subcommittees and advisory groups. For example, the Salmon Science Advisory Group—a joint workgroup of the Science Panel and PSSRC—provides scientific support to the PSSRC to assist with implementing and updating the *Puget Sound Salmon Recovery Plan*, Action Agenda, and *Science Work Plan*. The PSSRC also has a Funding Subcommittee working to mobilize new sources of funding for the salmon recovery effort, and a Regulatory & Incentives Subcommittee working to improve both voluntary and regulatory mechanisms to protect freshwater, estuarine, and marine habitats on which Chinook salmon rely.

The Puget Sound Salmon Recovery Plan, Chinook Implementation Strategy, and the forthcoming Puget Sound Steelhead Recovery Plan serve as important foundations for the Habitat Strategic Initiative. The PSSRC's recovery planning priorities, which can be found on the Partnership's *website*, provide more information about these plans and current update and development efforts.

Salmon Recovery and Watershed Groups

State, federal, and local agencies, tribes, community groups, businesses, and nonprofit organizations work together to implement the *Puget Sound Salmon Recovery Plan* at both the watershed and regional scales. The plan outlines strategies and actions for achieving recovery of threatened salmon stocks in Puget Sound.

At the local scale, Lead Entities are the watershed-based organizations that oversee implementation of *watershed chapters* of the *Puget Sound Salmon Recovery Plan*. Salmon recovery Lead Entities and watershed groups participate in Local Integrating Organizations, ensuring that the Local Integrating Organizations' long-term strategies and Near Term Actions incorporate salmon recovery priorities.

Lead Entities are established in law (RCW 77.85). Primary among their responsibilities is management of an annual process to identify and prioritize habitat protection and restoration projects that will make the largest contribution to salmon recovery within their watersheds. These projects undergo significant technical and policy review at the local scale before

being forwarded to the statewide Salmon Recovery Funding Board for further technical review and approval. In Puget Sound, the Lead Entities also take responsibility for the adaptive

management of their watershed recovery chapters. The Hood Canal Coordinating Council, which serves as both a Lead Entity and Local Integrating Organization, is also responsible for implementing and updating the Summer Chum Salmon Recovery Plan. Some of these projects may also be incorporated in the Action Agenda as Near Term Actions in the *Implementation Plan*. More information on Lead Entities' roles and work is available on the *Partnership's Salmon Recovery website*.

Puget Sound Ecosystem Monitoring Program

The Puget Sound Ecosystem Monitoring Program brings together individuals and organizations that are dedicated to monitoring environmental conditions in Puget Sound. This includes partners from state, federal, tribal and local government agencies; non-governmental organizations; watershed groups; business; academic researchers; Local Integrating Organizations, and other private and volunteer groups and organizations. Topical workgroups convene to create and support a collaborative, inclusive, and transparent approach to regional monitoring and assessment that builds upon and facilitates communication among the many monitoring programs and efforts operating in Puget Sound. A Steering Committee and Partnership staff help link the monitoring community to the Partnership's boards and other managers and decision makers to support science-based decisions and adaptive management of the Puget Sound recovery effort.

Northwest Straits Commission and Marine Resources Committees

The *Northwest Straits Commission* is a regional coordinating body of community volunteers and scientists. The commission provides funding, training, and support to seven county-based Marine Resources Committees. The Northwest Straits Commission facilitates regional coordination and connects the committees' work to regional planning processes such as the Action Agenda and Puget Sound Nearshore Estuary Restoration Program.

Environmental Caucus

The Environmental Caucus is represented on both the Ecosystem Coordination Board and the Puget Sound Salmon Recovery Council. The Environmental Caucus—which includes but is not limited to nongovernmental environmental organizations—brings an important perspective to the Ecosystem Coordination Board and Salmon Recovery Council in their advisory roles to the Leadership Council on funding and implementation of the Action Agenda and the *Puget Sound Salmon Recovery Plan*.

Academic Institutions

Several programs from regional academic institutions contribute to Puget Sound recovery. For example, the Puget Sound Institute was established by the University of Washington, the Environmental Protection Agency, and the Puget Sound Partnership to support the Partnership as the bridge between the scientific community and the groups tasked with protecting and restoring Puget Sound. Likewise, the Washington State University Stormwater Center brings significant expertise to the Stormwater Strategic Initiative.

GOVERNMENTAL ENTITIES

Federal, state, and local agencies, intergovernmental bodies, and tribes collaborate with the Puget Sound Partnership and are important agents of leadership, funding, and regulatory support. These groups are described below.

Tribes

Tribes are leaders and indispensable partners who have made substantial investments in Puget Sound recovery. The role of tribes as partners in recovery and their significant contributions to developing the Action Agenda for Puget Sound are more fully described on *page 38* of the *Comprehensive Plan*.

Federal

Federal agencies contribute to Puget Sound recovery by promoting information sharing, developing joint work priorities, participating in the Management Conference Boards and advisory committees, and by collaborating across agencies to support the development and implementation of the Action Agenda. Nine federal agencies have signed a *Memorandum of Understanding* to form a federal task force committed to these working principles, and to affirm that federal agencies with Puget Sound interests are actively participating. Partner agencies include those with environment and natural resource responsibilities—such as the National Oceanic and Atmospheric Administration, Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. Geological Survey, Natural Resources Conservation Service, and U.S. Army Corps of Engineers—as well as those with local defense and security responsibilities such as the U.S. Coast Guard, U.S. Army, and U.S. Navy. To guide its engagement with Puget Sound recovery, the federal task force has developed an *Action Plan* that supports implementation of priority recovery strategies and actions, including science and reporting. In addition, governmental partners coordinate with tribes and the state on other plans relevant to Puget Sound recovery, such as the U.S. Coast Guard's Northwest Area Contingency Plan, the Corps of Engineers' Puget Sound Master Plan, and The Recovery Plan for Southern Resident Killer Whales.

State

State agencies with natural resource and human health responsibilities promote coordination, communication, and program alignment. Agencies working toward Puget Sound recovery include the departments of Ecology, Natural Resources, Fish and Wildlife, Commerce, Transportation, Health, and Agriculture; the State Conservation Commission; the Recreation and Conservation Office; the Governor's Office; and the Office of Financial Management. Additional leadership roles are taken on by the Departments of Ecology, Fish and Wildlife, Health, and Natural Resources, which serve as Strategic Initiative Leads. The Department of Commerce and Washington State University's Stormwater Center also contribute to the Stormwater Strategic Initiative.

Cities, Counties, and Special-Purpose Districts

Much of the effort and some of the most important decisions to recover Puget Sound occurs at the local level. Cities and counties are at the frontline for addressing impacts—they develop and implement growth management plans and development regulations, manage surface water runoff, treat wastewater, and provide numerous services to residents. Most counties and many cities participate in Local Integrating Organizations and Lead Entities. Working cooperatively with cities and counties is essential for federal and state agencies, tribes, and nongovernmental interests. In addition to participating as individual jurisdictions, counties work together through the Washington State Association of Counties and the County Coastal Caucus, and cities work together through the Association of Washington Cities.

Transboundary

As part of the greater Salish Sea ecosystem, Puget Sound is influenced and affected by events and activities in Canada. To facilitate coordinated and complementary action for long-term protection and restoration, regional mechanisms promote cooperation on transboundary issues on local and Sound-wide scales.

Key transboundary issues include:

- Southern Resident orca recovery
- Vessel safety and risk management
- Oil spill prevention, preparedness and response
- Marine debris
- Marine survival of salmonid species
- Marine and freshwater quality
- Stream flows
- Flooding
- Marine species at risk (e.g., Chinook salmon)
- Toxics in the food web
- Shellfish beds

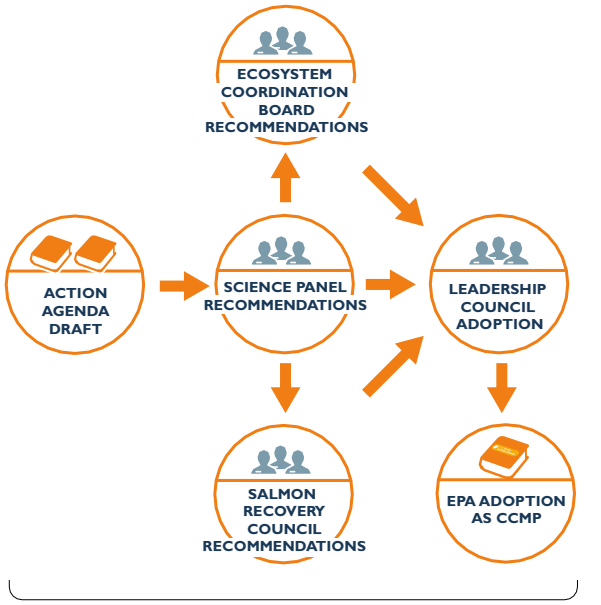
Transboundary coordination mechanisms include:

- Southern Resident Orca Task Force
- Participation of Canadian representatives on the Partnership's boards
- Biennial Salish Sea Ecosystem Conference
- The U.S. Environmental Protection Agency and Environment and Climate Change Canada Statement of Cooperation
- The Washington State/British Columbia Environmental Cooperation Council
- Regional Joint Response Teams co-chaired by Canadian and U.S. federal agencies. The teams implement joint Canada-U.S. inland and marine pollution contingency plans that provide for an international coordination mechanism to ensure an appropriate and effective cooperative response between Canada and the United States in the event of an oil release or hazardous substances emergency along the shared inland boundaries and in marine waters, including in the Puget Sound/Georgia Basin region.
- The International Airshed Strategy
- Participation in U.S.-Canada workshops convened by the Commission for Environmental Cooperation
- First Nation coordinating mechanisms including the Coast Salish Gathering and the Transboundary Indigenous Caucus of the Canada-U.S. Joint Marine Pollution Contingency Plan Pacific—Geographical Annex

FIGURE 5-2. SALISH SEA AND SURROUNDING BASIN

This map does not include the expansive Upper Fraser River watershed.

FIGURE 5-3. DECISIONMAKING PROCESS



COLLABORATIVE DECISIONMAKING

The Leadership Council sets the strategic direction for the Puget Sound Partnership regarding Puget Sound recovery and statutory obligations. Prior to setting direction or making decisions, the Leadership Council is typically presented with a broad proposal or concept by the Executive Director and staff. As appropriate, the Leadership Council may request specific input, ask questions, or seek advice from the Ecosystem Coordination Board, Science Panel, Puget Sound Salmon Recovery Council, or lead implementing agencies, as well as organizations involved in Puget Sound recovery and interested members of the public. Depending on the issues and timing, the Leadership Council may hold special meetings or work sessions to seek input from relevant experts and partners. As much as possible, the Partnership staggers and structures the meetings of the Ecosystem Coordination Board, Science Panel, and Salmon Recovery Council to provide timely input to the Leadership Council.

The decision-making process incorporates inputs from the physical and social sciences, evaluation and monitoring efforts, and policy. Each of the partners may play one or more of these roles depending on the decision under consideration. The framework may be expanded to include additional tools and processes to inform decision-making (e.g., monitoring data, public outreach, integration of existing regional and national data).

Figure 5-2 shows how decisions related to implementation and prioritizing action flow through the boards and onward to the Leadership Council. The Leadership Council may use this approach for major decisions on annual and biennial work plans for Partnership activities, state agency budget requests and legislation, and adaptive management decisions that result in new or changed actions, particularly when resulting in a strategic directional shift

or revision to the Action Agenda. The Leadership Council also adopts the Action Agenda as the State's recovery plan for Puget Sound. Upon adoption, the Partnership submits the Action Agenda to the U.S. Environmental Protection Agency for approval as the Comprehensive Conservation and Management Plan under the National Estuary Program. The National Estuary Program is the primary method through which the U.S. Environmental Protection Agency provides funding for Puget Sound recovery.

Tribal representatives are actively encouraged to participate in every step of Action Agenda planning and decision-making. Tribal leaders or tribal staff members sit on each of the statutory boards—the Leadership Council, Ecosystem Coordination Board, and Science Panel—and the Puget Sound Salmon Recovery Council. Tribal staff members are also encouraged to participate on Strategic Initiative Advisory Teams and the multi-agency group that coordinates the work of the teams. Throughout the development and adoption of the Action Agenda, the Partnership works with the Northwest Indian Fisheries Commission and Tribal Management Conference to conduct meetings to share information about the Action Agenda with tribal representatives and listen to tribal perspectives. Tribes are also encouraged to provide comments during formal comment periods. In addition, tribes and the U.S. Environmental Protection Agency can conduct government-to-government consultations regarding National Estuary Program decisions.

STRATEGIC COMMUNICATION AND PUBLIC ENGAGEMENT

The term "communication" refers to the sharing and receiving of information. As a backbone organization, the Partnership's strategic communication vision is to develop a partner-wide system of approaches, tools, and processes that enable the timely exchange of useful, credible, science-based information. We believe recovery will be accelerated with such a system in place by allowing easy access to information to support action and decision-making, enabling a comprehensive understanding of the work being done by partners, and providing guidance about the most effective ways to reach desired outcomes.

The Partnership has several roles in achieving this vision.

- Developing effective systems for information exchange with and among partners
- Facilitating trusted and cooperative communications among partners
- Identifying and removing barriers to effective communication among partners
- Supporting the expansion of public knowledge and engagement

ADAPTIVELY MANAGING RECOVERY

To learn more about near-term efforts to transform communications, go to ***Chapter 2 of the Implementation Plan*.**

The Partnership is actively requesting state budget resources to lead the work of building and stewarding this network communications framework. In addition, we are requesting funding to continue working on a shared data system which will support the network communication framework. Our goal is to see data, information, and relevant news effectively translated into helpful, impactful communication by and among our recovery partners.

The Partnership envisions advancing this vision through multiple strategies and channels, as described below.

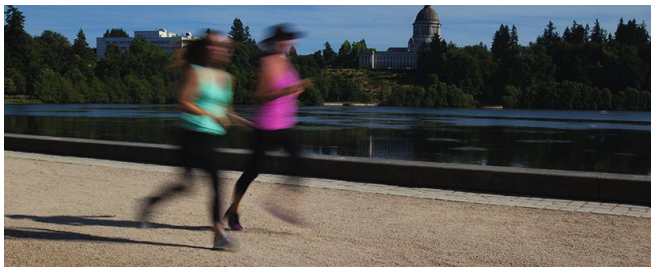
AUDIENCE: GENERAL PUBLIC

Success of Puget Sound recovery efforts requires greater public support. Individual leadership, stewardship, and development of political will are all vital. At the local level, individuals can significantly influence decisions that affect water and habitat quality throughout Puget Sound, including decisions around development, land use, population density, and transportation. Individuals can also engage with decision-makers at the regional, state, and federal levels to support this work.

Our goal is to help Puget Sound residents have the awareness, knowledge, and skills necessary to protect Puget Sound and support the recovery effort. To achieve this goal, we will guide, enable, and track the work of our partners to advance public education, engagement, and stewardship activities.

Our role in advancing this goal is to:

- Provide funding, technical, and other resources for the work of partner organizations who work directly with the public. These groups are varied but include the Marine Resources Committees; ECO Nets; the Northwest Straits Commission; Local Integrating Organizations; fellow state and federal agencies; non-profit organizations like the Seattle Aquarium, the SeaGrant program, the Nature Conservancy, the Washington Environmental Council, the Defenders of Wildlife and the Natural Resources Defense Council; and tribal governments.



- Increase public knowledge and understanding of the ecological health of Puget Sound by providing access to educational materials, while working with partners to disseminate knowledge and results from Puget Sound monitoring and research.
- Advance the dissemination of news and information to the public by increasing efficiency and alignment of messages among partners. For example, in partnership with the Governor's office, we have convened a team of state and federal public information officers to coordinate and implement public communications on the issue of the Governor's Southern Resident Orca Task Force. We also convened the initial meeting of interested communicators from nongovernmental organizations involved in orca recovery with the intent of exploring methods to expand the coordination of communication activities related to orca recovery.

- Institutionalize the integration of human-focused factors and approaches for recovery in our planning efforts. We refer to these efforts as "social factors and approaches," which include behavior change, outreach and education, and stewardship behaviors. By integrating social factors and approaches into Implementation Strategies and other planning documents, we create a more comprehensive and realistic understanding of the role of individual human behavior and decisions in advancing recovery.
- Work with academic, non-profit, and research institutions to magnify their efforts to communicate, educate, and drive behavior change in the public. For example, we fund the Puget Sound Institute for their review, synthesis, and dissemination of environmental education. We also help plan, sponsor, and contribute staff presentations at the biennial Salish Sea Ecosystem Conference, which is attended by hundreds of interested parties from the United States and Canada. We work with bodies such as the Salish Sea Institute to develop education programs and serve as a locus for transboundary engagement. We also help innovators in the system elevate and communicate their great work. This includes the work of the Washington Stormwater Center to lead the development of stormwater solutions.
- Use the news and social media outlets to amplify relevant current events in ways that serve to educate and energize the audience about Puget Sound recovery.
- Continue to manage and support the Partnership's boards and advisory bodies and ensure communication and dialogue with and to the public. These groups are avenues for the public to become engaged in the recovery effort, in an individual or representative capacity.

In these ways, the Partnership hopes to expand our backbone role to the service of more effective communication systems, as well as a supporter of the education, outreach, and stewardship efforts of partners.

AUDIENCE: DECISION MAKERS

Our goal is to ensure that state and federal decision makers have the information and tools they need to make the most informed decisions to support recovery.

Our role in advancing this goal is to:

- Communicate regularly with Puget Sound members of Congress as well as with our state legislators. For example, we worked closely with federal partners for the formation of the Puget Sound Federal Task Force and Action Plan, which works to increase alignment of federal actions with those of other partners.
- Communicate with the Governor, the state legislature and other recovery partners about the status and trends in the health of Puget Sound, the state of the recovery effort, key barriers, and necessary steps forward.
- Increase the amount of communication and understanding between our partners and decision makers in Washington, D.C. We do this by planning and leading an annual trip of Puget Sound partners to Washington D.C. and arranging conversations with legislators and key federal agency leaders. The participation in this event has grown over each of the past 4 years and exceeded 60 attendees from Puget Sound in 2018. Puget Sound Day on the Hill effectively uses strategic communication to advance our mission.

Our focus in the next two years is expanding and deepening our relationships with local decision makers, who are critical actors in the Puget Sound recovery system.

AUDIENCE: PUGET SOUND TRIBAL GOVERNMENTS AND COMMUNITIES

Our goal is to listen to the perspectives of the Puget Sound tribal communities, understand tribal values, and incorporate these views into our thinking.

Our role in advancing this goal is to:

- Request and facilitate increased levels of engagement in the Puget Sound recovery and protection system by Puget Sound tribes, particularly in the early stages of any new effort.
- Continue to engage with the tribes in the Partnership Tribal Co-management Committee ("PTCC"), which is a venue for communication among the Partnership and all interested Puget Sound tribes.
- Support systematic consideration and the honoring of tribal rights, perspectives, and goals in the work of recovery.

AUDIENCE: PLANNING AND IMPLEMENTATION PARTNERS

Our goal is to ensure that our planning and implementation partners have credible and timely information and access to tools and social and technological networks to enable their greatest success.

Our role in advancing this goal is to:

- Plan, convene, staff, and track outcomes of meetings with and among our boards, the Local Integrating Organizations, Lead Entities, and other key partners.
- Provide templates, talking points, and information about current topics.
- Continue our investment in social media presence and outreach.
- Respond to communications support as requested, including design, writing, and production of fact sheets; social media sharing; distribution of information to our wide networks of recovery partners; and interfacing with the news media.
- Laud successful implementation efforts and share lessons learned with partners.
- Continue to improve the readability and navigability of Partnership products. We are proud that one of our primary products for communication with legislators and the Governor—the State of the Sound report—was nominated for an award for superior government communication.

Currently, the Partnership and partners are working to develop a shared data and information system that can support our staff and partners' most critical needs in a centralized way. We hope that this new system will increase transparency and accessibility, leading to greater understanding and use of the data available in the system, as well as allowing us a more efficient and effective way to assess gaps and needs.

CHAPTER 6 | FUNDING RECOVERY

Puget Sound recovery requires a sufficient and reliable source of funding; ***lack of funding is the leading barrier to implementing recovery actions***. One of the Puget Sound Partnership's key responsibilities as a backbone organization is to mobilize funding, which means that it evaluates the funding need for recovery work, advocates for state and federal appropriations, identifies new and innovative funding streams, and supports partners in their quest for funding. As a region, we must commit to address this significant barrier by increasing the efficient and effective use of existing sources, identifying and securing additional dedicated funding sources, and developing innovative, market-based programs. The Puget Sound Partnership works closely with partners to develop dependable and diverse funding strategies that will support Puget Sound recovery today and into the coming decades. This chapter first describes the funding needs of Puget Sound recovery efforts and the funding strategy that will support Puget Sound recovery into the future. This chapter subsequently outlines funding currently available for Puget Sound recovery. The available funding has proven necessary but not sufficient to meet the needs of Puget Sound recovery.

THE FUNDING STRATEGY FOR PUGET SOUND RECOVERY

The Partnership's funding strategy aims to define the full range of funding needs for Puget Sound recovery, to maintain and efficiently use existing funding, and to secure additional funding to fully implement critical Action Agenda priorities. The funding strategy for Puget Sound recovery includes two key components:

- **Define the funding need for Puget Sound recovery.** Establish a clear picture of the size and nature of the funding need for Puget Sound recovery.

- **Fulfill the funding need by prioritizing the use of available funding and expanding the pool of resources.** Make the most of the available funding by prioritizing actions and programs with the highest potential benefit to recovery efforts, and combine resources to maximize effect. Expand the pool of available resources by identifying and implementing solutions to secure more funding for Puget Sound recovery.

These two components are described below.

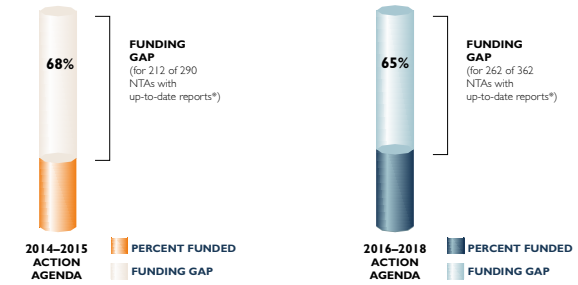
DEFINING THE FUNDING NEED

The Partnership recognizes multiple funding needs—for agency operations, for Near Term Actions, for ongoing programs, for science and monitoring, and for other needs.

The Partnership directly tracks needed and secured funding for Near Term Actions. For example, the total cost to implement all 2016-2018 Action Agenda Near Term Actions is estimated at $265 million. Using a large sample of financial reports from Near Term Action owners, Figure 6-1 shows that some of this total has been secured but that a significant and persistent funding gap remains for Near Term Actions from past Action Agendas. Lack of funding is cited by Near Term Action owners as the primary reason they are not able to implement their actions. For the 2018-2022 Action Agenda *Implementation Plan*, the total cost of all Near Term Actions is estimated to exceed $1 billion. To meet this need would require significant new sources of investment.

The Partnership also recognizes that a great deal of capacity is contained in ongoing programmatic work at federal, state, local, and tribal governmental levels. Understanding this universe of work and its financial sustainability is critical to comprehensively defining the funding gap. In response to the statutory requirements and *recommendations from the Joint Legislative Audit and Review Committee*, the Partnership plans to conduct more regular assessments of this aspect of the funding need by collecting financial information on ongoing programs with each cycle of the Washington State budget, and determining funding of federal and local government programs through other reports.

FIGURE 6-1. NTA FUNDING GAPS FROM RECENT ACTION AGENDA



*Note: financial data reported by NTA owners may be incomplete and/or subject to error.

The most comprehensive assessment of Puget Sound recovery funding occurred in 2014, when the Ecosystem Coordination Board commissioned a study to identify a strategy for long-term funding of the Strategic Initiatives (*Funding Strategy for the Strategic Initiatives from the 2012-2013 Puget Sound Action Agenda*). This report looked not only at the costs of the Near Term Actions and any associated funding gaps, but also included the costs of key ongoing programs and any existing gaps in funding those ongoing programs. In looking at both Near Term Action and ongoing program costs, the Finance Committee identified a funding gap of between $206 and $355 million per year for the Habitat Strategic Initiative, $62 to $265 million per year for Stormwater Strategic Initiative, and $27 to $41 million for the Shellfish Strategic Initiative, as shown in Table 6-1.

TABLE 6-1. 2012 - 2013 STRATEGIC INITIATIVE FUNDING GAPS

STRATEGIC INITIATIVE	ANNUAL COST	ANNUAL FUNDING (2012-2013)	ANNUAL FUNDING GAP (2012-2013)
Stormwater	$540 -$690 million	$425 - 575 million	$62 - 265 million
Habitat	$325 - 441 million	$86 - $119 million	$206 - $355 million
Shellfish	$41 - $53 million	$12 - $14 million	$27 - $41 million

FULFILLING THE FUNDING NEED

To fulfill the funding need, the Partnership focuses on maintaining and maximizing the effect of available resources and securing and stabilizing more funding. The 2014 *report commissioned by the Ecosystem Coordination Board* to identify a strategy for long-term funding of the Strategic Initiatives remains the most comprehensive source for possible approaches to fulfill all funding needs.

The Puget Sound Partnership leads or participates in several processes to maintain and maximize the effect of available funding on Puget Sound recovery. Four examples are provided below.

- **Maintain and enhance existing funding.** The Partnership is frequently called to defend the existing federal, state, and local funding available for Puget Sound recovery. For example, the President's last several proposed budgets have eliminated the EPA Geographic Program, as well as the EPA National Estuary Program. Such cuts would eliminate about $28 million previously allocated to Puget Sound recovery. These programs include nearly 60 percent of the funding that keeps the Partnership operational; the funding also supports implementation of Near Term Actions, as overseen by the Strategic Initiative Leads. To prevent this and similar proposed budget cuts from becoming reality, the Partnership and partners advocate vigorously for maintaining the existing sources of Puget Sound recovery funding through outreach efforts like *Puget Sound Day on the Hill* and *Salmon Day on the Hill*. At the state and local level, the recovery community advocates for maintaining and enhancing other existing recovery funding sources, such as ongoing grant programs, local utility fees, state funding to support coordination of the recovery effort, and more. For example, the Puget Sound Partnership regularly requests additional resources to support and implement recovery actions during the state legislature's biennial budget appropriation process.
- **Narrow the focus of recovery efforts.** The Partnership's planning process for developing the *Implementation Plan* aims to prioritize the most important projects and programs for Puget Sound recovery. For example, the Partnership's effectiveness program compiles information on the most effective actions to advance recovery. Likewise, the tiered list of Near Term Actions informs funders looking to invest in actions that best address the Regional Priorities and have a high probability of success. The prioritized list guides funding from the National Estuary Program,[6] state grants, and others. In addition, the list of Near Term Actions and ongoing programs can be used to pursue state and local government funding during budget cycles, as well as nonprofit and private funding. In these ways, the list of technically reviewed and scored Near Term Actions and the ongoing programs facilitate more direct funding of implementation, thus reducing competitive funding cycles and allowing partners to focus on recovery implementation.

[6] While the National Estuary Program is important to funding the Action Agenda, it is neither the only nor the major source of funds. Other important sources of funding include the Puget Sound Acquisition and Restoration Program, the Centennial Clean Water Program, and city, county, and other local funding sources.

- **Rank state budget decision packages.** Each year the Partnership provides the Governor, the Office of Financial Management, and the legislative fiscal committees with a ranked list of state agency budget proposals that would affect Puget Sound recovery. The ranking process objectively assesses the extent to which a funding proposal is consistent with the priorities of the Action Agenda. Through this process, the Partnership strongly advocates for funding proposals that are the most closely linked to Action Agenda priorities, Near Term Actions, Science Work Plan priorities, and relevant ongoing programs.
- **Coordinated funding and investment.** State and federal agency partners are working to improve the implementation of Puget Sound recovery actions through coordinated funding and investment. Coordinated investments are investments that pool resources from multiple groups to deliver multiple benefits to the environment and communities. By coordinating investments, partners can align financial resources and regulatory authorities to reduce administrative costs and delays to project implementation caused by the requirements and schedules of state and federal grant programs. Coordinated investment may also result in the implementation of several multi-benefit recovery projects in a single geographic area, through which benefits to the environment and community are magnified. The Partnership tracks resources that are coordinated and leveraged for Puget Sound recovery through the National Estuary Program Online Reporting Tool. In 2018, the Partnership reported over $241 million in cash and in-kind contributions. The Partnership hopes to increase opportunities for coordinated investment by aligning more partners to invest in a single recovery system.

ADAPTIVELY MANAGING RECOVERY

To learn more about near-term efforts to mobilize funding, go to ***Chapter 2 of the Implementation Plan***.

To date, Action Agenda implementation has relied heavily on public funds. This state and federal funding, although critical, has proven neither reliable nor adequate to meet recovery partners' needs; it will be essential to diversify the sources of funding for Puget Sound. As a result, the Puget Sound Partnership continues to seek opportunities to secure additional funding for Puget Sound recovery, including:

- **Expanding private and philanthropic partnerships.** The Partnership has identified the private and not-for-profit sectors as the greatest opportunity to expand available funding. Recent investments from private and philanthropic organizations suggest that this approach holds promise. The Partnership continues to explore strategies to more fully engage academia, foundations, and for-profit and non-profit sectors to increase funding available for Puget Sound recovery. In the coming years, the Partnership intends to identify potential funders, understand how potential funders make investment decisions, and tailor communication and outreach efforts to motivate their participation in funding Action Agenda implementation.
- **Crowdsourcing solutions.** Recognizing that inadequate and unreliable funding continues to be the most frequently cited barrier to implementation, the Leadership Council has added *Funding* as a regional priority for the next 4 years. Through the *Funding Priority*, the Partnership and Leadership Council intend to solicit new and creative ideas to fulfill funding needs from the recovery community.

EXISTING FUNDING SOURCES FOR PUGET SOUND RECOVERY

Federal, state, local, and tribal governments currently provide much of the funding for Puget Sound recovery actions. Nongovernmental agencies, private foundations, businesses, and individuals also provide funding. Major sources of federal, state, and local funding are described in the next sections.

FIGURE 6-2. 2016 ACTION AGENDA NTAS: DISTRIBUTION OF REPORTED SECURED FUNDING BY SOURCE*

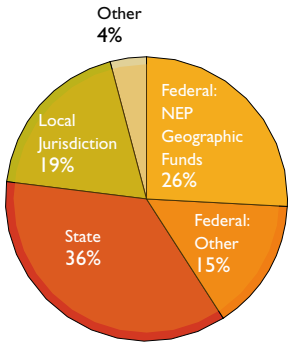


Figure 6-2 shows the relative contribution of different sources of funding to 2016 NTAs.

*Note: financial data reported by NTA owners may be incomplete and/or subject to error.

FEDERAL PROGRAMS

The federal government provides funding for prioritized actions in the Action Agenda. Some federal agencies are funded to engage in protection and restoration activities, while others award grants to support and match the work of nonfederal partners. For example, the U.S. Environmental Protection Agency's National Estuary Program Puget Sound geographic funds provides funding to Washington State agencies to implement the Action Agenda. In turn, these agencies manage programs addressing the three Strategic Initiatives. The U. S. Environmental Protection Agency also awards grants to the Northwest Indian Fisheries Commission to advance tribal treaty rights and Puget Sound protection and restoration, and to Local Integrating Organizations to advance local recovery planning and implementation.

Federal agencies can also direct existing funds for national programs in this region. The following federal programs make important contributions to Puget Sound recovery programs. A full list of programs is provided in the supporting materials, including the Puget Sound Federal Task Force Action Plan.

- Environmental Protection Agency's Puget Sound geographic funds
- National Oceanic and Atmospheric Administration's Restoration Center
- National Oceanic and Atmospheric Administration's Pacific Coastal Salmon Recovery Fund grant programs
- Environmental Protection Agency's Clean Water Act section 319 federal grants and Clean Water State Revolving Fund Loans (administered by the Washington State Department of Ecology, with state match requirements)
- Various programs administered by the U.S. Fish and Wildlife Service, U.S. Geological Survey, National Park Service, U.S. Coast Guard, U.S. Department of Defense, U.S. Army Corps of Engineers, U.S. Forest Service, National Resources Conservation Service, Federal Emergency Management Administration, Federal Housing Administration, Federal Transit Administration, and other federal agencies that lead work related to Puget Sound recovery

STATE PROGRAMS

Washington State invests in a variety of programs and projects that contribute to Puget Sound recovery. For example, the state funds capital projects, such as wastewater treatment plants, stormwater retrofits, and nearshore habitat protection and restoration. The state also funds the operating budgets for several state agencies that manage and protect natural resources. The following state programs make important contributions to Puget Sound recovery. A full list of programs is provided in the supporting materials.

- Puget Sound Acquisition and Restoration Fund
- Estuary and Salmon Restoration Program
- Floodplains by Design
- Salmon Recovery Funding Board grant programs
- Washington State Department of Ecology's water quality grants and loan programs, including the Centennial Clean Water Fund and Stormwater Financial Assistance Program
- Fish Passage Barrier Removal Board
- Washington Wildlife and Recreation Program

LOCAL GOVERNMENT

Cities, counties, and special-purpose districts[7] also contribute funding for actions that advance Puget Sound recovery. Local entities invest in wastewater treatment, septic tank management, stormwater management, infrastructure, shellfish and habitat protection, and restoration. Local funds can be generated through a variety of mechanisms authorized by Washington State, including utility fees and assessments on local properties such as conservation futures programs.

[7] Special-purpose districts exist separately from local governments and provide services such as water, electricity, and drainage.

NONPROFIT AND PRIVATE ORGANIZATIONS

Some parts of the private sector—including individuals, businesses, and philanthropic organizations—recognize the direct connection between a healthy Puget Sound and a healthy economy. The private sector can invest in Puget Sound recovery by forming public/private partnerships that address priority issues. For example, the National Fish and Wildlife Foundation's Community Salmon Fund provides funding for two of the Strategic Initiatives: Habitat and Shellfish. Similarly, cost-sharing opportunities are available from both the state and federal programs.

GLOSSARY

Some terms defined in this glossary are unique to the Action Agenda. Others are generally related to recovery planning.

TERM	DEFINITION
Action Agenda Report Card	Provides online status of Near Term Actions.
Action Agenda	Provides long-term strategies and Near Term Actions for Puget Sound recovery.
adaptive management	Process of applying knowledge gained from ongoing plans and actions to future plans and actions.
Science Work Plan	Sets priorities for scientific work required for Puget Sound recovery.
Comprehensive Plan	One of two components of the Action Agenda; outlines the strategies, actions, and funding necessary for Puget Sound recovery.
Ecosystem Coordination Board	One of the Puget Sound Partnership's three boards, provides strategic and implementation oversight for the Action Agenda.
LIO Ecosystem Recovery Plan	Action-based recovery plan developed by a Local Integrating Organization.
effectiveness assessment	Review of data to determine whether recovery actions had the intended or expected results.
Guiding Principles for Ecosystem Management	Rules or frameworks for decisions in ecosystem management that set the priorities for ecosystem recovery.
human well-being	Human well-being refers to everything that allows humans to thrive. It includes familiar topics such as physical and psychological health, as well as governance, social, cultural and economic well-being. For the purposes of Puget Sound recovery, the focus is on human well-being as it relates to human engagement with the natural environment of Puget Sound.
Implementation Plan	One of two components of the Action Agenda; identifies actions to be implemented in the two-year timeframe.
Implementation Strategy	Recovery plans for accelerating progress toward achieving the 2020 ecosystem recovery targets for the Vital Signs.
Lead Entity	Watershed-based organization that oversees implementation of watershed chapters of the *Puget Sound Salmon Recovery Plan*.
Leadership Council	One of the Puget Sound Partnership's four boards, appointed by the Governor to set policy and strategy for the Partnership.
Local Integrating Organization	A consortia of local and tribal organizations that guides the planning and implementation of actions at the ecosystem scale and prioritizes local actions for investment in one of nine geographical areas around Puget Sound.
Management Conference	Directs governance for each estuary program in the National Estuary Program. The governing structure of the Puget Sound Partnership serves as the Management Conference.
Near Term Action	Trackable and measurable activity to reduce pressures and contribute to achieving the recovery targets. Identified in the *Implementation Plan*. Developed at the regional and local scale and begin implementation within two years.
ongoing programs	Continuing efforts—regulatory, oversight, technical support, guidance—that provide the foundation for Puget Sound ecosystem protection and recovery and align with the Action Agenda priorities.
Open Standards	The Open Standards for the Practice of Conservation link science, policy, and performance management, and are the foundation of the adaptive management framework for the recovery efforts coordinated by the Puget Sound Partnership.
Partnership Tribal Co-Management Council	Provides opportunities for early and frequent involvement of the tribes in Puget Sound Partnership activities.
pressures	Human activities that stress the ecosystem but may benefit humans. As reported in the *Puget Sound Pressures Assessment*, there are 41 critical ecosystem pressures (species and habitats).

TERM	DEFINITION
Puget Sound Ecosystem Monitoring Program	A network of people and organizations that collaborate to provide scientific advice to advance Puget Sound recovery.
Puget Sound Partnership	State agency that coordinates actions for Puget Sound recovery, by: • Leading development of the Action Agenda • Maintaining the shared measurement and monitoring infrastructure that enables learning and constant improvement • Supporting partners in implementation by mobilizing funding for recovery actions, assisting to remove barriers to implementation, and helping educate key decision-makers and influencers
Puget Sound Pressures Assessment	Summarizes pressures on specific endpoints in Puget Sound ecosystems and identifies ecosystem vulnerabilities.
Puget Sound Recovery Atlas	Provides online updates on project implementation and ongoing programs.
Puget Sound Salmon Recovery Council	Advises the Leadership Council on decisions related to salmon recovery.
Puget Sound Salmon Recovery Plan	Adopted by the National Marine Fisheries Service in 2007 to guide recovery of salmon species in Puget Sound.
Puget Sound Vital Signs Website	Online tool that tracks health of the 25 Vital Signs.
recovery	Encompasses the protection and restoration of essential resources and functions.
recovery goals	Six statutory goals that guide the work of the Puget Sound Partnership.
recovery targets, 2020	Quantitative targets for recovering a specific Vital Sign by 2020. Established for 16 Vital Signs.
Regional Priority and Regional Priority approach	Regional Priorities describe the specific approaches, desired outcomes, and action ideas that are a priority for recovery of the Vital Signs over the next 4 years. Regional Priority approaches provide a description of how the Regional Priority should be addressed. Regional Priority approaches constitute the basis for identifying priority actions in this *Implementation Plan*.

TERM	DEFINITION
science-informed decision-making	Structured approach to deciding on actions and strategies for Puget Sound recovery that are informed by scientific information.
Science Panel	One of the Puget Sound Partnership's three boards; provides independent scientific advice to the Leadership Council.
State of the Sound	Summarizes recovery progress, challenges, and investment every two years.
Strategic Initiative	Important focal areas that help prioritize implementation and funding of Near Term Actions. The three Strategic Initiatives address stormwater, habitat, and shellfish.
Strategic Initiative Lead	Organization with technical expertise that supports development of the Action Agenda and Implementation Strategies in support of a Strategic Initiative. Leads are charged with taking input from advisory teams, developing investment plans, making funding recommendations, and administering funds for Near Term Actions.
Strategic Initiative Advisory Team	Committee of technical experts who advise the Strategic Initiative Lead.
Strategic Science Plan	Framework for coordinating the science required for Puget Sound recovery as outlined in the Action Agenda.
strategy	A high-level approach to address pressures on the Puget Sound ecosystem and achieve recovery targets. There are 29 strategies.
sub-strategy	A specific approach to address pressures on the Puget Sound ecosystem and achieve recovery targets. There are 106 sub-strategies.
supporting organizations	Key agencies, organizations, and advisory bodies that support the work of the Puget Sound Partnership.
Puget Sound Vital Signs	Twenty-five signs that gauge the health and recovery of Puget Sound.
Vital Sign indicators	One or more specific and measurable metrics for each Vital Sign.

THE 2018-2022 ACTION AGENDA
FOR PUGET SOUND

IMPLEMENTATION PLAN

PUGETSOUND
PARTNERSHIP

DECEMBER 2018

IMPLEMENTATION PLAN CONTENTS

LIST OF TABLES AND FIGURES

CHAPTER 1 | INTRODUCTION

The *Implementation Plan* is the action component of the Action Agenda. It is the product of the collective effort to prioritize action that will advance Puget Sound recovery for the next 4 years. Based on the fundamental framework and broad strategies described in the *Comprehensive Plan*, the *Implementation Plan* defines the suite of Near Term Actions and programs that are needed to make progress toward achieving the 2020 recovery targets for Puget Sound Vital Signs.[1]

TABLE 1-1. ORGANIZATION OF THE IMPLEMENTATION PLAN

CHAPTER 1	INTRODUCTION Describes the development of the Implementation Plan and how it will be used. This chapter also discusses how the development of the 2018 Action Agenda differs from, and builds on, past Action Agendas.
CHAPTER 2	CONTINUING TO STRENGTHEN THE FRAMEWORK FOR PUGET SOUND RECOVERY Includes a brief description of the Partnership's role as a backbone organization for Puget Sound recovery, and describes specific actions the Partnership is taking to improve its backbone support of the recovery effort over the next 4 years. Improvements to the recovery effort will inform updates to the 2022-2026 Action Agenda.
CHAPTER 3	VITAL SIGNS AND REGIONAL PRIORITIES Includes the list of priority Vital Signs and the associated Regional Priorities. Each Vital Sign description includes information about the target, a narrative describing the overall intent of the Regional Priorities, and a table that lists the Regional Priorities and Regional Priority approaches.
CHAPTER 4	NEAR TERM ACTIONS FOR PUGET SOUND RECOVERY Includes the full tiered list of Near Term Actions for this Implementation Plan. The list links each Near Term Action to the priority Vital Signs and Regional Priorities and provides a brief description of objectives for each action.
CHAPTER 5	ONGOING PROGRAMS FOR PUGET SOUND RECOVERY Includes the full list of ongoing programs. The list links each ongoing program to the priority Vital Signs and Regional Priorities and provides a brief program description for each program.

[1] Note that the list of Near Term Actions is not a comprehensive list of actions necessary to achieve recovery. The Near Term Actions will ensure Puget Sound is advancing toward a more resilient state.

DEVELOPMENT OF THE IMPLEMENTATION PLAN

Over the course of a year, the recovery community developed the *Implementation Plan* through a process that integrates science with decision-making. The intent of the development process was to ensure the Action Agenda is science-informed, focuses action on collaboratively developed regional priorities, represents the actions needed at the regional and local level, and is prioritized using predefined criteria in a manner that is highly transparent. The development process is summarized in this section and fully described in separate documents that are linked below. The development process also comports with the method for planning the Action Agenda described in the *Comprehensive Plan*.

Development of the *Implementation Plan* began with the selection of priority Vital Signs for the next 4 years. In March 2017, the Leadership Council adopted 10 Vital Signs to focus on in this *Implementation Plan* based on factors such as Management Conference near-term priorities (indicated by the selection of Implementation Strategies for development), local near-term priorities identified in Local Integrating Organization (LIO) ecosystem recovery plans, tribal near-term priorities, and indicator status. Details about the Leadership Council discussion on the Area of Focus are available *here*.

Subsequently, the Partnership—together with the Puget Sound Salmon Recovery Council, the Strategic Initiative Leads (Habitat, Shellfish, and Stormwater), and the Strategic Initiative Advisory Teams—began the process of identifying Regional Priorities for each of the 10 Vital Signs by using source material such as Implementation Strategies, LIO ecosystem recovery plans, and tribal priorities, among other information. The process for identifying these Regional Priorities is fully described in a *process summary*. Regional Priorities describe the specific approaches, desired outcomes, and action ideas that are a priority for recovery of the 10 priority Vital Signs over the next 4 years. The groups then solicited Near Term Actions to address the Regional Priority approaches and developed proposal guidance to guide Near Term Action submission. More detail on the solicitation of Near Term Actions is *available here*.

To prioritize the most effective Near Term Actions, interdisciplinary review teams used evaluation criteria to objectively assess the strength of each Near Term Action and how much each one is expected to advance recovery over the next 4 years for each of the Regional Priority approaches. In addition, LIOs used their locally developed criteria to categorize each local Near Term Action into one of four tiers and also took the opportunity to review and categorize some regional Near Term Actions with a direct impact in their LIO. More information on the process for tiering Near Term Actions is available in a *procedural record*.

- *Link to process summary for identifying Regional Priorities*
- *Link to Near Term Action solicitation*
- *Link to Near Term Action review procedural record*

In December 2018, the Leadership Council added Southern Resident orca as an 11th priority Vital Sign to acknowledge that Southern Resident orcas have become an overwhelming priority for the region and ensure that the Action Agenda supports Southern Resident orca recovery efforts.

INTENDED USE OF THE IMPLEMENTATION PLAN

The *Implementation Plan* identifies needed recovery actions and informs investment in Puget Sound recovery over the next 4 years. The tiered list of Near Term Actions helps the region use resources efficiently and effectively to make progress on *Vital Sign indicator targets*. A sortable list of the Near Term Actions is available on the *Partnership's website*, and it can be used to identify actions that meet specific criteria for certain funding opportunities. Additionally, the recovery community can use the *Implementation Plan* to inform future planning and influence legislation, policymaking, and other decision-making at the local and regional levels.

DIRECTING INVESTMENT

Funders can use the *Implementation Plan* and the tiered list of Near Term Actions to find actions that best address the Regional Priorities and have a high probability of success. Additionally, the inclusion of ongoing programs in the *Implementation Plan* signifies to funders that partners collectively recognize the importance of maintaining these programs and support their full implementation.

The Management Conference would like funders, such as the National Estuary Program,[2] federal, state, and local grant programs, businesses, and others, to allocate funding using the information provided by Near Term Action tiers, ongoing programs, and Regional Priorities. For example, to direct the National Estuary Program geographic funds to fund Near Term Actions in the Action Agenda, the Environmental Protection Agency develops funding guidance. Pursuant to the funding guidance, Strategic Initiative Advisory Teams will develop a funding package recommendation for each of the Strategic Initiatives, documenting the rationale for their choices, particularly for any deviations from the tiered lists in the Action Agenda. As more Implementation Strategies are developed, they will inform the recommendations for the geographic funds. These recommendations will be presented to the Strategic Initiative Leads who will develop the final funding package.

In addition, Near Term Action owners and entities responsible for ongoing programs can cite their inclusion in the Action Agenda when pursuing state and local government funding during budget cycles, as well as when pursuing nonprofit and private funding. In these ways, the list of technically reviewed and tiered Near Term Actions and the ongoing programs facilitate more direct funding of implementation, thus reducing competitive funding cycles and allowing partners to focus on recovery implementation.

INFORMING FUTURE PRIORITIZING OF ACTION

The *Implementation Plan* informs future planning by providing data and information on recovery priorities. For example, many Regional Priorities and Near Term Actions identify needed scientific research and monitoring projects that can help resolve uncertainty in practices and approaches for addressing barriers to recovery. Future prioritization efforts will incorporate and consider the results of these investigations and of additional science work actions identified in the *Science Work Plan* (incorporated by reference into this Action Agenda) to improve development of future actions or to modify approaches to solicitation and plan development. Effectiveness assessments of recovery actions can also inform future prioritization of actions by identifying actions that are particularly effective at advancing recovery, or actions that are not effective at all.

[2] While the National Estuaries Program is important to funding the Action Agenda, it is neither the only nor the major source of funds.

Progress on this *Implementation Plan*, as well as emerging issues and new scientific information, will inform future *Implementation Plans*; a process that is described in the *Comprehensive Plan*. The Partnership and partners will continue to track implementation of the Near Term Actions and quantitative measures of progress. That information is made accessible to the public on the *Partnership's website* and through future *State of the Sound* reports.

INFLUENCING LEGISLATION

The *Implementation Plan* can influence legislation by identifying key ongoing programs seeking legislative action (e.g., removing legal barriers to implementation) or by supporting increased funding to maintain or stimulate important state or local governmental work (e.g., enforcing existing regulations).

WHAT DOES THE IMPLEMENTATION PLAN INCLUDE?

ACTIONS TO STRENGTHEN THE RECOVERY BACKBONE AND FRAMEWORK

The Puget Sound Partnership is considered a backbone organization for Puget Sound recovery. As a backbone organization, the Partnership leads and supports the framework for recovery. This role presents many challenges that the Partnership is committed to overcoming. The 2018-2022 *Implementation Plan* provides specific actions and projects that the Partnership is pursuing over the next 4 years to strengthen its role as a backbone for recovery. This work will directly inform improvements to the overall framework and the 2022-2026 Action Agenda.

PRIORITY VITAL SIGNS

The 2018-2022 Action Agenda *Implementation Plan* is focused on actions necessary to improve the status of 11 priority Vital Signs. The 11 Vital Signs are the ones for which the Partnership and its partners most want to accelerate recovery over the next 4 years and include the following.

FIGURE 1-1. PRIORITY VITAL SIGNS AND FUNDING PRIORITY

FUNDING PRIORITY

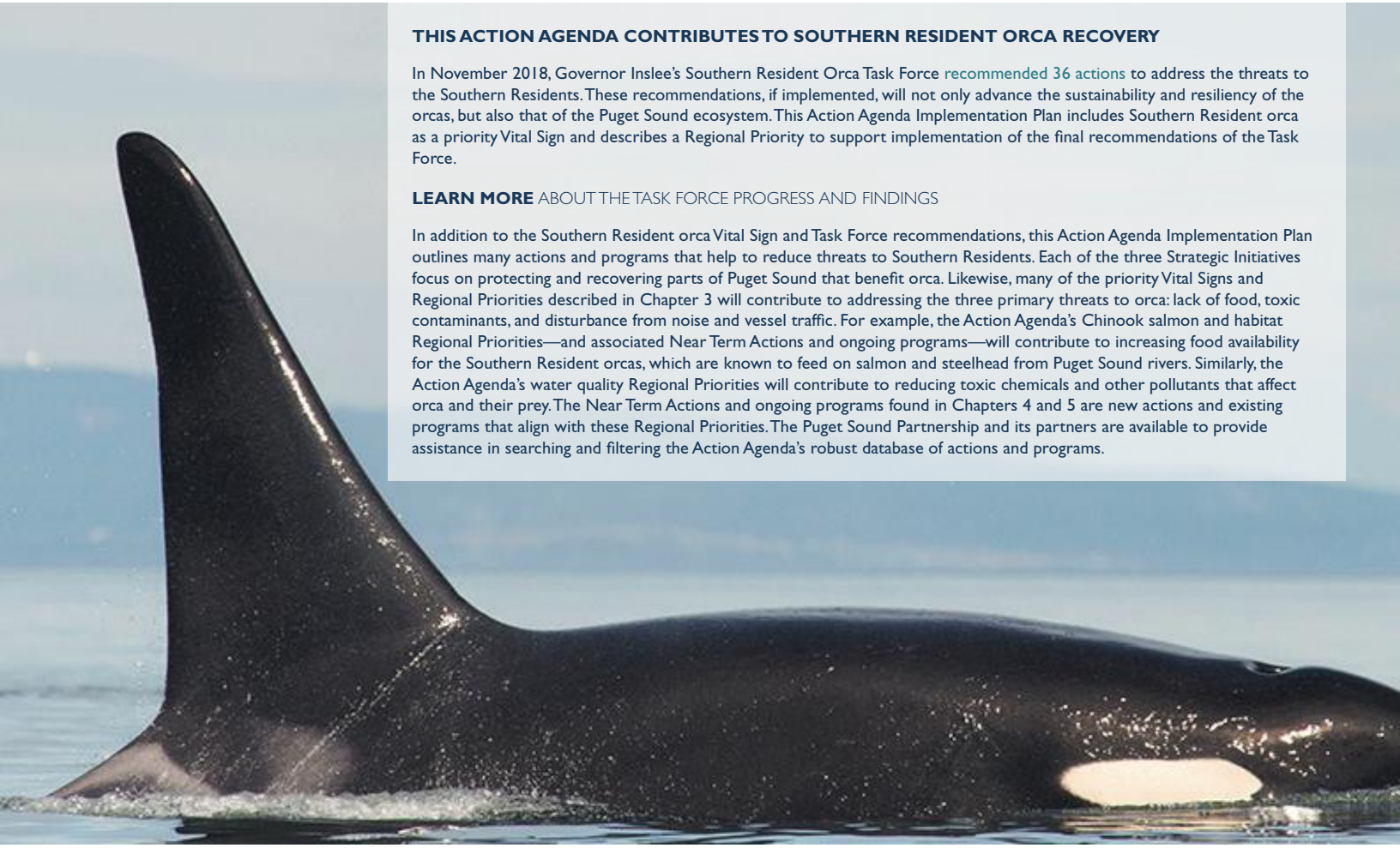
Inadequate and unreliable funding continues to be the most frequently cited barrier to achieving and maintaining a healthy and resilient Puget Sound ecosystem. Achieving our desired outcomes requires significantly increased and on-going investment from federal, state, local, tribal, and private sources. As a result, the Leadership Council has added funding as a regional priority for the next four years. Through the Funding Priority, the Partnership seeks our partners' ideas for creative funding strategies; the Regional Priorities include development of funding and communications strategies.

STRATEGIC INITIATIVES

The *Strategic Initiatives* are groups that help set Regional Priorities, rank Near Term Actions against those Priorities, and disperse funding to recovery actions. More information on the Strategic Initiatives is found in *Chapter 5 of the Comprehensive Plan*. The Strategic Initiatives address three priority topics and issues critical to Puget Sound recovery.

- **Stormwater Strategic Initiative:** Prevent pollution from urban stormwater runoff.
- **Habitat Strategic Initiative:** Protect and restore habitat.
- **Shellfish Strategic Initiative:** Protect and recover shellfish beds.

Each of the Strategic Initiatives contributed significantlys to the development of this Action Agenda. For example, each Strategic Initiative was responsible for developing one or more Vital Sign Implementation Strategies and the associated Regional Priorities. Likewise, the Strategic Initiatives were instrumental in reviewing and tiering proposed Near Term Actions for this Action Agenda.



THIS ACTION AGENDA CONTRIBUTES TO SOUTHERN RESIDENT ORCA RECOVERY

In November 2018, Governor Inslee's Southern Resident Orca Task Force recommended 36 actions to address the threats to the Southern Residents. These recommendations, if implemented, will not only advance the sustainability and resiliency of the orcas, but also that of the Puget Sound ecosystem. This Action Agenda Implementation Plan includes Southern Resident orca as a priority Vital Sign and describes a Regional Priority to support implementation of the final recommendations of the Task Force.

LEARN MORE ABOUT THE TASK FORCE PROGRESS AND FINDINGS

In addition to the Southern Resident orca Vital Sign and Task Force recommendations, this Action Agenda Implementation Plan outlines many actions and programs that help to reduce threats to Southern Residents. Each of the three Strategic Initiatives focus on protecting and recovering parts of Puget Sound that benefit orca. Likewise, many of the priority Vital Signs and Regional Priorities described in Chapter 3 will contribute to addressing the three primary threats to orca: lack of food, toxic contaminants, and disturbance from noise and vessel traffic. For example, the Action Agenda's Chinook salmon and habitat Regional Priorities—and associated Near Term Actions and ongoing programs—will contribute to increasing food availability for the Southern Resident orcas, which are known to feed on salmon and steelhead from Puget Sound rivers. Similarly, the Action Agenda's water quality Regional Priorities will contribute to reducing toxic chemicals and other pollutants that affect orca and their prey. The Near Term Actions and ongoing programs found in Chapters 4 and 5 are new actions and existing programs that align with these Regional Priorities. The Puget Sound Partnership and its partners are available to provide assistance in searching and filtering the Action Agenda's robust database of actions and programs.

While significant linkages exist across the Vital Signs and Strategic Initiatives, a single Strategic Initiative is designated to lead the effort to achieve indicator targets for the priority Vital Signs. Some of the Vital Signs are relevant to each of the three Strategic Initiatives. For example, the effort to address the Chinook Salmon Vital Sign is led by the Puget Sound Partnership and Puget Sound Salmon Recovery Council with support from the Habitat Strategic Initiative. In addition, the Funding Priority is relevant to each of the three Strategic Initiatives. The Strategic Initiatives collaborate to address issues that affect all three Strategic Initiatives.

REGIONAL PRIORITIES

Chapter 3 of this *Implementation Plan* includes a list of Regional Priorities and Regional Priority approaches. Regional Priorities describe the specific approaches, desired outcomes, and action ideas that are a priority for recovery of the Vital Signs over the next 4 years. Regional Priority approaches provide a description of how the Regional Priority should be addressed, including example actions and local context for different parts of Puget Sound. Regional Priority approaches constitute the basis for identifying priority actions in this *Implementation Plan*. The process for developing the 2018-2022 Regional Priorities is summarized above and fully described in a separate document, the *Process Summary*.

Near Term Actions are prioritized based on their alignment with the Regional Priorities and Regional Priority approaches and other evaluation criteria. Together, the Near Term Actions and ongoing programs advance the Regional Priorities.

NEAR TERM ACTIONS

Chapter 4 of this *Implementation Plan* includes a prioritized list of Near Term Actions. These actions complement ongoing work and optimize funding and resources by focusing on priorities. The Near Term Actions addressing Regional Priorities are expected to have the greatest benefit and to speed the pace of recovery over the next 4 years. Near Term Actions are placed into tiers based on how well they align with Regional Priorities, their expected contribution to recovery, and their likelihood of success. A sortable list of Near Term Actions on the *Partnership's website* may be useful to find and evaluate actions that meet specific criteria.

ONGOING PROGRAMS

Near Term Actions complement the ongoing work associated with long-term programs—known as ongoing programs. The 2018-2022 *Implementation Plan* links ongoing programs with Regional Priorities to provide a complete picture of the work that accelerates progress towards Vital Sign targets. *Chapter 5* of this *Implementation Plan* includes a list of ongoing programs and describes their contributions to recovery. Many ongoing programs also address the strategies and sub-strategies for long-term ecosystem recovery outlined in previous Action Agendas and included as an *appendix* to this 2018-2022 Action Agenda.

HOW IS THE 2018-2022 IMPLEMENTATION PLAN IMPROVED?

As prescribed by the adaptive management process, the 2018-2022 *Implementation Plan* applies lessons from past Action Agendas to build on successes, remedy challenges, and improve strategic planning. Adaptive management describes a process through which we can learn about what works and what doesn't for Puget Sound recovery and adjust future planning and implementation accordingly. Data and analysis resulting from implementing past Action Agendas informed development of the 2018-2022 *Implementation Plan*. With each iteration of the *Implementation Plan*, we improve our understanding of the status and trends of Vital Sign indicators and the pressures on Puget Sound's freshwater, marine-nearshore, and terrestrial resources.

The development of this 2018-2022 *Implementation Plan*, and solicitation for Near Term Actions, is more focused on putting into practice the strategies and priorities identified by Implementation Strategies for individual Vital Sign indicator targets. As a result, the actions identified in this *Implementation Plan* are better designed and qualified to accelerate progress towards indicator targets for the Vital Signs and Puget Sound recovery goals. Additionally, each iteration of the Action Agenda more fully integrates science into the planning and decision-making processes. The enhanced clarity regarding priorities and intended outcomes will accelerate the pace of recovery in Puget Sound. This section provides three specific examples of improvements to the 2018-2022 *Implementation Plan*.

FOCUS ON PRIORITY VITAL SIGNS

This 2018-2022 Action Agenda *Implementation Plan* focuses on 11 priority Vital Signs. Each priority Vital Sign is associated with one or more Regional Priorities in Chapter 3 of this Implementation Plan. The Southern Resident orca Vital Sign was elevated by the Leadership Council in December 2018 to acknowledge that Southern Resident orcas have become an overwhelming priority for the region over the past few years. The Leadership Council had previously elevated 10 priority Vital Signs for the 2018-2022 *Implementation Plan* based on several criteria, including the status and trends of the Vital Sign indicators and the importance placed on each Vital Sign by the recovery community, as indicated by their prioritization in Tribal reports, LIO ecosystem recovery plans, and existing or in-progress Implementation Strategies. The 10 priority Vital Signs also maintain a connection to the three Strategic Initiatives (Stormwater, Habitat, and Shellfish), which remain important for communicating, organizing, and administering the work of Puget Sound recovery. Work on the priority Vital Signs is expected to contribute to many of the Vital Signs that are not selected as priorities for this 4-year period, which are still important to the long-term recovery of Puget Sound. The solicitation for Near Term Actions to inform the 2018- 2022 Implementation Plan focused on a set of 8 priority Vital Signs.[3]

[3] Near Term Actions were solicited for each of the priority Vital Signs included in Chapter 3 of the Implementation Plan except for Southern Resident orca, summer stream flows, and marine water quality.

INCREASED RELIANCE ON IMPLEMENTATION STRATEGIES

Implementation Strategies are plans for achieving specific recovery targets and are created for Puget Sound Vital Signs selected by the Leadership Council. This Action Agenda marks another step forward in the transition towards using Implementation Strategies to develop Regional Priorities and priority Near Term Actions. Implementation Strategies are an improvement over past planning efforts because they result in more targeted and specific strategies to achieve Vital Sign indicator targets built on current scientific knowledge and analyses of existing recovery work. Additionally, the process of incorporating input from federal, state and local governments and Tribal agencies, non-profit organizations, universities, technical experts, as well as community members ensures that a variety of perspectives are considered and represented in these shared plans. New and revised Implementation Strategies will continue to guide funding and implementation decisions throughout the region and in subsequent updates to the *Implementation Plan*. More information on Implementation Strategies is available in *Chapter 4 of the Comprehensive Plan*.

IMPROVED SOLICITATION AND EVALUATION OF PROPOSED NEAR TERM ACTIONS

Based on feedback received from partners, the Partnership simplified and improved the process for soliciting and evaluating proposed Near Term Actions for the 2018-2022 *Implementation Plan*. For example, the Partnership lowered barriers to submitting Near Term Actions by shortening the material needed to propose a Near Term Action and extending the timeframe of the solicitation. The Partnership and Strategic Initiative Leads also improved the evaluation of Near Term Actions by creating interdisciplinary teams to evaluate Near Term Actions and evaluating Near Term Actions against standard criteria instead of a ranked list and based on composite scores.

CHAPTER 2 | CONTINUING TO STRENGTHEN THE FRAMEWORK FOR PUGET SOUND RECOVERY

The Puget Sound Partnership provides a foundation for science-based recovery achieved through the collective impact of hundreds of institutions and thousands of individuals, which we collectively refer to as the recovery community. While the Partnership and its many partners have collectively set a strong foundation for Puget Sound recovery, we have also recognized many institutional challenges that can limit recovery progress if not properly addressed. Addressing these challenges requires the recovery community to identify precise and meaningful intervention points in the Puget Sound recovery framework and collaborate to develop solutions as part of continued learning and adaptive management. Efforts to improve our recovery framework are iterative and ongoing. This section of the Implementation Plan outlines how the Partnership seeks to lead improvements to its backbone work and the recovery framework over the next 4 years. This includes considering how to best implement the prioritized needs outlined in the 2018-2022 Action Agenda, while initiating important work that will support an even stronger Action Agenda in 2022. The Partnership is actively seeking additional capacity and resources to be able to pursue the work described in this section. The vision for a healthy and resilient Puget Sound—found in *Chapter 3 of the Comprehensive Plan*—will guide and frame this future work.

IMPLEMENTING THIS ACTION AGENDA AND DEVELOPING THE 2022-2026 ACTION AGENDA

The *Comprehensive Plan* of this Action Agenda describes how the recovery effort is currently functioning. While this Action Agenda is

an important step forward in advancing Puget Sound recovery, the recovery community has identified several systemic and recurring issues that may limit recovery progress. These issues include:

- Inadequate funding to fully implement the Action Agenda
- Inadequate prioritization of needed actions
- A lack of certainty about what recovery actions are most effective and whether actions are leading to progress
- The need for changes in everyday human behavior
- Insufficient political will to enact needed change

This Chapter is a direct discussion of how the Partnership intends to address these identified issues and improve the recovery framework as described in the *Comprehensive Plan*. As a result, this Chapter outlines the work that will inform implementation of the 2018-2022 Action Agenda, as well as the development of the 2022-2026 Action Agenda Comprehensive Plan. Planned work and desired outcomes are summarized in Table 2-1 and subsequently described in detail.

ASSISTANCE NEEDED FROM THE RECOVERY COMMUNITY

While the Partnership is proud and prepared to lead collaborative efforts to implement this Action Agenda and develop the 2022-2026 Comprehensive Plan, these issues are truly challenging and solutions will require earnest collaboration from the recovery community. The Action Agenda cannot overstate the role of the entire recovery community and their contributions, collaboration, and coordination. The recovery community must take to heart the Vision and Call to Action developed by the Management Conference and adopted by the Leadership Council found in *Chapter 3 of the Comprehensive Plan*. We must "challeng[e] ourselves to pursue ambitious action, secure needed funding, seek supporting legislation, apply our resources and legal tools, and hold ourselves accountable for implementing all actions needed to make Puget Sound resilient."

TABLE 2-1. PLANNED IMPROVEMENTS AND DESIRED OUTCOMES FOR THE ACTION AGENDA

PLANNED IMPROVEMENT	DESIRED OUTCOMES
Improving the scientific basis for recovery by: • Describing and developing the science enterprise necessary to support Puget Sound recovery • Revising Vital Signs, Indicators, and Targets • Developing intermediate measures of progress • Continuing to identify science research needs and encourage their implementation • Leveraging a network of scientific experts to inform Puget Sound recovery • Modernizing Puget Sound information systems	• Targets and indicators that provide information to guide management decisions • Improved ability to understand and report on how Near Term Actions and ongoing programs contribute to reducing barriers, alleviating pressures, and achieving recovery • Greater certainty in identifying the most effective, multi-benefit recovery actions using science-based analyses • Further prioritization of recovery action, monitoring, and research needs • Greater understanding of the scope and scale of needed actions in distinct geographies • Ability to make focused investments • Improved pathways to accommodate and address emerging issues that are not currently known or understood • Increased access to and quality of information about progress toward recovery and effectiveness of actions and programs
Improving how the Partnership supports partners in planning and implementation by: • Using social approaches to recovery • Transforming communications • Mobilizing funding • Further integrating Puget Sound and salmon recovery • Considering climate change and ocean conditions in recovery planning • Modernizing Puget Sound information systems	• Ability to identify suites of actions that are more effective if implemented at the same time, and which may influence recovery in different ways (e.g, regulation, incentives, behavior change, restoration) • Better understand social and political barriers that prevent progress • Identify and prioritize the most effective social behaviors to generate positive change • Leverage the Management Conference and partners to address political barriers • Analyze and package actions that are tailored to funders or implementing organizations • Allow intentional reconciliation of competing priorities and tradeoffs within Puget Sound and salmon recovery efforts • Further orient recovery actions toward resiliency and ensure consideration of changing climate and ocean conditions • Increase access to up-to-date, high quality information about recovery priorities, investments, and effectiveness
Ensuring accountability for Puget Sound recovery by: • Celebrating ongoing programs and enhancing their contribution to Puget Sound recovery • Modernizing Puget Sound information systems • Improving evaluation and reporting on recovery progress and programs	• Improve the inventory of recovery actions, programs, and funding and enable better monitoring, assessment, and program evaluation • Increase capacity to evaluate actions, investments, barriers, and inefficiencies related to Puget Sound recovery. • Improve assessments and reporting on programs, actions, and organizations making progress towards recovery goals and increase accountability and effectiveness across the recovery community

IMPROVING THE SCIENTIFIC BASIS FOR RECOVERY

The overall objective of the Puget Sound Partnership's Science Program is to inform, and continually improve, the scientific basis for decisions of partners and policy-makers on how to protect and restore Puget Sound. The Partnership's Science Panel and science and evaluation team work closely with the Puget Sound scientific community in this regional effort to learn and communicate findings and implications.

This section focuses specifically on how the Partnership and partners intend to improve the scientific basis for recovery over the next 4 years. This work will be advanced through collaborative efforts of the Science Panel, the Puget Sound interagency federal science and monitoring work group, science program leaders from around the region, the Steering Committee and work groups of the Puget Sound Ecosystem Monitoring Program, and others.

DESCRIBING AND DEVELOPING THE SCIENCE ENTERPRISE NECESSARY TO SUPPORT PUGET SOUND RECOVERY

In 2016, the Puget Sound Partnership and Science Panel described three recommendations to improve ongoing science work:

- Develop a strategy to acquire sustained funding to support the science actions required to recover and protect Puget Sound.
- Share and communicate the information resulting from the science actions undertaken to recover and protect Puget Sound.
- Develop a strategic work plan for science-related actions to be accomplished over 4 to 6 years and that addresses the scientific foundations needed to support ecosystem recovery and long-term protection.

The recovery community is working to address these recommendations by describing and developing a well-organized, substantively-funded science enterprise that supports Puget Sound ecosystem recovery planning and implementation efforts. This work will be advanced through collaborative efforts of the Science Panel, the Puget Sound interagency federal science and monitoring work group, science program leaders from around the region, the Steering Committee and work groups of the Puget Sound Ecosystem Monitoring Program, and others. Design of this enterprise will extend into 2020. During this period of enterprise development, the Science Panel envisions priority activities to include:

- Recommending revisions to the Vital Sign indicators of ecosystem recovery and protection adopted by the Partnership.
- Supporting the Partnership's articulation of desired future conditions for a timeframe beyond 2020.

- Developing reliable, substantive funding for, and credible processes for soliciting and awarding funds to, scientific investigations that reduce critical uncertainties impeding recovery and protection.
- Developing a coordinated system of ecosystem models and other decision support tools to improve the evaluation and selection of recovery and protection approaches.
- Improving the design and functions of the Puget Sound Ecosystem Monitoring Program; the coordinated monitoring and assessment program supporting Puget Sound recovery and protection.

Some of these priority activities are described further below.

REVISING VITAL SIGNS, INDICATORS, AND TARGETS

The Partnership has been reporting on ecosystem conditions with the use of indicators since it was created in 2007. The current indicators and targets were adopted by the Leadership Council in 2010-2011. The Vital Signs, their indicators, and targets have become the foundation of a shared measurement system that provides information about the condition of the Puget Sound ecosystem. As of October 2018, the Partnership has been able to report on, or has projects underway to report baseline status data on, 48 of the 50 indicators.

With over 10 years of experience reporting about ecosystem health, the Partnership and partners have learned a lot about the limitations of the Vital Signs, their indicators, and targets.

- The Vital Signs measurement system includes an array of types of Vital Signs and indicators. It includes bio-physical indicators (such as the area of eelgrass in Puget Sound), pressures (such as shoreline armoring), and other measures of human actions to manage the ecosystem (such as inventory and inspections of onsite sewage systems). Indicators are not balanced across all types, and this imbalance limits the ability to tell a coherent story about ecosystem health and recovery.
- Gaps exist in the indicators of habitat. Existing habitat restoration indicators track gains in habitat through human actions, but are not designed to track habitat loss and net change in habitat.
- Some indicators (19 indicators) lack targets. Generally, these indicators do not have sufficient baseline data to support the selection of numerical targets. Most are indicators of human wellbeing and work is underway to obtain baseline data.
- None of the current indicators were explicitly chosen to track the effects of climate change.

Over the next 4 years, the Partnership will convene the recovery community to revisit the role of Vital Signs in the overall recovery framework and to consider revising Vital Signs, indicators, and targets. The project will engage representatives of both the scientific community and planners and policymakers. Furthermore, the work will build on the expertise of ecosystem monitoring experts and recent assessments and reports on the Puget Sound Vital Signs.[4] Based on this interdisciplinary advice, the project team will develop and apply a framework to consider changes to the Vital Signs, indicators, and targets.

[4] (a) Washington State Academy of Sciences. 2012. Washington State Academy of Sciences Committee on Puget Sound Indicators, Sound Indicators: A Review for the Puget Sound Partnership. Olympia, WA. 101pp. http://www.washacad.org/wp-content/uploads/2016/12/WSAS_Sound_Indicators_wv1.pdf.

(b) O'Neill, S., S. Redman, C. Sullivan, K. Stiles, H. Harguth and T. Collier. In review. Evolving the Portfolio of Indicators to Assess and Report on the Condition and Recovery of the Puget Sound Ecosystem: Moving From Theory to Practice. Produced for the Puget Sound Partnership.

(c) United States Government Accountability Office. 2018. Puget Sound Restoration: Additional Actions Could Improve Assessments of Progress. https://www.gao.gov/assets/700/693270.pdf.

CONTINUING TO IDENTIFY SCIENCE RESEARCH NEEDS AND ENCOURAGE THEIR IMPLEMENTATION

The *Science Work Plan* identifies important science work actions to advance the Puget Sound recovery effort and provides recommendations for improvements to the ongoing science work in Puget Sound. The Science Work Plan completed in 2016 identifies 49 science work actions as being critical to Puget Sound protection and recovery and names 14 of these actions as top priority for implementation. In 2020, the Science Panel will develop a 2020-2024 Science Work Plan. When that plan is approved by the Leadership Council as an official document of the Puget Sound Partnership, the identified actions and recommendations from that plan will be incorporated by reference into this 2018-2022 Action Agenda. To encourage and support implementation of science work actions in the Science Work Plan, the Partnership and Science Panel will seek and consider developing reliable, substantive funding for—and credible processes for soliciting and awarding funds to—scientific investigations.

DEVELOPING INTERMEDIATE MEASURES OF PROGRESS

The Partnership strives to continually improve evaluation of progress toward reducing pressures on Puget Sound and barriers that limit progress toward recovery. Currently, the Partnership compiles and manages robust data about the implementation of Near Term Actions and a small number of 2016 Near Term Actions are currently being evaluated for their effectiveness. Yet this level of implementation tracking and evaluation provides limited information to determine whether or not Near Term Actions are contributing to larger-scale ecosystem change. This gap in knowledge presents a barrier to adapting plans and prioritizing actions that we know lead to progress.

To fill this gap, the Partnership and partners are beginning to identify intermediate measures of progress along the priority recovery pathways identified in Implementation Strategies and articulated in the Action Agenda *Regional Priorities*. Over the next few years, use of these progress measures will provide information about the direct results delivered by Near Term Actions and ongoing programs, as well as their contributions to reducing common barriers and pressures and protecting or restoring key natural and social processes. These progress measures will provide additional information to support more comprehensive Near Term Action effectiveness assessment and will ultimately provide the Partnership and partners with much needed information about which strategies, actions, and programs are resulting in progress toward Puget Sound recovery.

LEVERAGING A NETWORK OF SCIENTIFIC EXPERTS TO INFORM PUGET SOUND RECOVERY

The Partnership is taking steps to increase engagement of the Puget Sound Ecosystem Monitoring Program (PSEMP) with the Partnership, its boards system, and Strategic Initiative Leads. Increased engagement will ensure that knowledge from monitoring and assessment advises the future development and adaptation of Action Agendas and Implementation Strategies. A recently adopted *strategic plan* outlines the tactics and approaches that PSEMP leadership and Partnership staff are pursuing with current levels of funding and staffing, and identifies areas that need additional capacity and support to achieve the essential functions of a coordinated monitoring and assessment program.

IMPROVING HOW THE PARTNERSHIP SUPPORTS PARTNERS IN PLANNING AND IMPLEMENTATION

The Puget Sound Partnership supports the planning and implementation work of many partners. In particular, the Partnership provides common terminology throughout the recovery community, provides guidance for incorporating issues such as climate change and social approaches into recovery planning, and supports implementation by mobilizing funding and educating decision-makers.

This section focuses specifically on how the Partnership intends to support partners in planning and implementation over the next 4 years.

USING SOCIAL APPROACHES TO RECOVERY

Stewardship of Puget Sound resources by the region's 4.5 million residents is critical to the long-term recovery and protection of Puget Sound. Public involvement in recovery efforts and strategies to increase stewardship of Puget Sound—referred to as social approaches to recovery—help foster broad-scale actions to address polluted water, degraded land and habitat, and imperiled species. Programs that focus on awareness raising foster improved civic processes, engage residents in government, and enable public officials to make well-informed decisions on resource issues. Behavior change methods, such as social marketing, can foster beneficial behaviors and discourage detrimental ones, often by providing an incentive or removing barriers to action.

The Partnership supports recovery partners to incorporate and implement social approaches to recovery through local and regional plans. For example, the Partnership supports Local Integrating Organizations in creating and adaptively managing *LIO ecosystem recovery plans*. The Partnership also provides guidance and assistance to regional partners for determining appropriate social approaches in Implementation Strategies. To improve public involvement, the Partnership provides technical support and guidance to partners for social approaches. The Partnership also shares information about Puget Sound through our social media, blog posts, and Innovation Stories.

TRANSFORMING COMMUNICATIONS

The need for effective communication among those who are engaged in the Puget Sound recovery effort has rarely been greater. Hundreds of organizations, government agencies, tribes, and thousands of individuals are recognizing the urgency for action to recover our ecosystem. The recovery community has identified a communication gap that exists by not having a system-wide approach to communications as more people need to understand and engage in Puget Sound recovery. Partners may not know where to turn for accurate, science-based information, a holistic understanding of the work that is being done by many partners, or guidance about effective next steps.

The Partnership hopes to implement a unique approach to communication that has proven successful in other sectors. The Partnership's communication work is guided by the idea of collective impact, which is a model for effecting large-scale social change via broad, cross-sector coordination. Within this model, the Partnership serves as a supporting agency for communications, providing a centralized infrastructure, dedicated staff, and a structured process. The potential effectiveness of this model for Puget Sound recovery is potent, because many organizations with communications expertise and broad networks already exist in the region. Rather than add another voice to the chorus, the Partnership seeks improve the speed and efficiency of

communication between and among partners. The Partnership has observed that this role is not fully understood or accepted by the recovery community, which has led to dissatisfaction among the community with the Partnership's approach to communications. As a result, the potential of this model has not peaked.

The Partnership intends to continue pursuing the collective impact model and secure the understanding and buy-in of partners to maximize the potential reach and effect of communications about Puget Sound recovery.

In addition to clarifying the collective impact approach to communicating, the Partnership perceives an opportunity to improve the flow of accurate information through and among numerous partners, and in the near real-time speed that is now expected and necessary. For example, siloed communication can result in duplication of efforts, inefficiencies, and communication gaps. A better approach is to conceptually nest individual agency communications within a larger aligned and supportive structure, resulting in greater efficiencies to all agencies involved and, most importantly, enhance services to customers. Likewise, channels and protocols for smart, fast, reliable and effective movement of information are not currently in place.

MOBILIZING FUNDING

Inadequate and unreliable funding continues to be the most frequently cited barrier to achieving and maintaining a healthy and resilient Puget Sound ecosystem. Implementing the Action Agenda and Near Term Actions requires significantly increased and ongoing investment from federal, state, local, tribal, and private sources. The ability to fund ongoing programs, NTAs and other projects that implement the Action Agenda is critical for achieving recovery goals.

Over the next several years, the Partnership seeks to develop and implement a strategy to grow the pool of resources for Puget Sound recovery. The strategy may recommend a variety of opportunities to expand funding for Puget Sound recovery, including incentives for public-private partnerships, corporate investments, grants, and individual contributions.

The Partnership also aims to better understand the funding-related needs of our implementation partners and to explore solutions with fellow state agencies, federal partners, and local government leaders to align existing funding opportunities and create others to support implementation of Near Term Actions and ongoing programs. If successful, the most immediate benefit would accrue to the hundreds of partners who seek to have their Near Term Actions and ongoing programs fully funded and implemented. Those partners includes cities, counties, conservation districts, state agencies, federal agencies, tribal governments, land trusts, and other non-profit organizations in the Puget Sound region.

Recognizing the need for increased funding, the Leadership Council has also developed a Funding Priority that was used to solicit Near Term Actions for this *Action Agenda Implementation Plan*. The purpose of the Funding Priority is to seek ideas from the broader recovery community on ways to increase funding for Puget Sound recovery. *Chapter 3* describes the Funding Priority, and several Near Term Actions in *Chapter 4* responded to this priority.

FURTHER INTEGRATING PUGET SOUND AND SALMON RECOVERY

As the backbone organization for Puget Sound recovery, the Partnership works with local, state, tribal, and federal partners to advance strategies and actions to collectively restore, protect and ensure a resilient Puget Sound. Historically, Puget Sound-wide recovery efforts and those focused on salmon recovery have proceeded with separate, but sometimes overlapping systems and processes. Participants in both of these systems agree that the work is not advancing at the rate and scale needed, that significantly more resources are needed, and that efficiencies and increased impact could likely be gained through more effective coordination of these related efforts.

The Partnership is currently working internally to help shape activities and objectives related to ecosystem and salmon recovery integration. While many efforts are already underway to help achieve integration, implementing strategic approaches with partners and across programs will be necessary for success. Beginning in 2019, the Partnership will begin more formally approaching its partners and boards to seek input and feedback to help shape integration efforts.

A successful integrated approach is when the approaches, decision-making, and processes that bring together the multiple interests represented in Puget Sound-wide recovery and those traditionally engaged with salmon recovery find common agreement for more integrated ecosystem recovery visions, strategies, and actions. An integrated approach to recovery means thinking holistically about how each of us, and our work, benefit both ecosystem recovery as well as salmon recovery, stretching us beyond historic operational silos. This integrated approach will help to expose and allow intentional reconciliation of competing priorities and tradeoffs within the recovery efforts, and will drive more efficient use of public time and resources.

CONSIDERING CHANGING CLIMATE AND OCEAN CONDITIONS IN RECOVERY PLANNING

Considering and incorporating changing climate and ocean conditions is essential to the long-term success of ecosystem recovery. Given our understanding of the climate risks on the Vital Signs and the increased prominence of Implementation Strategies in setting recovery Regional Priorities and Near Term Actions, new and revised Implementation Strategies will need to continue to further integrate considerations of changing climate and ocean conditions. The Partnership plans to develop a common climate change protocol to guide this integration.

The protocol will ensure that Implementation Strategies consider the current state of knowledge on the risks from changing climate and ocean conditions, take advantage of opportunities to increase resilience, and foster the implementation of actions to prepare for and respond to climate-related risks. Ensuring that Implementation Strategies consider changing conditions will also improve our ability to solicit actions that undertake climate-related assessment and planning, and advance resiliency to climate change, and will ensure that the NTAs themselves are designed and implemented with climate considerations in mind. The intent of this integration is to promote smarter, more climate-resilient investments and recovery outcomes.

In many cases, climate change impacts and effective strategies to build resiliency are location-specific and are influenced by the unique interactions of climate change effects on the local system. Therefore, strategies and actions that are tailored to individual locations are more likely to be effective. In January 2017, the *Local Integrating Organizations (LIOs)* finalized their *ecosystem recovery plans*, many of which contain information on the known impacts of climate change on their local priorities.

Several LIOs have developed, or are developing, climate adaptation plans for their local areas. The Partnership will continue to work with LIOs to support them in adaptively managing their ecosystem recovery plans to further reflect priority risks and adaptation responses.

The Partnership has also developed *guidance* for Puget Sound salmon recovery Lead Entities and habitat restoration practitioners on how to consider climate change impacts when developing and evaluating salmon habitat protection and restoration projects. The document includes a pathway for considering climate change impacts when designing salmon habitat protection and restoration projects, case studies, and relevant sources of climate change information. Over the next few years, the Partnership will work with the Lead Entities to determine the usefulness of the climate guidance and make any modifications as needed.

ENSURING ACCOUNTABILITY FOR PUGET SOUND RECOVERY

The Partnership and its Leadership Council are statutorily responsible for ensuring accountability related to Puget Sound recovery. As described in *Chapter 5 of the Comprehensive Plan*, the recovery community comprises a range of diverse individuals and organizations. These individuals and organizations each make important contributions to Puget Sound recovery. Yet each exists to serve different functions, is supported by different resources, and is limited by different constraints. In many cases, their contribution to Puget Sound recovery is influenced by these other factors. A potential role of the Partnership and Leadership Council is to ensure accountability for recovery by providing more direct support and guidance to ensure that each organization in the recovery community is able to maximize its contribution to Puget Sound recovery.

This section focuses specifically on how the Partnership intends to build upon mechanisms to ensure accountability for Puget Sound recovery over the next 4 years.

CELEBRATING ONGOING PROGRAMS AND ENHANCING THEIR CONTRIBUTIONS TO PUGET SOUND RECOVERY

Based on a recommendation from the Washington Legislature's Joint Legislative Audit and Review Committee (JLARC), the Puget Sound Partnership and its partners have committed to develop a more complete inventory of programs and funding related to Puget Sound recovery. To fulfill this commitment, the recovery community is undertaking several lines of work, including updating the inventory of programs, gathering financial information on programs, and engaging more directly with ongoing program administrators to identify barriers and challenges to implementation and enforcement and synergies where collaboration would benefit the system. A more robust inventory of actions and funding that contribute to Puget Sound recovery will improve the baseline information that enables pursuit of mutually beneficial programs and prioritization of actions that can accelerate Puget Sound recovery. Ultimately, this work will help balance the focus of the Action Agenda to ensure that the crucial role of ongoing programs in Puget Sound recovery is more adequately recognized. The recovery community will continue to collaborate and engage more closely with the organizations that administer ongoing programs—including ones that are not currently engaged in the collective Puget Sound recovery effort—to recognize and support important work, and to ensure that resources are being used effectively and efficiently for Puget Sound recovery.

MODERNIZING PUGET SOUND INFORMATION SYSTEMS

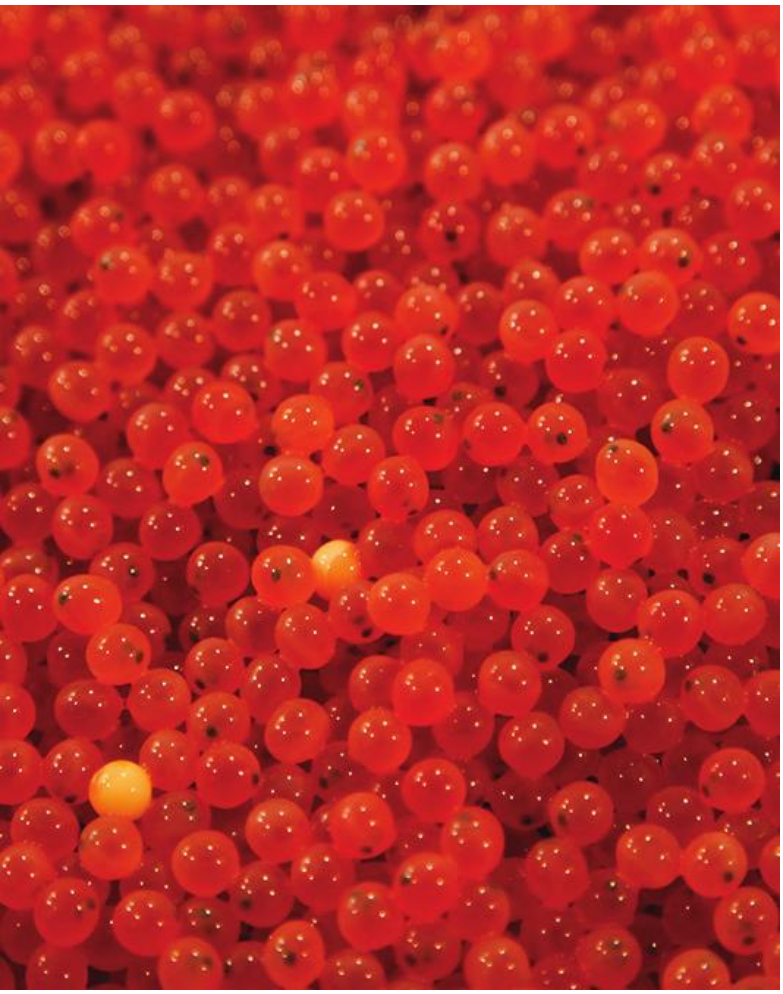
The Puget Sound Partnership manages a wealth of information from hundreds of partners about Puget Sound recovery priorities, activities, and progress. This information is used to inform decisions about Puget Sound recovery priorities and investments at many levels: It enables the recovery community to assess the health of Puget Sound, identify the greatest threats to the ecosystem and human wellbeing, understand which actions and programs are most effective, and support decisions about where and when to invest limited resources. Currently, information is collected and hosted using a combination of free or low-cost tools that rely on emails, manual data entry, and unconnected online database and reporting tools. This approach to data management does not enable sufficient, timely, and reliable access to information needed by the recovery community to view priorities, evaluate investments, or

inform decisions, or track progress. The Partnership is currently implementing system improvements to increase transparency and access to high quality, up-to-date information about Puget Sound health and the impacts of investments through the development of a new online platform. This work will address challenges including duplicative work for individuals and agencies, inconsistent data, lack of data, and ultimately insufficient accountability.

Expected to launch in spring of 2019, the new Puget Sound information online platform will serve as a home for the collective efforts of all Puget Sound recovery partners and will include a comprehensive Action Agenda tracking and reporting tool with a small number of Sound-wide intermediate progress measures, an updated National Estuary Program Atlas, and improved Vital Sign reporting. The platform will be enhanced and expanded over time, guided by Sound-wide priorities and as resources allow.

IMPROVING EVALUATION OF AND REPORTING ON RECOVERY PROGRESS AND PROGRAMS

The Partnership intends to develop and improve systems that enable the recovery community to better evaluate investments, barriers, and inefficiencies related to Puget Sound recovery and to report on programs, actions, and organizations that are making progress towards recovery goals. This work would improve the direct linkage of scientific information, planning, and management in the recovery system and Action Agenda. This work would also integrate many of the other lines of work described previously, including the development of progress measures, the improved inventory of ongoing programs, modernized information systems, and strengthened linkages to the Puget Sound Ecosystem Monitoring Program. Integrating these many lines of work, the Partnership hopes to enable the recovery community to better promote accountability for actions, provide consistent and adequate evaluations of how programs contribute to recovery, and communicate the results to help continuously improve Puget Sound recovery.



CHAPTER 3 | VITAL SIGNS AND REGIONAL PRIORITIES

This chapter includes Regional Priorities for each of the 11 priority Vital Signs, as well as the Leadership Council's Regional Priority on funding. Each description includes information about the Vital Sign target, a narrative describing the overall intent of the Regional Priorities, and a table that lists the Regional Priorities and Regional Priority approaches. The following sources of information describe more fully the intention, development, and scientific basis of Regional Priorities and Regional Priority approaches:

- The *Vital Signs webpage* provides status and trends for many Vital Signs and their indicators.
- The *State of the Sound* reports on recovery progress as monitored through the Vital Signs and assessments of completed projects.
- *Implementation Strategies* outline scientifically-informed approaches for improving the status of Vital Sign indicators.
- The *process summary* for developing Regional Priorities describes other sources of information—in addition to Implementation Strategies—that informed the setting of Regional Priorities.
- *Appendix A to the 2018 Near Term Action Solicitation* provides additional information, including example actions, desired outcomes, local context, and other guidance that focused the solicitation of Near Term Actions.

FUNDING: REGIONAL PRIORITY

STRATEGY JUSTIFICATION

As noted in the *2017 State of the Sound* report, inadequate and unreliable funding continues to be the most frequently cited barrier to achieving and maintaining a healthy and resilient Puget Sound ecosystem. Achieving the desired outcomes requires significantly increased and ongoing investment from federal, state, local, tribal, and private sources.

National Estuary Program funds are one crucial source of funding for Near Term Actions in the Action Agenda. However, even with these investments, only 10 to 25 percent of Near Term Actions have historically received funding. The Puget Sound Partnership encourages other funders to use the Action Agenda as a resource for identifying scientifically sound projects to consider for funding.

The Leadership Council remains committed to developing a long-term funding plan that includes more efficient and effective use of current available resources. This will be accomplished through improved strategic alignment of investments with partners and the development of new strategies for sustainably funding recovery programs and projects. The Leadership Council also seeks their partners' ideas for creative funding strategies; the Regional Priorities include development of funding and communications strategies.

TABLE 3-1. FUNDING: REGIONAL PRIORITY

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
FUND 1. The 2017 State of the Sound notes that the funding gap for Near Term Actions in the 2016-2018 Action Agenda alone is hundreds of millions of dollars. Develop a viable, effective funding and communications strategy that provides substantially increased funding for Puget Sound recovery from new and existing sources.	FUND 1.1. Develop a strategy to enable and mobilize the public to take actions to protect Puget Sound and support funding of recovery actions.
	FUND 1.2. Explore and utilize new sources of funding, and enhance existing sources of funding.

MARINE WATER QUALITY VITAL SIGN: REGIONAL PRIORITY

VITAL SIGN INDICATOR TARGETS

- There is no 2020 target for the Marine Water Condition Index. However, since the index is designed to show changes in water quality, positive values indicate improved marine water quality, and negative values indicate worse marine water quality relative to the baseline.
- Human-related contributions of nitrogen do not result in more than 0.2 mg/L reductions in dissolved oxygen levels anywhere in Puget Sound.

STRATEGY JUSTIFICATION

While substantial reference material exists from which to identify priorities associated with Marine Water Quality (MWQ), a lack of administrative capacity and funding has prevented development of an Implementation Strategy of Regional Priorities in time for inclusion in the 2018–2022 Action Agenda.

Therefore, it has been determined that the Regional Priority for MWQ will be to develop (or adapt) an Implementation Strategy. Development or adaptation of the MWQ Implementation Strategy should occur in close collaboration with LIOs and tribal partners, as well as with the SI Leads, the EPA, and many others. In addition, work should incorporate and consider the robust planning efforts of LIOs and tribes, as well as SI Leads, the EPA, and others.

For more information on the considerations and rationale that supported this decision, please refer to the Partnership's "*Director's Decision Regarding Regional Priorities for Marine Water Quality and Summer Stream Flow Vital Signs*."

TABLE 3-2. WATER QUALITY VITAL SIGN REGIONAL PRIORITY

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
MWQ1. Develop (or adapt) an Implementation Strategy for the Marine Water Quality Vital Sign.	MWQ1.1. Develop (or adapt) an Implementation Strategy for the Marine Water Quality Vital Sign.

SUMMER STREAM FLOWS VITAL SIGN: REGIONAL PRIORITY

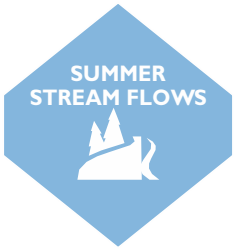
VITAL SIGN INDICATOR TARGETS

By 2020, meet the following river-specific targets:

- Maintain stable or increasing flows in highly regulated rivers: Nisqually, Cedar, Skokomish, Skagit, and Green.
- Maintain stable flows in unregulated rivers that currently are stable: Puyallup, Dungeness, and Nooksack.
- Monitor low flow in the Elwha River after dam removal.
- Restore low flows to bring the Snohomish River from a weakly decreasing trend to no trend.
- Restore low flows to bring the Deschutes River, North Fork Stillaguamish River, and Issaquah Creek from a strongly decreasing trend to a weakly decreasing trend.

STRATEGY JUSTIFICATION

While substantial reference material exists from which to identify priorities associated with the Summer Stream Flows (SSF) Vital Sign, a lack of administrative capacity and funding has prevented development of an Implementation Strategy or Regional Priorities for this Vital Sign in time for inclusion in the 2018–2022 Action Agenda.



Therefore, the Regional Priority for SSF will be to develop (or adapt) an Implementation Strategy. Development or adaptation of this Implementation Strategy should occur in close collaboration with LIO and tribal partners, as well as with the SI Leads, the EPA, and many others. In addition, work should incorporate and consider the robust planning efforts of LIOs and tribes, as well as SI Leads, the EPA, and others.

For more information on the considerations and rationale that supported this decision, please refer to the Partnership's "*Director's Decision Regarding Regional Priorities for Marine Water Quality and Summer Stream Flow Vital Signs.*"

TABLE 3-3. SUMMER STREAM FLOWS VITAL SIGN REGIONAL PRIORITY

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
SSF1. Develop (or adapt) an Implementation Strategy for the Summer Stream Flows Vital Sign.	SSF1.1. Develop (or adapt) an Implementation Strategy for the Summer Stream Flows Vital Sign.

CHINOOK SALMON (AND OTHER SALMON) VITAL SIGN: REGIONAL PRIORITIES

VITAL SIGN INDICATOR TARGET

- Stop the overall decline and ultimately report improvements in wild Chinook salmon abundance in two to four populations in each biogeographic region.

STRATEGY JUSTIFICATION

Puget Sound salmon recovery work is the cornerstone of broader Puget Sound recovery efforts, and abundant wild salmon populations are vital to this effort. Salmon are a favorite food of orcas, depend on the most at-risk habitats, are highly prized by anglers and commercial fishermen, and are an important cultural and economic resource for tribes. A variety of pressures—including urbanization, agriculture, dams, stormwater pollution, harvest and hatcheries—have reduced Puget Sound Chinook salmon and other salmon populations to historically low numbers. Without a significant reversal in this trend, Puget Sound Chinook salmon and other salmon species are unlikely to recover.

The following priorities help focus and support overall progress in continued efforts to protect and restore the Puget Sound ecosystem, and will advance and accelerate salmon recovery and restoration. These priorities are intended to emphasize critical pathways that must be achieved for the recovery of salmon in Puget Sound.

TABLE 3-4. CHINOOK SALMON (AND OTHER SALMON) VITAL SIGN REGIONAL PRIORITIES

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
CHIN1. Protect all remaining salmon habitat, optimize a net gain in ecosystem function and habitat productivity, and build a region-wide accountability system that is comprehensive, accessible, and transparent.	CHIN1.1. Continue to engage with local implementing entities (including tribes, counties, cities, Lead Entities, WRIAs, and others) on preservation of salmon habitat, issues relating to land use, critical areas, and other issues affecting salmon recovery and restoration work.
	CHIN1.2. Evaluate land use policies and their effectiveness in protecting habitat critical to salmon and salmon recovery.
	CHIN1.3. Develop a regional application of critical areas and ecologically important habitat, including coordination of data (GIS exercise) to compile this overlay.
	CHIN1.4. Develop a standardized habitat assessment methodology and decision framework that supports regulatory alignment and harmonization of plans, processes, voluntary measures, and actions among agencies and across all levels of government.
	CHIN1.5. Establish science-based standards region-wide when protecting and restoring effective riparian zones on all salmon and steelhead streams. Include other key biological attributes, such as floodplains, off channel habitats, and riverine wetlands.
	CHIN1.6. Monitor and report on landowner use and implementation of incentive-based programs to address salmon habitat protection and restoration needs. Regional coordinating entities can use monitoring data to track local progress and pursue adaptive management and corrections as needed; where necessary, tailor program implementation to local conditions to achieve salmon recovery goals at the watershed scale.

TABLE 3-4. CHINOOK SALMON (AND OTHER SALMON) VITAL SIGN REGIONAL PRIORITIES (CONT'D)

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
CHIN1. (CONT'D)	CHIN1.7. Identify, review, and address regulatory regimes and mechanisms that adversely impact fisheries resources, including regulatory exemptions that adversely, or potentially adversely, impact fish habitat.
	CHIN1.8. Develop an acquisition strategy that values conservation easements and property acquisitions on ecosystem services provided to the region.
	CHIN1.9. Create a balance sheet for habitat gain and loss in the watershed.
	CHIN1.10. Enforce and improve compliance with existing regulations.
	CHIN1.11. Build support for modifications to the hydraulic code to include enhanced civil enforcement authorities that would allow WDFW to issue stop-work and administrative orders, inspect properties, and increase civil fines.
CHIN2. Establish and enforce water quantity and quality standards that protect, conserve, and restore water resources for salmon.	CHIN2.1. Low flows are a major limiting factor for salmon recovery. Ensure sufficient instream flow and, where necessary, restore instream flows to levels necessary for salmon recovery.
	CHIN2.2. Initiate discussions and identify specific actions around water science, management, and conservation.
	CHIN2.3. Plan for future needs and changing climate and ecosystem conditions: Protect and improve, where needed, the water-holding capacity of watershed uplands to increase groundwater, augment summer low flows, and reduce flood risks.
	CHIN2.4. Effectively implement and enforce existing regulations and report periodically.
	CHIN2.5. Address and manage water quality parameters, including: • Excess nutrient loading (such as nitrogen) for all sources, and with specific attention to pathways associated with wastewater treatment outfalls • Elevated temperatures • Sediment • Toxics
	CHIN2.6 Incentivize and accelerate stormwater management for new and existing development.
CHIN3. Improve management of predation and mortality factors that inhibit salmon recovery	CHIN3.1. Develop a white paper review of all recent science and studies on pinniped predation on juvenile, sub-adult, and adult salmon. Develop potential management options, and/or identify and implement necessary changes to rules and regulations to address pinniped predation.
	CHIN3.2. Identify contributing factors that exacerbate predation and mortality and implement solutions.
CHIN4. Emphasize funding and implementation of science and monitoring actions to support Puget Sound salmon recovery.	CHIN4.1. Emphasize funding support for efforts that build our understanding of ecological interactions that likely influence how Puget Sound Chinook salmon populations perform.
	CHIN4.2. Improve monitoring of pollutants (such as metals, hydrocarbons, PAHs, and PBDEs) associated with stormwater and other sources. These point or nonpoint sources need to be identified and assessed to improve our understanding of their impacts to salmon resources.
	CHIN4.3. Support efforts that improve our knowledge of things integral to managing Chinook salmon and steelhead and tracking their recovery, including co-manager (WDFW, tribes) fish in/fish out monitoring of natal Chinook salmon populations, habitat status and trends monitoring throughout Puget Sound, and comprehensive juvenile Chinook salmon restoration effectiveness monitoring linked to the restoration strategies and goals in watershed recovery plans.

TABLE 3-4. CHINOOK SALMON (AND OTHER SALMON) VITAL SIGN REGIONAL PRIORITIES (CONT'D)

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
CHIN4. (CONT'D)	CHIN4.4. Invest in making more accurate estimates so we can better manage and recover Chinook salmon. • Invest funding and capacity to improve accuracy and precision for Chinook salmon populations where status and trends estimates of key life stages (such as, escapement, juvenile migrants, etc.) are lacking, or highly uncertain. • Evaluate existing watershed-scale efforts for lessons learned on actions that have been successful—or not successful. Share information and conclusions with all watershed-scale efforts for adaptive management of their program implementation.
	CHIN4.5. Align recovery endpoints to Chinook salmon biology and how recovery actions are really implemented.
	CHIN4.6. Develop a framework to determine how salmon are responding to current habitat protection, restoration, and management actions.
	CHIN4.7. Develop a better understanding of the causes of poor marine survival of steelhead (and Chinook salmon and other species) in Puget Sound through support of the Salish Sea Marine Survival Project's research program.
	CHIN4.8. Evaluate potential threats from emerging contaminants of concern from wastewater and stormwater as they relate to salmon and their food web.
	CHIN4.9. Incorporate traditional knowledge into science and monitoring efforts.
	CHIN4.10. Improve forecasting of climate change impacts on salmon.
	CHIN4.11. Create open and shared georeferenced database, clearinghouse, and/or roadmap of science and monitoring data.
CHIN5. Develop and implement a climate change mitigation and adaptation strategy for salmon recovery.	CHIN5.1. Assess risk from climate change to salmon recovery activities and share with watersheds to incorporate into planning processes.
	CHIN5.2. Integrate climate change adaptation framework to salmon habitat restoration plans in Puget Sound.
	CHIN5.3. Integrate climate change guidance when reviewing and evaluating project proposals for restoration projects.
CHIN6. Enhance preventative measures and develop integrated oil spill preparedness and response programs.	CHIN6.1. Assess and implement additional preventative and proactive measures to reduce the risk of vessel collision and grounding.
	CHIN6.2. Strengthen local oil spill preparedness and response plans; integrate with federal, state, and tribal programs and planning; and allocate resources.
CHIN7. Continue to restore degraded habitat and fish populations, via projects captured in Puget Sound Lead Entities' 4-year work plans.	CHIN7.1. Protect and/or restore critical habitat for salmon populations.
CHIN8. Update the Puget Sound Salmon Recovery Plan and watershed chapters.	CHIN8.1. Update Puget Sound Salmon Recovery Plan chapters and steelhead plan chapters.

ORCAS VITAL SIGN: REGIONAL PRIORITY

VITAL SIGN INDICATOR TARGET

- By 2020, achieve an end-of-year census of 95 individual Southern Resident orcas, which would represent a 1 percent annual average growth rate from 2010 to 2020.

STRATEGY JUSTIFICATION

Southern Resident orca are one population of orca whales that range in the Salish Sea and the West Coast. Among Puget Sound's most distinctive and charismatic inhabitants, they contribute a great deal to the culture, environment, and economy of Puget Sound. The health of the Southern Resident orcas can tell us a lot about Puget Sound. They are one of Puget Sound's top predators—depending heavily on Puget Sound Chinook salmon for food—and therefore rely on a healthy Puget Sound ecosystem for their survival. Since 2015, however, no Southern Resident orca newborn has survived, and the population faces the possibility of extinction. The combination of a precarious food supply and threats from pollution, vessel traffic, and noise continues to jeopardize their survival. If the Southern Resident orcas are to survive, urgent and immediate action is needed.

In November 2018, Governor Inslee's Southern Resident Orca Task Force *recommended 36 actions* to address the threats to the Southern Residents. Many of these recommendations apply to human activities in Puget Sound.[5] These recommendations, if implemented, will not only advance the sustainability and resiliency of the orcas, but also that of the Puget Sound ecosystem.

The stated goal of the Task Force and its recommendations aligns with the goals and vision of the Action Agenda for Puget Sound: a healthy and resilient Puget Sound ecosystem. Additionally, many of the recommendations from the Task Force build on or reiterate the findings of the Chinook salmon and Toxics in Fish Implementation Strategies, as well as the Regional Priorities developed for this Action Agenda. Ensuring implementation of the Task Force recommendations and identifying connections between the recommendations and existing Implementation Strategies and this Action Agenda Implementation Plan are essential to achieve the largest benefit for both Southern Resident orcas and the Puget Sound ecosystem as a whole.

Therefore, the Leadership Council has determined that the Regional Priority for the Southern Resident Orca Vital Sign is to implement the Governor's Southern Resident Orca Task Force recommendations, and the Chinook salmon and Toxics in Fish Implementation Strategies. Implementation of the recommendations should occur in close collaboration with LIOs, tribal partners, SI Leads, the EPA, and many others. In addition, work should incorporate and consider the robust planning efforts of LIOs, tribes, SI Leads, the EPA, and others.

TABLE 3-5. ORCAS VITAL SIGN: REGIONAL PRIORITY

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
ORCA1. Implement the Governor's Southern Resident Orca Task Force recommendations, as well as the Chinook salmon and Toxics in Fish Implementation Strategies.	ORCA1.1. Implement the Governor's Southern Resident Orca Task Force recommendations, as well as the Chinook salmon and Toxics in Fish Implementation Strategies.

[5] Although Southern Resident orcas are an important Vital Sign indicator for Puget Sound, the population migrates in and out of the area, and thus is not entirely dependent on Puget Sound and its resources.

FLOODPLAINS VITAL SIGN: REGIONAL PRIORITIES

VITAL SIGN INDICATOR TARGETS

- Restore, or have projects underway to restore, 15 percent of degraded Puget Sound floodplain area.
- Have no net loss of floodplain function in any watershed relative to a 2011 baseline

STRATEGY JUSTIFICATION

Floodplains are important areas in the Puget Sound region because they support fishable, swimmable, drinkable waterways. It is the intent of this strategy to restore and protect floodplain functions. The priorities and approaches attempt to guide floodplain work at a regional level while providing flexibility for local implementation. In this stepwise structure, the strategy to support floodplain protection and restoration is to create the enabling conditions necessary for strategic work, then designing solutions and strategies on a project level, and finally implementing those solutions. This structure allows communities to discuss the balance between social, ecological, and economic services provided by floodplains and to develop agreed upon, strategic and collaborative solutions.

The Floodplains Implementation Strategy prioritizes 17 rivers that have the potential to contribute the most to the Floodplains Vital Sign indicator target. These 17 floodplains are the: Big Quilcene, Cedar River, Deschutes River, Dosewallips River, Duckabush River, Dungeness River, Elwha River, Green/Duwamish River, Hamma River, Nisqually River, Nooksack River, Puyallup River, Samish River, Skagit River, Skokomish River, Snohomish River, and Stillaguamish River. Projects proposed within one of these 17 floodplains are a priority because they can contribute the most to the regional Floodplains Vital Sign indicator target.

In order to protect and restore floodplain area and function, the Regional Priorities first emphasize that the technical resources and human capacity need to be in place to **enable** recovery planning. The Regional Priorities then promote the **design** of multi-benefit recovery plans. These plans should strive to balance the need for habitat, agriculture, development, and flood risk prevention. The plan should identify the best sites for floodplain restoration or protection while ensuring that all stakeholder needs are considered. To enable successful implementation of the plans, the Regional Priorities provide an opportunity to address the policy and regulatory limitations that may inhibit funding or delay needed recovery actions. Finally, once the plan is developed, the Regional Priorities promote **implementing** the site-specific actions that are supported by the multi-benefit plan. Other actions include sharing and communicating with partners about the plan and monitoring project outcomes to adaptively manage floodplain protection and restoration planning.

TABLE 3-6. FLOODPLAIN VITAL SIGN REGIONAL PRIORITIES

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
FP1. Enable greater local planning capacity to address restoration and protection.	FP1.1. Gain a better understanding of current habitat conditions.
	FP1.2. Gain a better understanding of the social, economic, and political factors currently affecting habitat.
	FP1.3. Gain a better understanding of how habitat may change in the future due to pressures like climate change and population growth.
	FP1.4. Gain a better understanding of future social, economic, and political factors (such as population growth) that will affect habitat.
	FP1.5. Increase human and technical capacity of staff for planning, implementation, and enforcement.
FP2. Design and identify multiple-benefit solutions and strategies.	FP2.1. Collaborative, multiple-benefit groups develop a plan that prioritizes locations to restore or protect.
	FP2.2. Address barriers to improve implementation of plans, priorities, and regulations.
FP3. Implement multiple-benefit projects developed through reach-scale planning processes.	FP3.1. Develop and implement outreach, education, and/or incentive programs.
	FP3.2. Implement plans and priorities to protect habitat.
	FP3.3. Implement plans and priorities to restore habitat.
	FP3.4. Collect and analyze data to adaptively manage recovery practices.

ESTUARY VITAL SIGN: REGIONAL PRIORITIES

VITAL SIGN INDICATOR TARGETS

- 7,380 quality acres of estuarine wetlands are restored basin-wide, which is 20 percent of the total estimated restoration need.
- By 2020, all Chinook salmon natal river deltas meet 10-year salmon recovery goals (or 10 percent of restoration need as a proxy for river deltas lacking quantitative acreage goals in salmon recovery plans).

STRATEGY JUSTIFICATION

River delta estuaries form where river floodplains meet the sea, creating a unique and important environment where freshwater mixes with salt water and sediments collect. Estuaries are home to a diverse array of specially adapted plants and animals moving in and out with the tides. Estuaries provide important feeding and resting habitat for young salmon, migratory birds, and many other species that cannot find these unique benefits in any other landscape. Young salmon that can spend time in river delta estuaries grow faster and are more likely to survive their ocean migration. Large river deltas are home to unique geomorphic processes that contribute to the Puget Sound ecosystem function and adjacent habitats.

The Estuaries Vital Sign indicator target is measured across the 16 large river delta estuaries in Puget Sound:Deschutes, Dosewallips, Duckabush, Dungeness, Duwamish, Elwha, Hamma Hamma, Nisqually, Nooksack, Puyallup, Quilcene, Samish, Skagit, Skokomish, Snohomish, and Stillaguamish. Increases in area or function of these estuaries is a priority in the Regional Priorities because of their potential contribution toward the Estuaries Vital Sign indicator target. The large agricultural river deltas (Nooksack, Samish, Skagit, Snohomish, and Stillaguamish) are of particular importance because they were historically some of the largest estuaries and now have the greatest opportunity for large additions of estuary acreage with high quality habitat potential. The Implementation Strategy for the Estuaries Vital Sign indicator target aims to enable and accelerate tidal inundation of land while minimizing impact and maximizing benefits to farming communities and other stakeholders.

In order to restore tidal inundation and estuarine processes to improve estuarine function, the Regional Priorities first emphasize that the information (scientific, economic, social) and human capacity are in place to **enable** restoration planning. The Regional Priorities then promote the **design** of multi-benefit recovery plans, which identify high-quality candidate restoration sites while ensuring all stakeholder needs are adequately addressed. To enable successful implementation of the multi-benefit recovery plans, the Regional Priorities provide an opportunity to address the policy and regulatory limitations that may inhibit funding or delay restoration actions. Finally, once the multi-benefit plan is in place, the Regional Priorities promote **implementing** the site-specific actions that are agreed upon in the multi-benefit plan, communicating the plan and its implementation to key audiences, and monitoring project outcomes to help achieve long-lasting and adaptable estuary restoration.

TABLE 3-7. ESTUARY VITAL SIGN REGIONAL PRIORITIES

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
EST1. Enable greater local planning capacity to develop and implement multiple-benefit, landscape-scale estuary restoration.	EST1.1. Gain a better understanding of current habitat conditions.
	EST1.2. Gain a better understanding of the social, economic, and political factors currently affecting habitat.
	EST1.3. Gain a better understanding of how habitat may change in the future due to pressures like climate change and population growth.
	EST1.4. Gain a better understanding of future social, economic, and political factors (such as population growth) that will affect habitat.
	EST1.5. Increase human and technical capacity of staff for planning, implementation, and enforcement
EST2. Design landscape-scale, multiple-benefit solutions for estuary restoration.	EST2.1. Collaborative, multi-benefit groups develop a plan that prioritizes locations to restore or protect.
	EST2.2. Address barriers to improve implementation plans, policies, and regulations.
	EST2.3. Develop and write the plan.
	EST2.4. Align implementation or revision of regulations.
	EST2.5. Develop and implement outreach, education, and/or incentive programs.
EST3. Implement landscape-scale estuary restoration plans to increase tidally inundated areas and estuary function while meeting the needs of diverse stakeholders.	EST3.1. Develop and implement outreach, education, and/or incentive programs.
	EST3.2. Implement plans and priorities to protect habitat.
	EST3.3. Implement plans and priorities to restore habitat.
	EST3.4. Collect and analyze data to adaptively manage recovery practices.

LAND DEVELOPMENT AND COVER VITAL SIGN: REGIONAL PRIORITIES

VITAL SIGN INDICATOR TARGETS

- **Conversion of ecologically important lands**: Loss of vegetation cover on indicator land base over a 5-year period does not exceed 0.15 percent of the 2011 baseline land area.
- **Forest Loss**: The average annual loss of forested land cover to developed land cover in non-federal lands does not exceed 1,000 acres per year, as measured with Landsat-based change detection.
- **Riparian vegetation restoration**: Restore 268 miles of riparian vegetation or have an equivalent extent of restoration projects underway.
- **Growth in Urban Growth Areas (UGA)**: The proportion of basin-wide growth occurring within UGAs is at least 86.5 percent (equivalent to all counties exceeding their population growth goals by 3 percent), with all counties showing an increase over their 2000–2010 percentages.

STRATEGY JUSTIFICATION

Puget Sound is the home to over 4 million people. The need for homes, businesses, roads, developments, and agriculture should be balanced with strategic ecosystem protection. Forest and riparian areas provide important habitat for many species and reduce the rate of polluted runoff flowing into Puget Sound. The Land Development and Cover Vital Sign indicator targets measure how well we are managing our region's growth while protecting the highest quality remaining natural areas and working forests. Areas on the fringe of urban areas and those that are on transportation corridors between urban areas are particularly vulnerable to development. Efforts to reduce conversion of ecologically important lands are especially important in Mason, Pierce, and Skagit counties, where current estimates indicate that land conversion rates are highest.

In order to reduce the conversion of ecologically important lands, the Regional Priorities first emphasize that the technical resources and human capacity need to be in place to **enable** recovery planning. The Regional Priorities then promote the **design** of multi-benefit recovery plans—plans that balance population growth with the need to protect ecologically important lands. This leads to the identification of the best sites for restoration or protection while promoting strategic areas for urban growth. To enable successful implementation of the plans, the Regional Priorities provide an opportunity to address the policy and regulatory limitations that may inhibit funding or delay recovery actions. Finally, once plans are in place, the Regional Priorities promote **implementing** the recovery actions agreed upon in the multi-benefit plan, communicating the plan and its implementation to key audiences, and monitoring project outcomes to help adaptively manage strategic planning related to Land Development and Cover.

TABLE 3-8. LAND DEVELOPMENT AND COVER VITAL SIGN REGIONAL PRIORITIES

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
LDC1. Enable protection and planning by addressing information needs about the most ecologically important areas.	LDC1.1. Gain a better understanding of current habitat conditions.
	LDC1.2. Gain a better understanding of the social, economic, and political factors currently affecting habitat.
	LDC1.3. Gain a better understanding of future social, economic, and political factors (such as population growth) that will affect habitat.
	LDC1.4.. Increase human and technical capacity of staff for planning, implementation, and enforcement.
LDC2. Design integrated strategies that protect and restore critical ecological functions.	LDC2.1. Collaborative multiple-benefit groups develop a plan that prioritizes locations to restore or protect.
	LDC2.2. Address barriers to improve implementation of plans, policies, and regulations.
LDC3. Implement integrated strategies and policies to protect and restore ecologically important lands.	LDC3.1. Develop and implement outreach, education, and/or incentive programs.
	LDC3.2. Implement plans and priorities to protect habitat.
	LDC3.3. Implement plans and priorities to restore habitat.
	LDC3.4. Collect and analyze data to adaptively manage restoration practices.

SHORELINE ARMORING VITAL SIGN: REGIONAL PRIORITIES

VITAL SIGN INDICATOR TARGETS

- From 2011 to 2020, the total amount of armoring removed should be greater than the total amount of new armoring in Puget Sound (total miles removed is greater than the total miles added).
- Feeder bluffs receive strategic attention for removal of existing armoring and avoidance of new armoring.
- Soft shore techniques are used for all new and replacement armoring, unless it is demonstrably infeasible.

STRATEGY JUSTIFICATION

Puget Sound's 2,500 miles of shoreline are among the most valuable and fragile of our natural resources. A dynamic area where land and marine ecosystems meet, the shoreline is constantly changing with the action of wind, waves, tides, and erosion. These forces are also the reason why people often build bulkheads or other structures to harden the shoreline. Indeed, approximately 27 percent of the shoreline has been armored to protect public and private property, ports and marinas, roads and railways, and other uses. Shoreline armoring, the practice of constructing bulkheads (also known as seawalls) and rock revetments, disrupts the natural process of erosion, which supplies much of the sand and gravel that forms and maintains our beaches. Erosion also creates habitat for herring, surf smelt, salmon, and many other species in Puget Sound. Over time, shoreline armoring may cause once sandy beaches to become rocky and sediment starved, making them inhospitable to many of our native species. The Shoreline Armoring Vital Sign indicator tracks changes in the total amount of shoreline armor in the nearshore, marine environment. Preventing new armor and restoring natural shorelines through armor removal is a priority to sustain the physical processes that sustain shoreline structure and function. Protection and restoration of feeder bluffs are one of the highest priorities due to their important sediment supply role.

In order to protect and restore shoreline processes, the Regional Priorities first emphasize that the information (armor location and attributes, sea level rise projections, vulnerable infrastructure, etc.) and the regulatory capacity are in place to **enable** protection and restoration planning and implementation of existing regulations. The **design** of multi-benefit plans is the most viable approach to identifying high-quality protection or restoration sites along the shoreline while addressing the needs of residential property owners, public land uses, and industrial or commercial infrastructure. At the same time, the Regional Priorities provide an opportunity to address the regulatory implementation and compliance issues that reduce the protectiveness of existing regulations or make restoration difficult to implement. Finally, once the capacity and plan are in place, the Regional Priorities promote **implementing** the site-specific actions identified through planning and prioritization, developing education and incentive programs to assist residential property owners in protection or restoration, and monitoring project outcomes to help achieve long-lasting and adaptable shoreline protection and restoration.

TABLE 3-9. SHORELINE ARMORING VITAL SIGN REGIONAL PRIORITIES

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
SA1. Enable greater local and regional capacity to protect and restore shorelines.	SA1.1. Gain a better understanding of current habitat conditions.
	SA1.2. Gain a better understanding of the social, economic, and political factors currently affecting habitat.
	SA1.3. Gain a better understanding of how habitat may change in the future due to pressures like climate change and population growth.
	SA1.4. Gain a better understanding of future social, economic, and political factors (such as population growth) that will affect habitat.
	SA1.5. Increase human and technical capacity of staff for planning, implementation, and enforcement.
SA2. Design landscape-scale plans and improve implementation of existing regulations for protection and restoration of shorelines.	SA2.1. Collaborative, multiple-benefit groups develop a plan that prioritizes locations to restore or protect.
	SA2.2. Address barriers to improve implementation of plans, policies, and regulations.
SA3. Implement landscape-scale plans and projects for the protection and restoration of shoreline processes.	SA3.1. Develop and implement outreach, education, and/or incentive programs.
	SA3.2. Implement plans and priorities to protect habitat.
	SA3.3. Implement plans and priorities to restore habitat.
	SA3.4. Collect and analyze data to adaptively manage recovery practices.

SHELLFISH BEDS VITAL SIGN: REGIONAL PRIORITIES

VITAL SIGN INDICATOR TARGET

- Acres of harvestable shellfish beds: A net increase of 10,800 acres of harvestable shellfish acres between 2007 and 2020, including 7,000 acres where harvest had been prohibited.

STRATEGY JUSTIFICATION

There are approximately 225,000 acres of classified commercial and recreational shellfish beds around Puget Sound. However, an estimated 16 percent are closed due to pollution, most of which comes from fecal bacterial from humans, livestock, and pets. The 10,800-acre target underscores the need to restore and upgrade areas affected by fecal pollution while also protecting those areas that are currently open for harvest. Fecal bacteria pollution is a major barrier to achieving the Shellfish Bed Vital Sign target.

The Regional Priorities and Regional Priority approaches described here include strategies intended to reduce or prevent fecal coliform bacterial pollution of shellfish beds, as well as strategies that are more broadly important to shellfish recovery but either indirectly or not related to fecal coliform pollution and the acreage target. Regional Priority approaches SHELL1.1 through 1.11 correspond with the necessary actions identified by the Shellfish Implementation Strategy. The remaining approaches (SHELL1.12-1.16) do not directly correspond to the Regional Priority approaches described in the Shellfish Bed Implementation Strategy, but are recognized as important strategies for shellfish recovery more broadly. The emphasis of National Estuary Program Shellfish Strategic Initiative funding will be directed to projects that align with approaches 1.1-1.11.

TABLE 3-10. SHELLFISH BEDS VITAL SIGN REGIONAL PRIORITY

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
SHELL1. Upgrade the Samish Bay or Portage Bay shellfish growing areas. Reopen or upgrade previously downgraded shellfish growing areas. Reverse the declining trends in water quality and protection of water quality in shellfish growing areas that are in "threatened" or "concerned" status. Maintain the status of open shellfish beds classified as "approved" or "conditionally approved." Prevent and control fecal pollution from humans (via onsite septic systems) and animals (livestock).	SHELL1.1. Protect intact marine ecosystems, particularly in sensitive areas and for sensitive species.
	SHELL1.2. Control wastewater and other sources of pollution from boats and vessels.
	SHELL1.3. Increase compliance with and enforcement of environmental laws, regulations, and permits.
	SHELL1.4. Promote voluntary and incentive-based programs that help working farms contribute to Puget Sound recovery.

TABLE 3-10. SHELLFISH BEDS VITAL SIGN REGIONAL PRIORITY (CONT'D)

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
SHELL1. Upgrade the Samish Bay or Portage Bay shellfish growing areas. Reopen or upgrade previously downgraded shellfish growing areas. Reverse the declining trends in water quality and protection of water quality in shellfish growing areas that are in "threatened" or "concerned" status. Maintain the status of open shellfish beds classified as "approved" or "conditionally approved." Prevent and control fecal pollution from humans (via onsite septic systems) and animals (livestock).	SHELL1.5. Ensure compliance with regulatory programs designed to reduce, control, or eliminate pollution from working farms.
	SHELL1.6. Effectively manage and control pollution from small onsite sewage systems
	SHELL1.7. Effectively manage and control pollution from large onsite sewage systems.
	SHELL1.8. Improve and expand funding for small onsite sewage systems and local OSS programs.
	SHELL1.9. Improve water quality to prevent downgrades and achieve upgrades of important current tribal, commercial, and recreational shellfish harvesting areas.
	SHELL1.10. Support implementation of TMDL studies and other necessary water cleanup plans for Puget Sound to set pollution discharge limits and determine response strategies to address water quality impairments.
	SHELL1.11. Develop and implement local and tribal PIC programs.
	SHELL1.12. Restore and enhance native shellfish populations. (*See note.)
	SHELL1.13. Ensure environmentally sustainable shellfish aquaculture that is based on sound science. (*See note.)
	SHELL1.14. Research and implement monitoring to understand the specific environmental conditions that produce harmful algal blooms (HABs) and pathogen events. (*See note.)
	SHELL1.15. Support and expand marine bio-toxin monitoring. (*See note.)
	SHELL1.16. Embrace strategies to address ocean acidifications impacts on shellfish. (*See note.)

NOTE

*Approaches SHELL1.12- 1.16 are not priority approaches in the Shellfish Bed Implementation Strategy but are important to shellfish recovery broadly (previously Tier 2 2016-2018 Action Agenda Sub-strategies).

FRESHWATER QUALITY VITAL SIGN, B-IBI INDICATOR: REGIONAL PRIORITIES

VITAL SIGN INDICATOR TARGETS

- Two freshwater targets for the B-IBI indicator of the Freshwater Quality Vital Sign address both protection and restoration goals:
- Protect: 100 percent of Puget Sound lowland stream drainage areas monitored with baseline B-IBI scores of 42-46 or better and maintain these excellent scores.
- Restore: Mean B-IBI scores of 30 Puget Sound lowland drainage areas improve from fair to good.

STRATEGY JUSTIFICATION

As an indicator of freshwater quality, the Benthic Index of Biotic Integrity uses invertebrates to measure stream health related to hydrologic conditions, water quality, and the associated impacts to habitat quality. This strategy is based on the work of the B-IBI Interdisciplinary Team (IDT), who identified priority strategies to address the effects to stream health from the built environment, effects from the runoff of working and rural lands, and strategies to protect heathy streams from the effects of new development. The Stormwater Strategic Initiative Advisory Team identified priorities from the IDT-identified recovery strategies. Those recovery strategies represented the most important new work to advance recovery of freshwater resources from stormwater sources.

TABLE 3-11. FRESHWATER QUALITY VITAL SIGN, B-IBI INDICATOR REGIONAL PRIORITIES

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
BIB1. Increase local capacity to manage stormwater programs.	BIB1.1. Increase local capacity to manage stormwater programs.
BIB2. Provide education and incentives for legacy retrofits.	BIB2.1. Provide education and incentives for legacy retrofits.
BIB3. Facilitate the increased use or performance of best management practices in working/rural lands.	BIB3.1. Facilitate the increased use or performance of best management practices in working/rural lands.
BIB4. Identify strategies and approaches to reduce the impacts from forestry on freshwater quality.	BIB4.1. Identify strategies and approaches to reduce the impacts from forestry on freshwater quality.
BIB5. Conduct watershed-scale planning to protect and restore water quality.	BIB5.1. Conduct watershed-scale planning to protect and restore water quality.

TOXICS IN FISH VITAL SIGN: REGIONAL PRIORITIES

VITAL SIGN INDICATOR TARGETS

- By 2020, contaminant levels in fish will be below health effects thresholds (levels considered harmful to fish health, or harmful to the health of people who consume them).
- The four types of contaminants in this target constitute the following:
  - Polychlorinated biphenyls (PCBs)
  - Flame retardants (polybrominated diphenyl ethers, or PBDEs)
  - Hydrocarbons (products of petroleum or combustion; polycyclic aromatic hydrocarbons, or PAHs)
  - Endocrine disrupting compounds (typically from pharmaceuticals and personal care products, but also from a wide range of other chemicals, or EDCs)

STRATEGY JUSTIFICATION

The strategies outlined below are based on the pre-work completed for the Toxics in Fish Implementation Strategy and on approaches detailed from LIO ecosystem recovery plans. The Stormwater Strategic Initiative Advisory Team identified Regional Priority approaches to reduce loading of toxic chemicals, and ways to better treat water that is already burdened with toxic chemicals. In addition to the LIO ecosystem recovery plans, Regional Priority approaches rely heavily on work done to develop Chemical Action Plans (CAPs) that address the indicator target chemicals. The Regional Priority approaches also encourage exploring options to ensure complete indicator target coverage by developing CAPs to include the full suite of indicator pollutants. Additionally, these strategies explore opportunities to address air quality that may create water quality problems. These Regional Priorities were identified as the most pressing work to undertake to reach our TIF indicator targets.

TABLE 3-12. TOXICS IN FISH VITAL SIGN REGIONAL PRIORITIES

REGIONAL PRIORITIES	REGIONAL PRIORITY APPROACHES
TIF1. Enhance pollutant reduction programs and corrective measures, and increase authorities and programs to prevent toxic chemicals from entering Puget Sound.	TIF1.1. Enhance pollutant reduction programs and corrective measures, and increase authorities and programs to prevent toxic chemicals from entering Puget Sound.
TIF2. Address stormwater treatment.	TIF2.1. Address stormwater treatment.
TIF3. Provide infrastructure and incentives to accommodate new development and redevelopment within designated urban centers in Urban Growth Areas.	TIF3.1. Provide the infrastructure and incentives to accommodate new development and redevelopment within designated urban centers in Urban Growth Areas.
TIF4. Use a source control approach to assess and regulate local sources of air pollution.	TIF4.1. Use a source control approach to assess and regulate local sources of air pollution.
TIF5. Continue developing an Implementation Strategy for the Toxics in Fish Vital Sign.	TIF5.1. Continue developing an Implementation Strategy for the Toxics in Fish Vital Sign.

CHAPTER 4 | NEAR TERM ACTIONS FOR PUGET SOUND RECOVERY

Table 4-1 shows the tiered list of Near Term Actions for the priority Vital Signs[6] and the Funding Priority. The Near Term Actions in this Implementation Plan fall under three tiers, with Tier 4 encompassing the highest priority actions, followed by lower priority actions in Tier 3 and Tier 2.[7] The table includes the tier of the Near Term Action as awarded by regional review teams and Local Integrating Organizations, the Near Term Action number (a reference number for easy access to the Near Term Action details), the owner, a brief description of the Near Term Action objectives, the Vital Signs and Regional Priority approaches the Near Term Action is aligned to (see *Chapter 3* for Regional Priority descriptions), and estimated cost. Full Near Term Action proposals that include performance measures for each Near Term Action—and a sortable list of Near Term Actions—are available on the *Partnership's website*.

The Near Term Actions in this section are organized by tier and by unique identification number. This list of actions meets state statutory requirements to include a prioritized list of actions, but does not allow organization of actions by Regional Priority, activity type, cost, or other useful data points. Readers should consult the online database of Near Term Actions to sort and filter actions in ways that provide more meaningful organization that aligns with the reader's needs.

[6] Near Term Actions were solicited for each of the priority Vital Signs included in Chapter 3 of the Implementation Plan except for Southern Resident orca, summer stream flows, and marine water quality.

[7] Near Term Actions were scored against consistent criteria and placed into 4 tiers. Near Term Actions placed into Tier 1 were not recommended for adoption into this Action Agenda.

NEAR TERM ACTIONS

TABLE 4-1A. TIER 4 (HIGHEST TIER) NEAR TERM ACTIONS

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0086	Lower Dungeness River Floodplain Restoration	Clallam County	Realign levee to reconnect lower Dungeness River to its floodplain; reconnect historic channels to the river to restore ecosystem processes, provide flood protection for the local community, and habitat for ESA-listed species.	CHIN7.1	$16,400,000
4	2018-0090	Hydrologic performance monitoring of rain gardens	Aspect Consulting	Detect standing water and overflows at rain gardens. Estimate runoff volume infiltrated into rain gardens and evaluate changes in infiltration over time. Use data to enhance local rain garden incentive programs and for public education and outreach.	TIF2.1	$650,000
4	2018-0095	Seal Rock Shoreline Armor Removal	Northwest Straits Foundation	Complete design, permitting, and construction to remove 1,000 linear feet of shore armor; remove angular rock along 1,800 linear feet of shoreline and feeder bluff; restore 2 acres of cross-shore connectivity and forage fish spawning habitat.	SA3.3, SA3.4	$500,000
4	2018-0098	Clear Creek Restoration and Floodplain Reconnection Project Phase I	Pierce County	The proposed Clear Creek NTA will reconnect and restore up to 38 acres of critical estuarine habitat for highly endangered Spring Chinook salmon in the lower Puyallup River floodplain, while supporting resiliency in the surrounding community.	EST3.3	$20,050,000
4	2018-0100	Skagit County Fish Passage Barrier Removal Strategy	Skagit River System Cooperative	This project begins implementation of the top tier of fish passage barrier recommendations on Skagit County roadways generated from the SRSC/Skagit County culvert assessment work conducted in 2017.	CHIN7.1	$4,500,000
4	2018-0101	Skagit Riverine Wetland Assessment	Skagit River System Cooperative	Using 2015 LIDAR topography data this project seeks to identify and map existing and historic riverine wetland habitats throughout the floodplains of the mainstem and large tributaries of the Skagit Basin.	FP1.1	$255,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0105	Smokehouse Tidelands Restoration Strategy & Implementation	Skagit River System Cooperative	This project seeks support for implementing a large scale levee setback along Swinomish Channel on the Swinomish Reservation. The project hopes to open over 100 acres of isolated estuarine wetland habitats to natural tidal processes.	CHIN7.1	$6,900,000
4	2018-0108	Similk Beach Restoration Design & Implementation	Skagit River System Cooperative	This proposal implements the design recommendations for the Similk Beach Restoration project which restores approximately 22 acres of nearshore pocket estuary habitat along the Skagit Bay nearshore.	CHIN7.1	$2,500,000
4	2018-0109	Barnaby Slough Restoration Design & Implementation	Skagit River System Cooperative	The goal of the project is improve floodplain function, restore fish and wildlife habitat, and reduce flood and erosion risks in the Barnaby Reach of the Skagit River. The proposed Near Term Action is to complete final design and implement the project.	CHIN7.1	$10,000,000
4	2018-0110	Hansen Creek Reach 5 Channel & Floodplain Restoration	Skagit River System Cooperative	This project implements the Reach 5 Restoration Plan described in the 2001 Hansen Creek Watershed Management Plan. Channel relocation and floodplain grading will restore floodplain connections and channel complexity to ~3,500 ft of channel and 75 acres.	CHIN7.1, FP3.3	$3,200,000
4	2018-0121	Lower Salt Creek Protection and Restoration Project: Phase 1	North Olympic Salmon Coalition	This multi-component, multi-partner, and multi-phase project will improve salmon habitat and ecosystem functions on Lower Salt Creek and its associated estuary. The project will restore up to 2.5 miles of Lower Salt Creek and protect priority parcels.	CHIN7.1	$15,400,000
4	2018-0122	City of Port Orchard Annapolis Creek Fish Passage Enhancement	City of Port Orchard	The City proposes to replace a culvert that is partially blocking fish passage near the mouth of Annapolis Creek. Replacing this culvert with an engineered box culvert eliminates the barrier and improves the pocket estuary near the mouth of the creek.	CHIN7.1	$4,500,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0123	Using Beaver to Restore Ecosystem Function in the Snohomish Watershed	The Tulalip Tribes	Restore beaver populations and increase/improve habitat necessary for the longevity of fish populations in headwaters of the Snohomish Watershed by relocating lowland nuisance beavers to strategic locations and improving the public perception of beavers.	CHIN2.3, CHIN7.1	$193,536
4	2018-0130	Howard Hanson Dam Downstream Fish Passage Facilitation and Coordination	WRIA 9 Lead Entity	Facilitation and coordination of Howard Hanson Dam downstream fish passage for stakeholder and public involvement and design input.	CHIN7.1	$250,000
4	2018-0133	White River Left Bank Setback River Miles 4.8-4.4	City of Sumner	Improve Rearing Opportunity for spring Chinook by creating slow water habitat, increased number/depth of pools, engaged floodplain foodwebs. Better High Flow Refuge with floodplain wetlands, and greater main channel roughness. Restore riparian forests.	CHIN7.1	$11,000,000
4	2018-0142	Protection and Restoration of Shoreline Process: Training for Shoreline Planners and Contractors	Washington Sea Grant	Develop and deliver technical training courses on alternative techniques to address shoreline erosion targeting coastal planners, contractors and consultants to address a gap in the training opportunities existing in Washington identified in SA3.1.	SA3.1, SA1.5	$468,725
4	2018-0144	Oil spill trainings to increase preparedness of the local communities	Clallam County Marine Resources Committee	Increase capacity of volunteers to assist in an oil spill response, raise awareness about oil spills and how residents can contribute to cleanup efforts, and contribute to addressing two identified data gaps - Strait GRP update & forage fish spawning data	CHIN6.2	$91,800

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0147	Improving elevated water temperatures and low dissolved oxygen in the Lake Washington Ship Canal to reduce barriers to salmon migration and mortality	WRIA 8 Lead Entity	Develop lasting solutions that will decrease water temperatures and increase dissolved oxygen concentrations in the Lake Washington Ship Canal during salmon migration periods, to reduce thermal barriers to migration and mortality.	CHIN2.5	$175,000
4	2018-0149	Improving elevated water temperatures in the Sammamish River to reduce salmon mortality and thermal barriers to migration	WRIA 8 Lead Entity	Develop lasting solutions to decrease elevated water temperatures in the Sammamish River during key juvenile and adult Chinook salmon migration periods.	CHIN2.5	$175,000
4	2018-0164	Dosewallips Floodplain Mid-Hood Canal Chinook Salmon Multiple Benefits Habitat Restoration Plan Phase I: Plan Development, Coordination and Task Force Support, Communications and Outreach, Initial Scoping	Jefferson County	Collaboratively develop an integrated floodplain management and restoration plan to identify critical habitat areas and actions to recover mid-Hood Canal Chinook salmon in the Dosewallips River and to provide multiple benefits for fish and the community.	CHIN7.1	$585,000
4	2018-0166	Schoolyard Stormwater Management	Mason Conservation District	Schoolyard Stormwater Management coordinates local partners to develop stormwater management structures on school yards, reducing school pollution and providing an on-site location for field investigations.	BIBI1.1	$114,444
4	2018-0169	Dungeness Off-Channel Reservoir Construction	Clallam Conservation District	The objective is to construct a large off-channel reservoir to store spring snowmelt and winter runoff for use as late summer irrigation in place of Dungeness River water diversions.	CHIN7.1	$30,000,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0171	Whatcom County Pollution Identification and Correction (PIC) Program	Whatcom County	Upgrade Portage Bay, Chuckanut Bay, and additional portion of Drayton Harbor shellfish growing areas by 2022. Reverse declining water quality trends in Lummi Bay. Maintain open shellfish growing areas in Drayton, Portage, Birch Bay, and Lummi Bay.	SHELL1.11	$3,230,000
4	2018-0172	Expand South Sound Shore Friendly Programs	Mason Conservation District	This action links shoreline homeowners to science-based, non-regulatory, professional technical assistance for land stewardship. It provides site-specific guidance to reduce shoreline armor and develops restoration projects to benefit salmon recovery.	SA3.1	$972,580
4	2018-0173	Lower Hoko River Restoration and Protection Project: Phase 2	North Olympic Salmon Coalition	This multi-component, multi-partner project will improve salmon habitat and ecosystem functions on the Lower Hoko River and the associated estuary. The project will restore up to 3.4 miles and reconnect 180 acres of floodplain on the Lower Hoko River.	CHIN7.1	$1,900,000
4	2018-0174	Snow Creek LWD Restoration Project	North Olympic Salmon Coalition	The Snow Creek LWD Restoration Project will increase riverine habitat complexity and improve the quality of salmon habitat through the installation of engineered log jams on multiple priority reaches on Snow Creek and its associated tributaries.	CHIN7.1	$560,000
4	2018-0175	Snow/Salmon Reconnection Feasibility Project	North Olympic Salmon Coalition	The Snow/Salmon Reconnection Feasibility project will study the feasibility of restoring a former connection between Snow and Salmon creeks in order to improve habitat conditions for ESA-listed Hood Canal Summer Chum and Puget Sound Steelhead.	CHIN7.1	$300,000
4	2018-0176	Lower Dungeness Floodplain Restoration: Dungeness Farms Phase	North Olympic Salmon Coalition	The objective of the Lower Dungeness Levee Removal: Dungeness Farms Phase is to complete design and construction for the removal of up to 500' of dike and restoration of up to 22 acres of estuarine habitat on the lower Dungeness River.	CHIN7.1	$350,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0177	Dungeness River Riparian Recovery Project: Phase 2	North Olympic Salmon Coalition	The purpose of the Dungeness River Riparian Recovery Project: Phase 2 is to restore the quality and quantity of the Dungeness River floodplain habitat through removal of invasive species and planting of native trees and shrubs.	CHIN7.1	$278,000
4	2018-0178	White River RM 2.5-4.2 Restoration	City of Sumner	Improve Rearing Opportunity by creating slow water habitat, increased number/depth of pools, engaged floodplain foodwebs. Better High Flow Refuge with anabranching channels, floodplain wetlands, greater main channel roughness. Restore riparian forests.	CHIN7.1	$25,000,000
4	2018-0179	Chimacum Creek Restoration and Protection Project: Phase 2	North Olympic Salmon Coalition	The Chimacum Creek Riparian Protection and Restoration Projec: Phase 2 will implement activities highlighted in the Chimacum Creek Protection and Restoration Plan. This will include protection and restoration of up to 40 acres of riparian habitat.	LDC3.2, LDC3.3	$1,900,000
4	2018-0180	Pacific Pointbar Setback Levee	City of Sumner	Improve Rearing Opportunity by creating slow water habitat, increased number/depth of pools, engaged floodplain foodwebs. Better High Flow Refuge with floodplain wetlands, and greater main channel roughness. Restore riparian forests.	CHIN7.1	$12,596,280
4	2018-0181	Assessing and improving nutrient management in North Puget Sound Counties	Department of Agriculture	Reduce and prevent fecal coliform bacteria and nutrient pollution to shellfish beds in North Puget Sound counties, using source ID sampling, technical assistance, compliance and online data access to improve dairy nutrient management.	SHELL1.5, SHELL1.4, SHELL1.3	$1,367,075
4	2018-0183	Completing and Maintaining Sound-wide Shore Armor Mapping	Coastal Geologic Services, Inc.	Update Puget Sound shore armor mapping incrementally with the ultimate goal of developing high resolution, field-based shore armor mapping that can effectively be used to monitor the Armor Vital Sign and support restoration and conservation planning.	SA1.2, SA3.4, SA2.1	$496,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0184	Local conservation funding development in Clallam County	North Olympic Land Trust	Encourage Clallam County Commissioners to enact a Conservation Futures program for the acquisition of interests or rights in real property, for the preservation of open spaces and areas as allowable by RCW 84.34.200.	FUND1.2	$0
4	2018-0185	Parish Creek fish barrier removal, habitat restoration design, and construction	City of Bremerton	Design the installation of a 3 sided bottomless culvert, removal of concrete channel & weir structure, & restoration of downstream habitat with native vegetation. Barrier removal opens access to fish habitat, & restores natural stream sediment process.	CHIN7.1	$1,067,000
4	2018-0186	Kitsap Creek @ Northlake Way fish barrier removal feasibility, and preliminary design	City of Bremerton	Develop a feasibility & preliminary design plan report to define the most effective approach to open 1,082 sq. meters of spawning and 104,170 sq. meters of rearing area for coho, chum, steelhead, and cutthroat trout in Kitsap Lake and Kitsap Creek.	CHIN7.1	$152,000
4	2018-0189	Mud Bay Habitat Protection	Capitol Land Trust	The objective of this proposal is to protect, through fee acquisition, approximately 55 acres of wetland and shoreline property on Mud Bay. The properties have been identified and the landowners wish to either sell or donate their properties.	CHIN7.1	$300,000
4	2018-0190	Middle Deschutes Habitat Acquisition	Capitol Land Trust	The objective of this proposal is to protect, through fee acquisition, approximately 220 acres of undeveloped land belonging to two landowners along the Deschutes River. The landowners are supportive of selling their land for conservation purposes.	CHIN7.1	$600,000
4	2018-0200	Downey Farmstead Side-Channel Restoration, City of Kent	City of Kent	The primary goal of the Downey project is to provide new, low-velocity side-channel habitat in the Lower Green River that will improve habitat conditions and lead to greater juvenile salmonid residence time, greater growth, and higher survival.	CHIN7.1	$6,925,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0201	Regional In-stream Flow Coordination for Watershed Restoration and Enhancement Planning	Kitsap County	The objective for this NTA is to enable communication, support, and actions across the watersheds and multiple jurisdictions of WRIA 15, with a goal to increased understanding of water use, instream flows, and the interconnections with ground water.	CHIN2.2, CHIN1.1	$220,000
4	2018-0206	Restore Naturally Functioning Riparian Buffers in South Sound	Mason Conservation District	The objectives of this NTA are to expand on non-CREP efforts to restore naturally functioning riparian habitat across priority streams located in WRIA 14.	CHIN7.1	$373,520
4	2018-0207	Skokomish Valley Road and Habitat Improvement	Mason Conservation District	Complete the final designs and construction for the Skokomish Valley Road preferred alternative. The preferred alternative will reconnect up to 60 acres of forested wetland habitat and reduce roadway flooding.	CHIN7.1	$7,304,300
4	2018-0212	Enhanced Stormwater System Maintenance for Mitigation	City of Tacoma	Enhanced maintenance practices such as system cleaning and street sweeping have been demonstrated by various jurisdictions including Tacoma and Seattle, to be cost-effective stormwater management tools.	CHIN2.5	$350,000
4	2018-0214	Lummi Island Quarry Habitat Restoration Project	Lummi Island Heritage Trust	Improve nearshore habitat, kelp and eelgrass beds for multiple species through removal of 500 linear feet of armor, two overwater structures and pilings. Restore 20 acres of cross-shore connectivity. Demonstrate importance of armor removal to 100 people.	SA3.3, SA3.4	$800,544
4	2018-0215	Lowman Beach Park seawall removal	City of Seattle	Remove an existing seawall, regrade the shoreline and potentially daylight a remnant of Pelly Creek. This project is identified in the WRIA 9 4-year work plan as being beneficial for Chinook salmon.	CHIN7.1	$1,600,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0216	Myrtle Edwards Park shoreline improvement	City of Seattle	Remove shoreline armoring at Myrtle Edwards Park. This project is identified in the WRIA 9 4-year work as being beneficial to Chinook salmon by the removal of shoreline armoring and restoring to a natural beach to benefit juvenile Chinook.	CHIN7.1	$75,000
4	2018-0217	Smith Cove Park Shoreline Restoration	City of Seattle	Remove the rip rap, expand the beach area, transition to logs to support the slope and add native riparian plantings to the shoreline of Smith Cove. This project is identified in the WRIA 9 4-year work plan as being beneficial for Chinook salmon.	CHIN7.1	$100,000
4	2018-0218	Stillaguamish Floodplain Acquisitions and Restoration	Stillaguamish Tribe	The objective is to protect and restore a corridor of floodplain land along the major Chinook bearing waters of the the Stillaguamish, allowing natural riverine processes and beaver to act, unencumbered by infrastructure and invasive species.	FP3.2, FP3.3, CHIN7.1	$1,200,000
4	2018-0219	Shoreline Restoration Effectiveness Monitoring	Northwest Straits Foundation	Conduct monitoring activities for three years at 25 to 30 sites to contribute to a robust database of information that will demonstrate the ecological benefits of shoreline armor removal.	SA3.4	$812,500
4	2018-0220	Assessment of Bluff Recession Rates in Puget Sound: Implications for the Prioritization and Design of Restoration Projects (Phase 2)	Coastal Geologic Services, Inc.	To better understand the rates, ranges, and drivers of long-term bluff recession in the Puget Sound region. We will examine temporal trends, integrate new data, and explore the impacts of armor on bluff recession.	SA1.1, SA3.2	$210,000
4	2018-0222	Stormwater Retrofit Project for Culverts Direct Discharging to the Strait and Puget Sound	Clallam County	The objective of the NTA is to decrease toxins in fish (TIF1.1) and shellfish from stormwater pollutants from infrastructure by treating stormwater using LID BMPs before discharge to the Strait and Puget Sound in the unincorporated Clallam County coast.	TIF1.1	$88,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0229	Simulate Summer Streamflows in Response to Groundwater Pumping and Climatic Effects	US Geological Survey	1. Simulate the effects on summer streamflows resulting from multiple scenarios of groundwater pumping and climate. 2. Spatially evaluate areas of high and low impact to summer streamflows. 3. Make the models available for public use.	CHIN2.1	$1,230,000
4	2018-0233	Develop a Non-Fish Stream Crossing Database and pilot projects that address Climate Change.	Department of Natural Resources	This NTA will expand our database and modify our re-evaluation program to include all DNR's stream crossings for either fish passage and/or consideration for 100-year flow, debris, and anticipated additional flow from climate change with a pilot project.	BIBI4.1	$31,000
4	2018-0234	Update stream-crossing BMPs and develop guidelines to address climate change and sediment delivery.	Department of Natural Resources	Develop new or improved guidelines, recommendations, and BMPs to address climate change and sediment impacts aimed at improvements to freshwater quality associated with stream crossings.	BIBI3.1, BIBI4.1	$91,400
4	2018-0241	Determine water quality impacts related to the Hood Canal Bridge and model solutions.	Hood Canal Coordinating Council	Determine water quality impacts related to the Hood Canal Bridge by conducting fine scale analysis on the Bridge's effects on water circulation and determine any resulting food web impacts.	CHIN7.1	$740,000
4	2018-0242	Puget Sound Sand Lance Habitat Characterization and Mapping	Department of Fish and Wildlife	Document and characterize the physical attributes, distribution, and temporal use of 1) Sand Lance spawning habitat and 2) nearshore Sand Lance burrowing habitat, and 3) collect much needed biological data from Sand Lance in Puget Sound.	CHIN4.1, SA1.1	$794,980
4	2018-0243	Development of Chemical Indicators to Detect, Track and Assess Treatment of Novel and Emerging Toxic Stormwater Pollutants	University of Washington Tacoma	Objectives are: Detect and quantify a suite of chemical indicators that represent novel and emerging toxicants important to salmon in stormwater; Survey their occurrence in watersheds; Evaluate treatment systems for their removal performance.	CHIN2.5	$241,937

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4	2018-0244	Duckabush River Acquisition and Restoration	Jefferson Land Trust	Preserve and restore the critical side channel, floodplain, riparian and upland forest habitat along the Duckabush River for salmon.	CHIN7.1	$400,000
4	2018-0245	Jefferson County On-site Septic System Repair/Abatement Program	Jefferson County	Protect threatened shellfish growing areas and re-open closed shellfish growing areas through implementation of a cost share program that assists low income residents with repair/replacement, decommission/abatement of failing onsite sewage systems.	SHELL1.9, SHELL1.8, SHELL1.6	$422,214
4	2018-0246	Riparian Restoration Throughout the Greater Puget Sound	Puget Sound Conservation Districts Caucus	The overarching goal of this NTA is to expand on non-CREP efforts to restore and protect naturally functioning riparian ecosystems across Puget Sound Watersheds.	LDC3.3	$6,907,767
4	2018-0247	Hood Canal Watershed Comprehensive Riparian and Floodplain Vegetation Management	Mason Conservation District	The overall objective of this NTA is to expand on non-CREP efforts to restore and protect naturally functioning riparian and floodplain ecosystems across priority watersheds located within the Hood Canal.	CHIN7.1	$1,718,762
4	2018-0251	Upper Ohop Valley Protection and Restoration	Nisqually Land Trust	Objective 1: Permanently protect an additional 26 acres in the upper Ohop Valley through fee acquisition. Objective 2: Restore native trees and shrubs and wetland vegetation throughout 30 acres of the upper Ohop Valley floodplain.	CHIN7.1	$360,000
4	2018-0252	Evergreen Rotary Park Nearshore Restoration Construction	City of Bremerton	Restore 1,600' of shoreline & nearshore habitat by constructing a designed SRFB funded project that will remove armoring & bulkheads, restore drift cell, open/restore shoreline habitat, & place correctly sized beach nourishment to support spawning.	CHIN7.1, SA3.3	$2,398,989

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0259	Dungeness WRIA 18 Aquifer Recharge for Flow Restoration	Washington Water Trust	1)Locate sites to provide late summer instream flow restoration for salmonid benefit; 2)Secure landowner agreements for 3 aquifer recharge restoration sites; 3)Infiltrate up to 150 acre feet of water per site to increase local watershed storage capacity	CHIN7.1	$540,000
4	2018-0263	Tahlequah Creek Estuary Acquisition and Restoration	King County	Purchase and restore nearshore habitat, pocket estuary and fish passage at Tahlequah Creek on South Vashon Island. The resulting project will provide an ecological lift for salmonids and forage fish.	CHIN7.1, SA3.3	$2,000,001
4	2018-0264	Maury Island Aquatic Reserve Armoring Removal 3	King County	Restore nearshore habitat and beach feeding processes in priority drift cells along the Maury Island Aquatic Reserve. Removes shoreline armoring and cabins from bluff backed beaches and revegetates the shoreline with native plants.	CHIN7.1, SA3.3	$1,100,000
4	2018-0265	Implement incentives to encourage soft-shore protection techniques vs. hard armoring by improving permitting processes for appropriate marine soft-shore projects.	Department of Fish and Wildlife	This NTA is intended to incentivize marine shoreline protection and restoration and encourage the use of soft shore protections over hard armoring by improving the permitting process for appropriate soft shore projects.	SA2.2	$380,000
4	2018-0266	Development of a residential shoreline loan program to provide financial incentive for removal or modification of shoreline armoring on private property	University of Washington	Develop a self-sustaining Revolving Loan Fund (RLF) program to provide homeowners with low-interest loans for shoreline management projects. Eligible actions may include armor removal, soft-shore stabilization, and/or sea level rise risk reduction.	SA3.1, FUND1.2	$120,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0270	O&M inspection assistance for low-income residents of Skagit County.	Department of Health	The objective of this NTA is to assure that all OSS are inspected at a frequency required by WAC 246-272A. Barriers to meeting this requirement include the cost of O&M inspections to residents with limited income.	SHELL1.8, SHELL1.6	$92,000
4	2018-0271	Tolt River Mouth & Lower Frew Floodplain Reconnection Design/ Construction	King County	The two floodplain reconnection projects will be designed and implemented on the Tolt River near the confluence with the Snoqualmie River. King County plans to remove and setback the Tolt River Mouth left bank and Lower Frew levees to restore floodplain p	CHIN7.1	$17,000,000
4	2018-0272	Bell Creek Basin Assessment & Restoration Plan	City of Sequim	This project will assess peak and low flows in Bell Creek basin given climate change and growth projections, and use modeling and stakeholders to prioritize stormwater and floodplain management projects that protect and improve water and habitat quality.	BIBI5.1, FP1.3	$475,000
4	2018-0274	Expansion of target areas for O&M compliance implementation.	Department of Health	The objective of this project is to expand the O&M inspection compliance to the entire Skagit County shellfish protection district (over 6,000 acres). Currently the O&M inspection compliance program focuses on the Marine Recovery Areas (MRAs).	SHELL1.6, SHELL1.9	$120,000
4	2018-0277	Coordinate with Skagit County Public Works' Pollution Identification and Correction (PIC) program.	Department of Health	The objective of this proposal is to continue working with the PIC program coordinator identifying and assuring correction of failing septic systems.	SHELL1.6, SHELL1.11	$60,000
4	2018-0278	Duckabush Oxbow Side Channel Restoration	Hood Canal Salmon Enhancement Group	The objectives of this NTA are to improve rearing habitat for juvenile salmon, restore native riparian vegetation, eliminate an existing fish trap, and restore floodplain connectivity in the lower Duckabush River.	CHIN7.1, FP3.3	$250,000

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4	2018-0282	Nisqually Nearshore Habitat Protection - East Johnson Point	Nisqually Land Trust	Permanently protect up to 178 acres and 1.3 miles of nearshore habitat including portions of two coastal lagoons, forested marine riparian areas, and forested wetland.	CHIN7.1	$2,500,000
4	2018-0287	Wilcox Reach - Nisqually River Protection and Restoration	Nisqually Land Trust	1: Permanently protect an additional 250 acres along the Wilcox Reach of the Nisqually River. 2: Restore and enhance floodplain forest on 100 acres.	CHIN7.1	$2,200,000
4	2018-0289	Middle Reach - Nisqually River Protection and Restoration	Nisqually Land Trust	1: Permanently protect an additional 60 acres in the floodplain along the Middle Reach of the Nisqually River. 2: Restore and enhance native forest vegetation on 100 acres along the Middle Reach of the Nisqually River.	CHIN7.1	$460,000
4	2018-0290	Nisqually River Tributaries Protection and Reforestation	Nisqually Land Trust	1: Permanently protect 50 acres along Lackamas Creek. 2: Permanently protect 255 acres along Powell Creek. 3: Permanently protect 150 acres along Murray Creek. 4: Plant native trees and shrubs on 50 acres along these Nisqually River tributaries.	CHIN7.1	$3,250,000
4	2018-0291	Martha Creek Pocket Estuary Restoration	The Tulalip Tribes	This project will restore natural processes to an artificially modified pocket estuary near the Stillaguamish River delta, create important rearing habitat for juvenile chinook and coho salmon, and enhance the degraded near-shore riparian zone.	CHIN7.1	$159,879
4	2018-0294	Tahuya River Watershed Assessment and Restoration	Hood Canal Salmon Enhancement Group	To provide a watershed characterization, diagnose impaired habitat, develop a prioritized list of recommended restoration and protection actions, and implement corrective restoration actions to address habitat vulnerabilities identified during assessment.	FP1.1	$275,000

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4	2018-0296	Barfuse/Hafner Floodplain Reconnection Design and Construction	King County	Remove and setback 3000 feet of levee along the Snoqualmie River at two project sites to restore up to 100 acres of floodplain habitat.	CHIN7.1	$12,000,000
4	2018-0297	Pacific Right Bank Project	King County Flood Control District	Flood-risk reduction, floodplain reconnection and restoration for juvenile salmonids including White River spring Chinook, potential remediation of a former dumpsite, restoration of riparian habitat, and removal of artificial fill and concrete revetments.	FP3.3, CHIN7.1	$45,000,000
4	2018-0319	Habitat Value of Large Wood in Soft Shore Techniques	University of Washington	Soft shore techniques are becoming common at beaches in Puget Sound, yet we lack a clear understanding of the habitat value obtained. Our objective is to monitor sites with large wood placement and provide this missing ecological and physical information.	SA3.4	$317,762
4	2018-0320	Shoreline Hardening Removal and Restoration on San Juan County Properties	San Juan County	Protect nearshore habitat and forage fish spawning beaches. Restore natural structure, process and function of shoreforms that support forage fish habitat, improve sediment dynamics and maintain benefits of drift cells.	SA3.3	$477,450
4	2018-0321	Developing a Natural Resources Asset Management Program	Kitsap County	This action proposes to create a natural resources asset management program to assist local governments with fiscal, permitting and management decisions and to improve citizen awareness of ecosystem services.	CHIN1.4, LDC1.2, SA1.2	$375,000
4	2018-0322	Shore Friendly Kitsap - Reduction in Marine Shoreline Armoring	Kitsap County	The objective is to expand the Shore Friendly Kitsap program to reach a broader population of landowners and to ensure long-term sustainability. The program aims to improve nearshore health by providing incentives for marine restoration projects.	SA3.1, SA3.3	$622,000

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4	2018-0328	Stormwater Ditch BMP Retrofits	San Juan County	Improve the performance of roadside ditches to provide stormwater treatment and conveyance. The goal of this NTA is to inventory problem ditches, prioritize retrofits, select and design retrofits, and construct 1,000 feet of ditch BMP retrofits.	BIBI3.1	$80,600
4	2018-0335	Evaluation of Exposure to Endocrine Disrupting Compounds in Marine Mussels through a Combination of Chemical and Biological Measures	University of Washington Tacoma	To evaluate both the exposures and responses to Endocrine Disrupting Compounds in marine mussels, to characterize where exposures are occurring in the nearshore, the extent to which they result in biological alterations, and to identify causative agents.	CHIN4.8	$236,636
4	2018-0338	Snohomish Basin Floodplain Acquisition Strategy	The Tulalip Tribes	Acquisition strategy development to prioritize parcels in Snohomish Basin floodplains for conservation and restoration, acquisition of Reiner Farm riparian property, and strategy implementation through prioritized floodplain acquisitions.	CHIN1.8, CHIN7.1	$3,000,000
4	2018-0341	Orcas Village Stormwater Treatment	San Juan County	Design and construct treatment for existing combined stormwater discharges from Orcas Village and the ferry landing that currently receives insufficient treatment prior to discharge into Harney Channel and prevent nearshore water quality degradation.	TIF2.1	$165,000
4	2018-0352	Technical Leadership for Developing an Implementation Strategy for Summer Stream Flows	US Geological Survey	The overall objective is to provide technical leadership to an Implementation Strategy Team on the topics of Puget Sound hydrogeology, groundwater/surface water interactions, groundwater use, and climatic and human stressors on summer stream flows.	CHIN2.1, CHIN2.2, CHIN2.3	$79,400
4	2018-0354	Effect of a neonicotinoid mixture on the aquatic invertebrate community	Washington State University Extension	Neonicotinoids are widely used insecticides that may contaminate water bodies via drift, runoff or leaching and affect aquatic communities. Our study aimed to test the effect of a neonicotinoid mixture on aquatic invertebrates at the community-level.	CHIN4.8	$274,970

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4	2018-0356	Thurston County Urban Septic to Sewer Conversion	Thurston County	Protect shellfish growing areas through an urban septic to sewer conversion program. Conduct public outreach, develop codes, policies, and city-specific implementation plans to adopt the conversion program.	SHELL1.6	$185,874
4	2018-0357	Puget Sound Integrated Coastal Flooding Modeling and Mapping using the USGS Coastal Storm Modeling System (PS-CoSMoS)	US Geological Survey	The objectives of this NTA are to build on the 50-m-resolution storm-driven regional coastal wind & wave model (regional PS-CoSMoS) developed under the 2016-17 NTA to develop 2-m-resolution local-scale surge and wave-driven overland flooding models (local	SA1.3, EST1.3	$2,000,000
4	2018-0358	Scheuerman Creek riparian and marine shoreline restoration	City of Seattle	This NTA is to develop a conceptual design and cost estimates for shoreline armoring removal and stream mouth restoration of Scheuerman Creek in Discovery Park, Seattle. It could provide new fish access to 1,700 feet of protected, high quality habitat.	CHIN7.1	$150,000
4	2018-0364	Duwamish Basin Steward	WRIA 9 Lead Entity	King County's WRIA 9 Salmon Recovery Team would hire a part-time Duwamish Basin Steward to implement, advocate for, and track Duwamish habitat improvements that further local and regional salmon recovery efforts.	CHIN7.1	$334,416
4	2018-0367	Bear Creek Watershed Plan Priority Catchment Feasibility Planning	King County	Perform planning to determine feasible locations for projects to improve stormwater in Mackey Creek sub-basin --identified as a high priority catchment in the Bear Creek Watershed Plan.	BIBI5.1	$425,000
4	2018-0370	Duwamish Estuary Acquisitions	WRIA 9 Lead Entity	Acquire parcels of land critical to restoring shallow water rearing habitat within the transition zone of the Duwamish estuary and improving productivity of ESA-listed Chinook salmon in the Green/Duwamish watershed.	CHIN7.1	$50,000,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0371	Flow and Water Quality Monitoring of Pilot Polishing Layer for the Swale on Yale Water Quality Project	City of Seattle	1. To evaluate the performance of the new polishing layer in limiting nutrient export from the default bioretention soil mix (BSM) in one stormwater biofiltration swale. 2. Compare data to earlier monitoring of adjacent cell without polishing layer.	TIF2.1	$250,000
4	2018-0373	Don't Drip and Drive : Vehicle Leaks Education and Behavior Change Program	King County	Prevent toxic chemicals such as PAHs from entering Puget Sound by using social marketing to increase vehicle owners' awareness and understanding of stormwater pollution from auto leaks and motivate them to get leaks fixed in a timely manner.	TIF1.1	$300,000
4	2018-0374	Evaluating recontamination of restored salmon habitat in the Duwamish estuary.	WRIA 9 Lead Entity	Research recontamination of restored habitats in the Duwamish to understand risks to juvenile Chinook salmon, and improve project prioritization and sequencing in Green/Duwamish watershed.	CHIN4.2	$60,000
4	2018-0381	Develop and test solutions to decrease steelhead mortality at the Hood Canal Bridge	Hood Canal Coordinating Council	The objective of this NTA is to develop and test solutions to decrease steelhead (and potentially other salmon) mortality associated with the Hood Canal floating bridge.	CHIN7.1	$790,000
4	2018-0382	Hood Canal and Eastern Strait of Juan de Fuca Summer Chum Salmon Recovery Status of Threats	Hood Canal Coordinating Council	Hood Canal summer chum salmon are close to recovery. A comprehensive threats assessment is needed to identify and prioritize actions necessary for species recovery, provide focused guidance for recovery partners, and articulate a clear path to delisting.	CHIN1.4	$150,000
4	2018-0388	Hood Canal Landscape Assessment & Prioritization Tool	Hood Canal Coordinating Council	Enhance the effectiveness of Hood Canal watershed protection and restoration actions, evaluate the impacts of policies and projects on priority landscapes, and inform comprehensive solutions to complex community and environmental challenges.	LDC3.4, EST3.4, FP3.4	$120,000

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4	2018-0389	Surface to Ground Water Conversions	Bertrand Watershed Improvement District	Convert an estimated three agricultural surface water diversions in the upper Bertrand Creek to groundwater withdrawals to maximize stream flows for salmon.	CHIN2.1, CHIN2.3	$125,000
4	2018-0391	Culvert Replacement near 1321 268th St NW	Snohomish County	Construct the fish passable culvert under 268th Street NW that will eliminate a total fish passage barrier on Secret Creek, a tributary to Pilchuck Creek.	CHIN7.1	$710,000
4	2018-0392	Culvert Replacement on E Sunday Lake Rd and 4th Ave NW	Snohomish County	Design two fish passable culverts to replace two fish barrier culverts on Secret Creek, a tributary to Pilchuck Creek.	CHIN7.1	$314,100
4	2018-0393	SnoCo Fish Passage Culvert Inventory and Prioritization	Snohomish County	Advance the collection of inventory and prioritization of unknown barrier status culverts on fish bearing streams throughout Snohomish County.	CHIN7.1	$154,000
4	2018-0397	Pilchuck River Dam and Armoring Removal Restoration Project	The Tulalip Tribes	Full removal of the Pilchuck River Diversion Dam and riprap bank armoring to restore connectivity and uninhibited access to over 37 miles of high quality priority habitat for adult and juvenile listed species including chinook, steelhead and bull trout.	CHIN7.1	$2,522,000
4	2018-0400	Coho Creek Relocation and Enhancement Project	The Tulalip Tribes	Relocate and restore stream habitat conditions along approximately 650 feet of Coho Creek (WRIA #07-0048), a small Type 3 tributary to Quilceda Creek, within the Tulalip Reservation.	CHIN7.1	$208,538
4	2018-0401	Regional (WRIA 1-Wide) Water Supply and Management Plan	Public Utility District No. 1 of Whatcom County	Prepare a water supply plan that provides accurate and reliable quantification of current and future out-of-stream water and identifies management solutions that address both instream and out-of-stream needs.	CHIN2.2	$250,000

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4	2018-0402	Shelton Green Stormwater Infrastructure Program Development - Phase 1	Mason Conservation District	This action creates a new green stormwater infrastructure focus at the City of Shelton that will proactively map, assess, and prioritize projects that will improve stormwater management and public engagement in sub-basins and waterways in the City.	BIBI1.1, BIBI2.1	$317,000
4	2018-0407	Seattle Public Utilities (SPU) fish passage barrier replacement projects	City of Seattle	1.) Complete an Options Analysis on up to three fish passage barriers in Seattle and select preferred options to move forward to design. 2.) Develop designs for each of the preferred alternatives identified in the Options Analysis.	CHIN7.1	$6,200,000
4	2018-0408	Restoring Riparian Forest along the Green-Duwamish River	King County	This project will restore 30 acres of shade-producing riparian forest along the Green/Duwamish River from river mile 0 to 32. This work is critical for restoring healthy habitat conditions, including cool water, for ESA listed Chinook salmon.	LDC3.3	$1,650,000
4	2018-0409	West Sound Eelgrass Monitoring Program	Suquamish Tribe	Document current eelgrass trends by estimating changes in aerial and depth distribution in the West Sound area. Maintain accurate maps of a nearshore habitat critical to P.S Chinook recovery.	CHIN1.9, CHIN4.3, CHIN1.3	$84,000
4	2018-0413	Mud Bay, Sucia Island Salt Marsh and Beach Restoration	Friends of the San Juans	Partners will restore salt marsh and beach habitat at a priority juvenile chinook and forage fish site. Objectives include: restoring tidal hydrology, fish passage, lower salt marsh and upper beach habitat, and monitoring fish utilization.	CHIN7.1	$494,000
4	2018-0415	Nooksack River Forks Riparian Conditions Analysis	Nooksack Indian Tribe	Assess riparian stand characteristics and determine recovery trajectory and time to recovery. Evaluate effectiveness and maintenance needs for past planting projects and update and prioritize inventory of riparian restoration needs.	CHIN7.1	$100,000

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4	2018-0423	Strait Oil Spill Prevention, Preparedness, and Response NTA: Regional Collaboration and Involvement	Strait and Sound Environmental, Inc.	Enable Strait ERN LIO and member organizations to help strengthen local & regional oil spill prevention, preparedness, and response plans & measures so that salmonid & shellfish resources and associated habitat are better protected from large oils spills.	CHIN6.1, CHIN6.2	$158,600
4	2018-0432	Marine Shoreline Technical Assistance	King Conservation District	This action accelerates and expands KCD marine shoreline protection and enhancement work to identify and plan marine riparian enhancement and bulkhead removal projects on private property.	SA3.1	$300,000
4	2018-0433	Implement a No Discharge Zone within Puget Sound	Department of Ecology	Increase pumpout options for commercial vessels. Increase boater awareness of NDZ requirements and locations of pumpout facilities. Increase proper disposal of vessel sewage.Delegate and empower appropriate local regulatory authority for enforcement	SHELL1.2	$760,000
4	2018-0435	Chico Creek Culvert (Golf Club Hill Road) and Floodplain Restoration	Kitsap County	This NTA proposes replacement of a triple box culvert at Golf Club Hill Road (Chico Creek) with a bridge sized to meet stream simulation standards, and restoration of associated floodplains as designed with the proposed bridge.	CHIN7.1	$4,922,000
4	2018-0436	National Hydrography Dataset Update: Correct mapped stream locations as a first step in the development of a shared prioritization tool to better coordinate plans and actions among agencies, across all levels of government, and the private sector.	Department of Fish and Wildlife	Utilize 20+ years of stream survey records to correct the National Hydrography Dataset. Support local and regional salmon habitat protection and restoration efforts by developing a new prioritization tool based on corrected hydrography data.	CHIN1.3, CHIN1.4	$292,000

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4	2018-0437	East Kitsap Forage Fish Monitoring	Suquamish Tribe	1) Document distribution and timing of forage fish spawning (surf smelt and sand lance) on West Sound beaches; 2) Improve habitat protection with more accurate maps of forage fish beaches; 3) Support WSWC MAAMP S&T for species/food web KEA.	CHIN4.1, SA1.1, CHIN1.3	$132,000
4	2018-0441	South Prairie Creek (RM 4.0-4.5) Floodplain Project Phase 2	South Puget Sound Salmon Enhancement Group	Restore forested floodplain function and connectivity to 80 acres of floodplain and 2,600 linear feet of side channel on South Prairie Creek to improve productivity of aquatic habitat to support Puyallup River Chinook, steelhead, and coho.	CHIN7.1	$4,200,000
4	2018-0442	Effectiveness of regulatory mitigation to preserve critical salmon habitat in Puget Sound	Department of Natural Resources	Inventory and review past and current nearshore mitigation projects related to critical salmon habitat. Evaluate project sites for habitat mitigation success to determine effectiveness of regulatory enforcement.	CHIN1.10	$220,000
4	2018-0447	South Fork Groundwater Model Development	US Geological Survey	Develop a groundwater flow model and evaluate the influence of various restoration scenarios on temperature and baseflow in the South Fork Nooksack River.	CHIN2.1	$400,000
4	2018-0450	Puget Sound Watershed Continuous Nitrogen Monitoring	Department of Ecology	To produce an continuous dataset required to reduce uncertainty of modeling scenarios of non-point nutrient loadings from six rivers that flow into Puget Sound; The Green/Duwamish, Nisqually, Skagit, Puyallup, Nooksack, Snohomish, and Stillaguamish.	CHIN2.5	$806,316
4	2018-0451	Youth Corps Spartina Survey & Eradication in the Skagit River Delta	Department of Fish and Wildlife	Improve the quality of salmonid rearing habitat by contracting youth corps to find & eradicate Spartina in the native salt marsh of SE Skagit Bay estuary during key periods of the field season to protect estuarine function in a priority river delta.	CHIN7.1, EST3.3	$165,951

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4	2018-0453	North Fork Tributary Fish Barrier	Whatcom County Public Works	Analyze alternatives, design, permit and correct a priority barrier to restore full access to 8,000' of habitat for Chinook, steelhead, bull trout, coho, and other salmonids on Kenney Creek, a tributary to the North Fork Nooksack River.	CHIN7.1	$4,500,000
4	2018-0456	Implement Model Volunteer Program for Oil Spill Response / Assessment - Phase 2	Washington State University Extension	Expand a model community oil spill assessment and response program, developed in 2018 and 2019 (NTA 2016 - 0315) to at least three other communities in Puget Sound, including Northern Olympic Peninsula and Island County.	CHIN6.2	$340,200
4	2018-0457	North Fork Nooksack River Boyd Creek Reach Restoration	Nooksack Indian Tribe	Restore North Fork/Middle Fork Nooksack early chinook habitat (reconnect disconnected floodplain; increase habitat diversity; restore fish passage) in the North Fork Nooksack River Boyd Creek Reach (RM 62-63).	CHIN7.1	$1,269,392
4	2018-0458	Pollution Prevention, Identification and Correction - Thurston County	Thurston County	Expand a Pollution Prevention, Identification and Correction Program from Henderson Shellfish Protection District to all shellfish growing areas in Thurston County to protect and reopen shellfish beds.	SHELL1.3	$1,421,427
4	2018-0459	North Fork Nooksack River Maple Creek Reach Restoration	Nooksack Indian Tribe	Restore North Fork/Middle Fork Nooksack early chinook habitat (restore stable side channels and forested floodplain islands; increase habitat diversity) in the North Fork Nooksack River Maple Creek Reach (RM 49.8-50.6).	CHIN7.1	$1,170,000
4	2018-0462	Leque Island Estuary Restoration	Department of Fish and Wildlife	Restore tidal processes to the entirety of the 250-acre portion of Leque Island through dike removal south of Highway 532. Create additional breaches to improve tidal connection on the 26-acre portion of Leque Island north of the highway.	EST3.3	$6,000,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0463	South Fork Nooksack River Fish Camp (Tseq) Reach Restoration	Nooksack Indian Tribe	Restore South Fork Nooksack early chinook habitat (restore deep, complex pools and temperature refuges; increase habitat diversity) in the South Fork Nooksack River Fish Camp Reach (RM 9.1-9.6).	CHIN7.1	$1,719,825
4	2018-0465	Chemical Action Plans for Endocrine Disrupting Chemicals (EDCs)	Department of Ecology	Develop and implement Chemical Action Plans (CAPs) for the class of endocrine disrupting compounds (EDCs), convene advisory committee, develop recommendations and implement actions related to chemicals of high concern to Puget Sound, including phthalates.	TIF1.1, TIF2.1, TIF5.1	$410,000
4	2018-0466	South Fork Nooksack River Black Slough Reach Restoration	Nooksack Indian Tribe	Restore South Fork Nooksack early chinook habitat (restore deep, complex pools and temperature refuges; increase habitat diversity) in the South Fork Nooksack River Black Slough Reach (RM 1.9-3.2).	CHIN7.1	$870,000
4	2018-0469	Upper White River Watershed Assessment: Restoration and Resiliency Planning	South Puget Sound Salmon Enhancement Group	Complete a watershed assessment of the upper White River Basin to evaluate habitat capacity, bottlenecks to salmon productivity and survival, and effects of climate change to identify actions to build resiliency to changing flow and thermal regimes.	CHIN7.1	$425,000
4	2018-0473	PCBs in Building Products	Department of Ecology	Implement the PCB Chemical Action Plan (CAP) actions to cleanup the reservoir of legacy PCBs that still remain in buildings built or renovated between 1950- 1979 that contribute to toxic stormwater pollution and recontamination of cleanup sites.	TIF1.1, TIF2.1, CHIN2.5	$373,000
4	2018-0474	Local Source Control Implementation	Department of Ecology	Fund the Local Source Control Partnership to conduct site visits and monitoring that will eliminate polluted stormwater, spills, and toxic waste discharges from businesses to the stormwater pathway and reduce impacts to coho pre-spawn mortality.	TIF1.1, BIBI1.1, CHIN1.1	$3,976,000

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4	2018-0476	South Fork McCarty Reach	Lummi Indian Business Council	Feasibility and design to restore wetlands, floodplain and in-channel habitat on the South Fork downstream of the BNSF railroad bridge.	CHIN7.1	$725,000
4	2018-0488	Template for Biennial Tracking Land Cover Change	Department of Fish and Wildlife	Create a template for tracking land cover change over time, with a focus on riparian and other critical areas, in order to assist cities, counties, tribes, and state agencies to understand land cover change status and trends.	LDC2.1, LDC1.1	$205,000
4	2018-0490	South Fork Upper Cavanaugh-Fobes Instream Restoration	Lummi Indian Business Council	Provide design and construction for up to 24 engineered logjams to restore habitat by improving off-channel connectivity, increase thermal refugia, increase habitat by creating up to 19 primary pools and improve floodplain connection.	CHIN7.1	$950,000
4	2018-0493	South Fork Camp 18 Instream Restoration Project	Lummi Indian Business Council	Address temperature, channel incision, and habitat diversity and quantity for Chinook limit factors. Create up to 5 primary pool habitat units through the placement of ELJs; promote bed aggradation, bed fining; island formation; channel lengthening.	CHIN7.1	$844,948
4	2018-0494	South Fork Nooksack Elk Flats Restoration	Lummi Indian Business Council	Design and construct a series of engineered logjams and starter side channels to promote floodplain occupation. The active river channel will move away from a large sediment source and dissipate flows across the floodplain.	CHIN7.1	$750,000
4	2018-0495	Culvert replacement at the Lyre Conservation Area	North Olympic Land Trust	Advancing this project will result in the removal & replacement of an undersized culvert. It will also include noxious weed treatments, replanting those areas with native vegetation, removal of creosote logs, & installation of signage.	LDC3.3	$55,000

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4	2018-0498	Middle Fork Nooksack Porter Creek Reach Instream Restoration	Lummi Indian Business Council	Multi-phase project to construct about 50 ELJs in the mainstem Middle Fork Nooksack River to create 48 new primary pools. Phase 2 will construct ELJs in the main stem to protect valuable tributary confluence spawning habitat.	CHIN7.1	$2,233,695
4	2018-0500	Lyre River Watershed Protection and Restoration Phase II	North Olympic Land Trust	Acquisition of salmonid habitat in the Lyre River watershed, and restoration including undoing the channelization of the lower river and adding large wood to further improve existing salmon habitat.	CHIN7.1	$500,000
4	2018-0501	North Fork Nooksack River Farmhouse Reach Restoration	Nooksack Indian Tribe	Restore North Fork/Middle Fork Nooksack early chinook habitat (restore stable side channels and forested floodplain islands; increase habitat diversity) in the North Fork Nooksack River Farmhouse Reach (RM 46.4-49.4).	CHIN7.1	$4,321,475
4	2018-0503	Protection and Restoration of Indian Creek Campground	North Olympic Land Trust	Conservation and restoration of the confluence of Indian Creek and the Elwha River to its historic location. The site has been used as a mobile home park and campground for decades.	CHIN7.1	$1,000,000
4	2018-0515	South Fork Nooksack River Homesteader Reach Restoration	Nooksack Indian Tribe	Restore South Fork Nooksack early chinook habitat (restore deep, complex pools and temperature refuges; increase habitat diversity) in the South Fork Nooksack River Homesteader Reach (RM 6.0-6.4).	CHIN7.1	$996,099
4	2018-0516	Upper South Fork Effectiveness Monitoring	Lummi Indian Business Council	Establish a project effectiveness monitoring program for the Upper South Fork Nooksack River. The monitoring program will model how existing projects are faring at chinook spawning flows and the 2-year discharge.	CHIN7.1	$156,331

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4	2018-0518	Chemicals of Emerging Concern (CECs), including endocrine disrupting compounds (EDCs), in marine and freshwater fish in King County	King County	To evaluate CECs (including EDCs) in marine and freshwater fish by expanding King County's existing tissue monitoring program. To assess ecological and human health risks from observed CEC concentrations through a literature review of toxicological data.	TIF5.1	$115,000
4	2018-0525	Shoreline Monitoring Toolbox: Data Analysis and Interpretation	Washington Sea Grant	Our objective is to analyze and interpret data that have been collected using protocols in the Shoreline Monitoring Toolbox and uploaded to the database. These data will be used to assess restoration effectiveness and status and trends in Puget Sound.	SA3.4, SA1.1	$365,078
4	2018-0532	Bear Creek Riparian Improvement Program	Forterra	Restoration of contiguous riparian habitat on Bear Creek and associated tributaries and lakes using a multi-jurisdictional approach on public and private lands to protect, enhance and recover ecosystem processes and function.	LDC3.3	$300,000
4	2018-0541	Spencer Island Estuary Restoration	Department of Fish and Wildlife	Restore natural processes on the site by improving the connection between the interior of the island and surrounding intertidal marsh.	EST3.3	$6,500,000
4	2018-0542	Acquisition and restoration of priorities identified in the Elwha Watershed prioritization	North Olympic Land Trust	This is a multi-phase project. NOLT and the Lower Elwha Tribe will work to conserve priority parcels in the Elwha River, Little River & Indian Creek watersheds through conservation easements or fee simple acquisition, & restoration may also be pursued.	CHIN7.1	$500,000
4	2018-0543	Morse Creek Acquisition and Restoration	North Olympic Land Trust	This project will conserve up to approximately 800 acres of high quality habitat in the Morse Creek watershed through fee-simple acquisition. The parcels start near RM 3.5 and extend up to near RM 9 where it meets the Olympic National Park boundary.	CHIN7.1	$500,000

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4	2018-0544	Sekiu and Clallam Bay Property Acquisitions	North Olympic Land Trust	Acquisition of land fee-simple or through a conservation easement in the Clallam Bay and Sekiu vicinity that are priorities in the Western Strait of Juan de Fuca Salmonid Habitat Conservation Plan, as well as acquiring lands for recreational access.	CHIN7.1	$750,000
4	2018-0545	Twin Rivers Acquisition	North Olympic Land Trust	The project will result in protection of 216 acres with over 1/2 mile of Strait of Juan de Fuca shoreline and 2.6 miles of the West Twin River and tributaries.	CHIN7.1	$750,000
4	2018-0547	Pysht Floodplain Acquisition and Restoration Phase IV	North Olympic Land Trust	Conservation of high priority land along the Pysht River, which could include priorities #11, 14, 17, 18, 20, 22, 23, 34, 37, 39, 42, 44, 50, 54, 56, 63, 67, and 71 in the Western Strait if Juan de Fuca Salmonid Restoration Plan.	CHIN7.1	$500,000
4	2018-0548	Acquisition of Priorities identified in the Western Strait of Juan de Fuca Salmonid Habitat Conservation Plan	North Olympic Land Trust	This project will conserve the highest priority parcels identified in The Western Strait of Juan de Fuca Habitat Conservation Plan, which prioritizes habitat within WRIA 19 most important to salmon and steelhead productivity and survival.	CHIN7.1	$500,000
4	2018-0553	Blackjack Watershed Protection & Restoration Feasibility Plan	Great Peninsula Conservancy	This near term action proposes to evaluate and prioritize tax parcels within the Blackjack Creek Watershed south of Port Orchard for protection through fee simple acquisition or conservation easements, and develop opportunities for habitat restoration.	CHIN7.1	$200,000
4	2018-0554	Nooksack Watershed Steelhead Recovery Planning	Nooksack Indian Tribe	Develop Nooksack chapter of Puget Sound Steelhead recovery plan.	CHIN8.1	$200,000

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4	2018-0556	Assessing Pacific Sand Lance Subtitle Habitats and Biomass in Regards to Salmon Foraging in the San Juan Archipelago	Moss Landing Marine Labs	To address the knowledge gap of the predator-prey relationship between salmon and forage fish, specifically Pacific sand lance. Determine burial preferences, model distribution/abundance patterns, and est. regional biomass to promote habitat protection.	CHIN4.1	$120,000
4	2018-0561	Evaluation of current-use pesticides in King County	King County	Assess pesticide presence and risk in 3 salmon-bearing streams to inform outreach, stormwater management, and salmon recovery strategies. Develop summary of local priority pesticides to enhance regional monitoring and salmon recovery.	CHIN4.2	$240,000
4	2018-0570	Floodplains by Design: Assessing social vulnerability to current and future flood risk	The Nature Conservancy	Identify areas with increasing future flood risk and describe the social and economic conditions of floodplains. Through detailed case studies build an understanding of community vulnerability and work with local partners to develop adaptation strategies.	FP1.4	$460,000
4	2018-0571	Skagit Forks Britt Slough Restoration (East Cottonwood)	Department of Fish and Wildlife	Reconnect an off channel wetland to the Skagit River in order to provide rearing habitat for Skagit River Chinook salmon and other species.	FP3.3, FP3.4	$325,250
4	2018-0574	Citizen Action Training School	Hood Canal Salmon Enhancement Group	The objectives of the CATS program are to: Increase citizen awareness about Puget Sound recovery; Foster increased citizen involvement in recovery and policy pertaining to Puget Sound; Increase use of BMPs and incentive programs among landowners.	LDC3.1, SA3.1, FP3.1	$125,000
4	2018-0575	Puget Sound-Wide Zooplankton Monitoring Program	Department of Fish and Wildlife	1.Ensure collaborative zooplankton monitoring continues uninterrupted. 2.Maintain alignment w/ relevant monitoring activities. 3.Distribute data publicly. 4.Use for salmon forecasting. 5.Explore forage fish, crab, toxics, plastics, benthic links.	CHIN4.1, CHIN4.7	$1,842,000

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4	2018-0577	Fish Park Regional Stormwater Treatment Facility and Floodplain Restoration	City of Poulsbo	Treat stormwater from a 20-acre urban basin that includes the intersection of two State highways. Restore 1.5 acres of degraded Dogfish Creek floodplain and enhance and protect existing intact riparian buffer.	TIF2.1, SHELL1.9	$1,000,000
4	2018-0581	Love Where You Live: celebrating and promoting responsible land use and stewardship on the North Olympic Peninsula.	North Olympic Land Trust	Love where you live is an authentic place-based campaign aimed at helping community members deepen their relationship with the local landscape and its resources in a manner that paves the way to responsible community and individual land-use actions.	LDC3.1	$100,000
4	2018-0582	Developing Strategies and Accompanying Web Tool for Science-Based Beach Restoration and Protection	Department of Fish and Wildlife	This project seeks to build upon existing strategies for beach restoration and by using new geospatial information and soliciting input from shoreline planners and restoration practitioners to create a web-based data tool.	SA2.1	$224,321
4	2018-0584	Snohomish River Estuary Derelict Vessel Removal	Snohomish County Marine Resources Committee	Remove function-limiting derelict vessels from prioritized sites in the Snohomish River estuary to protect and restore critical habitat for salmon population.	CHIN7.1	$450,000
4	2018-0589	Snohomish River Estuary Creosote Piling Removal Planning, Prioritization, and Removal	Snohomish County Marine Resources Committee	Remove function-limiting creosote pilings from prioritized sites in the Snohomish River estuary to protect and restore critical habitat for salmon population.	CHIN7.1	$100,000

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4	2018-0593	Chinook habitat restoration decision support tool- Predicting Chinook growth improvements using an integrated temperature, flow, and bioenergetics model.	US Geological Survey	The primary object is to create a decision support tool, specifically linking a collection of models, that predicts improved chinook growth rates from restoration actions along stream reaches (several hundred meters) or segments (a few kilometers).	CHIN1.5, CHIN1.4, CHIN4.5	$300,000
4	2018-0594	Watertyping The North Olympic Peninsula	North Olympic Peninsula Lead Entity	Errors in Washington state water typing maps result in the underprotection of 40-60% of the fish-bearing stream network. Water typing corrects & updates these maps, which helps fully protect fish and fish-bearing streams from development impacts.	CHIN7.1	$300,000
4	2018-0596	West Poulsbo Regional Stormwater Treatment Facility and Shoreline Restoration	City of Poulsbo	Acquire one of the last remaining Liberty Bay estuary shoreline parcels, protect the existing intact estuarine habitat, enhance adjacent buffer areas and wetlands, and treat stormwater from a fully developed urban basin.	TIF2.1, SHELL1.9	$1,500,000
4	2018-0597	A comprehensive survey of salmon habitat in nearshore areas of WRIA8 and WRIA9	Department of Natural Resources	Build and distribute comprehensive information on critical nearshore salmon habitat (eelgrass and kelp), for assessing the effectiveness of management actions along the most intensively developed shorelines of Puget Sound (WRIAs 8 and 9).	CHIN1.3	$251,728
4	2018-0600	Incorporation of Salish Sea Marine Survival Project findings and recommendations into local Recovery Plans	Long Live the Kings	Incorporate findings of Salish Sea Marine Survival Project in local watershed recovery plans through adaptively managing strategies and actions or re-prioritizing projects to address improve low marine survival, a major bottleneck for species recovery.	CHIN8.1, CHIN4.7	$79,200

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4	2018-0602	Puget Sound Atlantis Ecosystem Modeling	Long Live the Kings	1. Use Atlantis model to assess recovery solutions. 2. Integrate Atlantis model w/ EPA's VELMA & DOE's Salish Sea models. 3. Simulate climate, nutrient, turbidity & contaminant/stormwater impacts. 4. ID solutions that maximize value in reducing impacts.	CHIN4.1, CHIN4.7, CHIN4.10	$251,000
4	2018-0605	West Bay Park Shoreline Restoration	City of Olympia	Restore function of 4,000 linear feet of West Bay Shoreline of Budd Inlet in Olympia; Daylight two small creek estuaries; Enhance fish and wildlife habitat (tidal wetland & riparian) and juvenile salmon migration corridor; Address contaminated soils.	CHIN7.1, EST3.3, LDC3.3	$8,267,000
4	2018-0612	Coordination on Transportation and Estuary Restoration	Department of Fish and Wildlife	Identify barriers to funding habitat restoration projects that include bridges. Create and implement a list of actions to increase likelihood of successful implementation for projects that remove, modify, or relocate bridge structures.	EST2.2	$150,000
4	2018-0621	Puyallup River Watershed Juvenile Salmon Production Assessment Projects	Puyallup Tribal Fisheries	Monitor outmigration of juvenile salmon on the Puyallup/White Rivers in order to establish abundance estimates, run timing and biological characteristics of ESA listed salmon species, Chinook and Steelhead.	CHIN7.1, CHIN4.3, CHIN4.4	$500,000
4	2018-0622	WRIA 1 Integrated Program Implementation	Whatcom County Public Works	Implement the WRIA 1 Watershed Management Board five-year integrated plan that implements actions addressing multiple objectives associated with the water quality, chinook, habitat, summer stream flow, land use, floodplain and shellfish vital signs.	CHIN1.1	$537,000

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4	2018-0624	Utilizing passive integrated transponder (PIT) technology to assess juvenile Chinook use of and survival within habitat improvement projects and other aquatic habitats in the lower Green River.	WRIA 9 Lead Entity	The overall objective of this proposal is to utilize new PIT tag technology to evaluate juvenile Chinook habitat use, survival, and migration patterns in habitat projects and locations where traditional methods (e.g., rotary screw traps) have failed.	CHIN4.3	$300,000
4	2018-0629	WRIA 1 Culvert Strategic Needs and Priority Barrier Correction	Whatcom County Public Works	Prepare a strategic needs assessment that supports coordination and accelerates fish barrier removals in WRIA 1. Prepare designs, obtain permits, and correct 2-3 priority barriers.	CHIN7.1	$750,000
4	2018-0635	Tulalip Shoreline Landowner Outreach and Education Campaign	The Tulalip Tribes	1. Two workshops plus incentives will cultivate landowners willing to remove hard shore armor and/or install soft shore techniques. 2. Demonstrate feasibility using an area of the Tulalip shoreline where hard shore armor is removed.	SA3.1, LDC3.3	$200,000
4	2018-0638	Discovery Bay Shoreline Armor Removal	Northwest Straits Foundation	Remove 300 linear feet of shore armor, concrete debris, and railbed fill material; import beach nourishment sediment for forage fish spawning; create riparian corridor to restore cross-shore connectivity; demonstrate armor removal to 30 property owners.	SA3.3, SA3.4	$300,000
4	2018-0639	Hood Canal Regional Pollution Identification & Correction Program - Phase 4	Hood Canal Coordinating Council	Protect and improve Hood Canal water quality to safeguard public and ecosystem health and keep shellfish growing areas and recreational beaches open by collaborating across jurisdictions to prevent bacterial pollution flowing into surface waters.	SHELL1.11, SHELL1.3	$700,000

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4	2018-0640	Floodplains by Design: New state guidance on planning for Integrated Floodplain Management	Department of Ecology	Update Washington's Comprehensive Flood Hazard Management Planning Guidance to modernize floodplain planning by incentivizing movement towards an integrated management approach, align public grant programs, incorporate salmon recovery and climate change.	FP2.2	$400,000
4	2018-0643	West Oakland Bay Estuary Restoration	Squaxin Tribe	The proposed NTA represents the next phase to restore the lost saltmarsh in the estuary of Goldsborough Creek, the largest system in WRIA 14.	EST3.3, CHIN7.1, SA3.3	$3,300,000
4	2018-0645	Task Force for Natural Resource Damage Assessment and Restoration (NRDAR) pre-coordination and planning	US Fish and Wildlife Service	Improve efficiency and accuracy of ephemeral data collection to support a NRDAR in the event of an oil spill in the Puget Sound region by pre-coordinating, identifying needs, planning, and developing guidance and directories of existing resources.	CHIN6.2	$170,000
4	2018-0654	Dungeness River Floodplain Restoration - Hurd Creek Phase	Jamestown S'Klallam Tribe	Restore and permanently conserve Dungeness River floodplain habitat and habitat-forming processes in the Hurd Creek Reach (RM 2.4-3.1) for the benefit of wild salmon, especially Puget Sound Chinook, and char.	CHIN7.1	$12,304,000
4	2018-0655	Salish Sea Modeling Support to complete MWQ/Nutrient IS	Department of Ecology	Funding PNNL involvement in the final period of modeling for the MWQ IS that is not currently covered by any existing budget and is critical for successful completion of all modeling tasks to define the final point and nonpoint nutrient reductions.	CHIN2.5, LDC1.2	$183,000
4	2018-0656	Skookum Valley Conservation	Squaxin Tribe	The proposed NTA will purchase and place into conservation the three highest rated parcels in the lower Skookum Creek Watershed; a Tier 1 priority salmon stream located in WRIA 14.	CHIN7.1, CHIN1.1, LDC3.2	$3,727,479

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4	2018-0658	Strengthening STORM for Improved Local Capacity to Manage Stormwater Programs	King County	The NTA will build capacity of NPDES Permittees in promoting stormwater protective behaviors through stronger regional coordination in order to increase effectiveness of messaging to promote support for stormwater actions by residents and decision makers.	BIBI1.1	$222,000
4	2018-0659	Harper Estuary Bridge	Kitsap County	Kitsap County is proposing to construct a bridge to replace a culvert and associated roadway to restore tidal flow to a small estuary at Harper, South Kitsap County, in support of other restoration in the area.	CHIN7.1, SA3.3	$5,000,000
4	2018-0661	Nisqually River-Wilcox Reach Restoration	South Puget Sound Salmon Enhancement Group	Objectives include removing flood control berms that restrict river and floodplain function, placing in-stream, wood habitat structures, restore/enhance up to 100 acres of floodplain area, improving river channel morphology, improving off-channel habitat.	CHIN7.1	$5,000,000
4	2018-0664	Hood Canal Natural Resource Economic Assessment	Hood Canal Coordinating Council	HCCC measures human wellbeing in Hood Canal to capture local values and help ensure they are honored. Monitoring human wellbeing informs watershed protection and recovery strategies to maximize social and ecological benefits to the Hood Canal watershed.	LDC3.4	$80,000
4	2018-0669	Watershed Characterization Technical Assistance Team	Department of Ecology	Support local governments in making land use decisions which consider potential impacts to important watershed processes and habitats through the continuation of the interagency collaboration of the Watershed Characterization Technical Assistance Team.	BIBI5.1	$912,560
4	2018-0672	McSorley Creek Pocket Estuary Restoration Project at Saltwater State Park	King County	The objective is to improve natural shoreline processes and habitat opportunities in the McSorley Creek estuary and Puget Sound shoreline areas within Saltwater State Park through removal of creek and shoreline armoring.	CHIN7.1	$13,432,048

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4	2018-0685	Prioritizing Sea Level Rise Exposure and Habitat Sensitivity Across Puget Sound	Washington Sea Grant	To support planning and integration of hazards associated with sea level rise into either: 1) ecosystem restoration planning; 2) multiple benefits approaches to reduce flood risk and optimize ecosystem services or; 3) future flood risk reduction programs	SA1.3	$500,000
4	2018-0688	Dosewallips Floodplain Mid-Hood Canal Chinook Salmon Multiple Benefits Habitat Restoration Plan Phase II: Implementation of Restoration Plan Actions and Recommendations by Multiple Partners Identified during Phase I	Jefferson County	This NTA will implement the Phase I floodplain and restoration plan to recover ecosystem function and expand and improve habitat for mid-Hood Canal Chinook salmon in the Dosewallips River utilizing a collaborative approach to produce multiple benefits.	CHIN7.1	$8,000,000
4	2018-0697	Status and trends of Skagit Chinook salmon abundance, life history diversity, and productivity in response to recovery plan actions and environmental variability	Skagit River System Cooperative	This NTA will compile: 1) existing life stage specific Skagit Chinook data with habitat status and trends data and 2) develop an analytical framework to isolate the effects of human actions and environmental variability on the status of Skagit Chinook.	CHIN4.6, CHIN4.4, CHIN1.9	$500,000
4	2018-0700	Salish Sea Marine Survival Project: Synthesis and solutions testing	Long Live the Kings	1. Synthesize the results of the Salish Sea Marine Survival Project. 2. Recommend management & recovery actions regionally. 3. Make managers and public aware of results and needed actions. 4. Test actions that address marine survival limiting factors.	CHIN4.7	$1,250,000

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4	2018-0708	Performance Evaluation of Engineered Hyporheic Zones for In-Stream Water Quality Improvement in Urban Creeks	University of Washington Tacoma	Our objective is to evaluate the capability of an innovative in-stream treatment and watershed restoration approach to improve water quality by installing engineered hyporheic zones that push streamflow into subsurface pathways of urbanized creeks.	TIF2.1	$243,387
4	2018-0710	Gilliam Creek Fish Passage Improvements	City of Tukwila	This project would eliminate fish passage barriers and improve approximately 2,000 feet of Gilliam Creek to provide for enhanced rearing and refuge habitat while maintaining the current level of flood protection to the area.	CHIN7.1	$280,000
4	2018-0711	Riverton Creek Flapgates Removal Project	City of Tukwila	The Riverton Creek Flapgates Removal Project will remove two flapgates which are partially blocking fish passage between the Duwamish River and Riverton Creek.	CHIN7.1	$763,475
4	2018-0712	Dungeness River Floodplain Restoration - Kinkade Phase	Jamestown S'Klallam Tribe	Restore and permanently conserve Dungeness River floodplain habitat and habitat-forming processes in the Kinkade Island Reach (RM 9.5-10.5) for the benefit of wild salmon, especially Puget Sound Chinook, and char.	CHIN7.1, FP3.2, FP3.3	$2,500,000
4	2018-0713	Effectiveness Monitoring of regulations regarding shoreline, critical areas, and stormwater requirements: Measure, report, and validate the levels of impact to ecologically sensitive lands that result from permitted and unpermitted development.	Kitsap County	This project will develop methodologies and implement a monitoring program that includes determining the effectiveness of land use regulations in maintaining no-net-loss and achieving net-gains of ecologically sensitive areas and their condition.	SA2.2, LDC2.2, LDC1.4	$350,000

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4	2018-0717	Nelsen Side Channel	City of Tukwila	Create off-channel salmon rearing habitat by reconnecting a segment of historic river channel with the Green River.	CHIN7.1	$500,000
4	2018-0720	Dungeness River Large Wood Restoration - Upper Dungeness/Gray Wolf Phase 2	Jamestown S'Klallam Tribe	Create stable, complex spawning and rearing habitat for the benefit of wild fish, especially Puget Sound Chinook, PS Steelhead, and char in the upper Dungeness and lower Gray Wolf Rivers.	CHIN7.1	$750,000
4	2018-0722	San Juan County Select Watersheds Instream Flow study	San Juan County Lead Entity	Using WDFW methodology, create in-stream flow targets for freshwater salmon recovery in the San Juan Islands. This is a critical step towards the regional priority, Chin 2.1, to ensure sufficient summer low flows for salmon recovery.	CHIN2.1	$20,000
4	2018-0730	Floodplain Recovery Target Refinement: Application to Watersheds	Department of Ecology	Improve floodplain project selection and tracking toward vital sign targets. Apply refinement of floodplain extent and condition mapping to additional watersheds to create locally vetted regional footprint and evaluation tool based on floodplain function.	FP1.1	$451,000
4	2018-0732	River sediment delivery to Puget Sound delta and nearshore environments	US Geological Survey	This project quantifies magnitude and timing of sediment delivery to critical delta and nearshore environments (DNE) that will 1) provide readily-available data for modeling efforts in DNE restoration projects and 2) identify capacity of DNE resiliency.	EST1.1, EST1.3, FP1.3	$450,000
4	2018-0737	Recovery of select freshwater salmonid habitat in the San Juan Islands, Phase II False Bay Creek	San Juan Islands Conservation District	Implement recommendations to restore in-stream and riparian habitat to support salmonids in False Bay and San Juan Valley Creeks from the "False Bay Watershed Stream Habitat Assessment Report" (Wones et. al. 2017).	CHIN7.1	$220,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0738	Developing a Pacific Northwest Regional Trash Monitoring Coalition	US EPA Region 10	Standardize micro and macro trash assessment methodology and support a Salish Sea-wide coalition of stakeholders in implementing these new methods to monitor and inform prevention of aquatic debris - an emerging and increasingly important pollutant.	CHIN4.2, CHIN4.8, EST1.1	$0
4	2018-0743	Conserve vital riparian, estuary, wetland and forest habitat within the greater Dewatto Watershed in Hood Canal and restore ecologically important lands.	Department of Natural Resources	To protect outstanding examples of native ecosystems within and proximal to the Dewatto River Watershed, including habitat for endangered, threatened and sensitive plants, animals, and salmonid species, avoid conversion of ecologically important lands.	LDC3.2, CHIN1.1	$1,000,000
4	2018-0744	Protection and restoration of select B-IBI basins, Phase III	King County	The objective is to develop and finalize detailed design plans to restore and protect select B-IBI basins. The NTA includes design and cost projections for stormwater retrofits and BMPs, riparian plantings, and other actions to improve B-IBI scores.	BIBI5.1	$750,000
4	2018-0745	Soft Shore Protection: A Review of Project Performance and Additional Guidance	Coastal Geologic Services, Inc.	Advance design guidance and acceptance of soft shore protection through quantitative analysis of performance in reducing erosion and maintaining habitat with engineering suitability and recommendations, to augment the Marine Shoreline Design Guidelines	SA3.4	$175,000
4	2018-0749	Incorporating Climate Change into the Design of Culverts Prioritized for Replacement to Improve Fish Passage in King County	King County	The overall objective of this NTA is to ensure that climate change impacts on bankfull width and culvert design are taken into account as King County accelerates its efforts to prioritize and replace fish passage barriers.	CHIN5.1	$110,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0750	Assessment and Prioritization of Contaminants of Emerging Concern Impairing the Health of Chinook salmon	Department of Fish and Wildlife	The objective of this study is to assess the potential threat of contaminants of emerging concern in stormwater and wastewater to juvenile Chinook salmon so that remedial actions can be implemented to protect the salmon health, and improve salmon recovery.	CHIN4.8	$475,000
4	2018-0759	Dungeness River Riparian Habitat Protection	Jamestown S'Klallam Tribe	Permanently conserve a number of previously identified Dungeness River riparian properties downstream of DNR ownership (river mile 11.4) on approximately 160 acres and about 4 miles of river channel.	CHIN7.1, FP3.2	$8,000,000
4	2018-0766	Monitoring and management of piscivorous fish populations in the Lake Washington Ship Canal	WRIA 8 Lead Entity	Work with fisheries co-managers to devise and implement a predator monitoring (and ultimately management) program to improve the survival of juvenile salmon through the Lake Washington Ship Canal.	CHIN3.2	$100,000
4	2018-0779	Update Chinook Recovery Strategy in several key Puget Sound watersheds	Long Live the Kings	Incorporate new information for recovery and develop adaptive management processes in key watersheds. Products include locally updated Chinook recovery strategies and a summary of best available science for project selection and local policy efforts.	CHIN8.1	$704,000
4	2018-0781	Little Squalicum Estuary Restoration Project	City of Bellingham	The Little Squalicum Estuary Restoration Project improves water quality and restores juvenile salmonid habitat in the lower Nooksack Basin by creating an approx. 2-acre estuary and a fish-accessible tidal connection with Little Squalicum Creek.	SA3.3, CHIN7.1	$1,864,045
4	2018-0787	Upper Puyallup River Watershed Assessment: Protection and Resiliency Planning	South Puget Sound Salmon Enhancement Group	Complete a watershed assessment of Upper Puyallup Basin to evaluate regulatory effectiveness to protect natural processes and create an acquisition and restoration strategy that identifies actions to build resiliency to changing flow and thermal regimes.	CHIN2.3	$347,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0788	Middle Fork Nooksack River Fish Passage	City of Bellingham	This NTA will restore access to Middle Fork Nooksack River habitat for Puget Sound threatened species (North/Middle Fork Chinook Salmon, Steelhead, and Bull Trout) by removing a manmade passage barrier.	CHIN7.1	$17,000,000
4	2018-0789	Puget Sound Funding Portfolio - past, present, and future	Washington Environmental Council	Broaden and deepen funding sources for Puget Sound protection and recovery by compiling lessons learned from past efforts, reviewing current funding sources, and identifying promising approaches that include suites of options	FUND1.2	$218,500
4	2018-0792	Source Identification of Toxics Impacting Juvenile Chinook Salmon in Two Major Puget Sound Rivers	Department of Ecology	To identify potential point and non-point sources of emerging and legacy toxics previously measured and currently impacting juvenile Chinook outmigrating from the Snohomish and Puyallup Rivers.	CHIN4.2	$550,000
4	2018-0799	Snohomish Confluence Project	The Tulalip Tribes	Development of a project plan and acquisition of properties necessary to reconnect abandon side channel and improve connection to Riley Slough.	CHIN7.1	$617,000
4	2018-0803	Floating Treatment Wetlands Reduce Contaminants & Nutrients in Urban Stormwater Runoff	University of Washington	Research and test Coho mortality from direct stormwater and determine the necessary contact time for stormwater with the floating treatment wetlands (FTWs) to adequately remove metals and nutrients that will significantly reduce Coho pre-spawn mortality.	TIF2.1, BIBI1.1, TIF5.1	$362,000
4	2018-0804	Tribal Oil Spill Caucus	Makah Tribe	This NTA will build tribal oil spill response capacity, develop a model Natural Resources Damages Assessment (NRDA) Ordinance, and create a tribal oil spill response & planning handbook to facilitate active participation and protect tribal lands/waters.	CHIN6.1, CHIN6.2	$180,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0805	Green-Duwamish Problem Design Lab; Meeting Academic Standards in the Secondary Classroom in Context of Improving Puget Sound Vital Signs	WRIA 9 Lead Entity	1. Use Vital Signs as a living textbook for problem-based learning in the secondary classroom in at least five WRIA 9 school districts. 2. Empower students to map, track and report data-driven improvements related to Regional Priority CHIN7.1	CHIN7.1	$350,000
4	2018-0806	Permanent Shoreline Habitat Protection in San Juan County	Friends of the San Juans	Phase two of the Permanent Marine Shoreline Protection in SJC Project will implement protection at additional intact priority nearshore sites and provide a model for regional process-based habitat conservation.	CHIN7.1	$1,800,000
4	2018-0808	Squalicum Creek Reroute Phase 3	City of Bellingham	Squalicum Creek Reroute Phase 3 builds on two prior projects by restoring forest cover and floodplain processes in the vicinity of Bug Lake. The objectives are to reduce negative impacts of a manmade lake to improve water quality and salmon habitat.	LDC3.3	$1,322,507
4	2018-0809	Growth and life history strategies of Salish Sea Chinook salmon populations as it relates to marine survival, habitat condition, and population recovery.	Department of Fish and Wildlife	Evaluate the contribution of fry, parr and yearling life histories to adult Chinook returns in relation to habitat availability/condition and early marine survival. Test the efficacy of using growth to predict survival trends and improve forecasting tools	CHIN4.5, CHIN4.4	$302,400
4	2018-0813	Protect and Restore Habitat: Enhance the Forestry Riparian Easement Program (FREP)	Department of Natural Resources	Forestry Riparian Easement Program (FREP) purchases 50-year conservation easements from small forest landowners along riparian areas and associated buffered unstable slopes affecting riparian areas.	LDC3.2	$2,100,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0815	Tenas Creek Floodplain Restoration	Skagit River System Cooperative	1) Restore priority habitat for Suiattle spring-run Chinook salmon. 2) Remove channel constrictions and road impacts to reconnect isolated floodplain habitat. 3) Enhance floodplain and channel habitats with riparian planting and large wood additions	CHIN7.1	$1,900,000
4	2018-0819	Nisqually Community Forest - Acquisition and Stewardship	Nisqually Land Trust	1: Acquire approximately 2,000 acres of forest land along the Mashel River and its headwaters, Busy Wild Creek. 2: Forest management that will increase forest resilience, biological diversity, and salmonid habitat conditions.	CHIN7.1	$8,750,000
4	2018-0821	Trans-boundary Vessel Traffic Safety Conference	Makah Tribe	Convene a transboundary vessel safety summit of Tribes, First Nations, and US & Canadian agencies to: harmonize oil spill response planning and regulation, build spill response capacity, and improve protection of sensitive habitats from oil spills.	CHIN6.1, CHIN6.2	$640,000
4	2018-0825	Springbrook Creek and Manzanita Creek Watershed Planning	City of Bainbridge Island	To delineate focus areas for protection, restoration, conservation, and development to prioritize watershed protection and recovery efforts and develop a pilot stormwater control transfer program to direct stormwater retrofit and flow control.	BIBI2.1, BIBI5.1, LDC1.1	$200,000
4	2018-0827	Flexible and Cost-Effective Infiltration Testing Methods for Evaluating Shallow and Deep Infiltration Feasibility	City of Tacoma	The NTA objective is to provide an expanded toolbox for evaluating subsurface conditions, determining stormwater infiltration feasibility, and estimating infiltration capacity; thereby expanding the methods currently utilized.	CHIN2.6	$280,000
4	2018-0828	San Juan County Shoreline Armor Change Analysis 2009 to 2019	Friends of the San Juans	The San Juan County armor change analysis will document changes in the location, size, material, and condition of shoreline armoring using the same boat based methods applied in 2009 to inform and improve restoration, protection, and policy efforts.	SA3.4	$160,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0829	Scientific framework for coordinated avian monitoring associated with estuary habitat and restoration in Puget Sound	Audubon Washington	Develop a habitat-focused avian monitoring strategy to inform adaptive management and restoration of estuaries, and ultimately produce better ecosystem and human outcomes.	EST3.4, EST1.1	$237,582
4	2018-0841	Working buffers for water quality, wildlife habitat, and agricultural resilience on agricultural lands	Snohomish Conservation District	Establishing working buffers on agricultural lands is an innovative way to increase riparian buffer widths - providing increased ecological diversity and runoff filtration capacity while also increasing the farm's economic diversity and climate resilience	BIBI3.1	$165,000
4	2018-0844	South Sound Nearshore Restoration Strategy	South Puget Sound Salmon Enhancement Group	Objectives for this proposal include: Develop a map of the priority shoreline reaches for restoration Conduct restoration feasibility analyses on a site by site and reach basis. Develop restoration strategies for several priority shoreline reaches.	CHIN7.1	$1,000,000
4	2018-0851	Upper White River Watershed Juvenile Salmon Assessment Project	Muckleshoot Indian Tribe	1) Estimate juvenile salmon abundance and productivity, 2) determine emigration timing, health, and condition of out-migrant salmonids, 3) monitor habitat conditions and restoration actions on juvenile salmon abundance, health, and productivity.	CHIN4.3, CHIN4.4	$300,000
4	2018-0854	Ephemeral Sediment Data Collection to Establish Baseline Sediment Conditions for NRDAR	Department of Natural Resources	Conduct ephemeral sediment sampling within DNR managed Aquatic Reserves and strategic Puget Sound locations to establish baseline sediment conditions that can be used for natural resource damage assessment (NRDA) purposes in the event of an oil spill.	CHIN6.2	$87,600
4	2018-0855	West Hills Sewerage Facilities Feasibility, Design and Construction (Part of WC26)	City of Bremerton	Improve fresh & marine water quality by replacing failing septic systems with a wastewater collection system to eliminate septic effluent & fecal coliform entering Ostrich Creek & implement TMDL actions that support reopening shellfish growing areas.	SHELL1.9, SHELL1.10, TIF1.1	$6,600,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0857	Oyster and Ostrich Bay Watershed Assessment to Identify Protection and Restoration Actions	City of Bremerton	Oyster/Ostrich Bays water quality is impacted by development, stormwater, failing septic systems, sewer leaks & has a fecal coliform TMDL. The plan will identify issues, evaluate & prioritize actions to preserve & restore critical areas in the watershed.	BIBI5.1, LDC1.1	$125,000
4	2018-0858	Agate Beach County Park, Lopez Island, shoreline armor removal and restoration	San Juan County	Restore feeder bluff processes in one of the highest priority forage fish and potential rearing juvenile salmon use habitats and shoreforms identified for restoration in San Juan County. Complete armor removal in conjunction with county road relocation.	CHIN7.1	$378,500
4	2018-0860	Ecological Responses to Nearshore Restoration in South Puget Sound	South Puget Sound Salmon Enhancement Group	Objectives Include: Continuing monitoring at the site and drift-cell scale at the Edgewater Beach Restoration Site; expanded analysis of ecological effects of armor removal; adding additional restoration monitoring sites.	SA3.4	$150,000
4	2018-0870	Stillaguamish Valley Protection Initiative	Snohomish Conservation District	High priority farmland in the Stillaguamish River valley will be protected from future development to preserve the hydrologic benefits of open space, promote the region's commercial farming community, and allow for future restoration of floodplain areas.	FP3.2	$486,000
4	2018-0872	Snohomish County Farmland Protection Initiative	Snohomish Conservation District	High priority farmland will be protected from future subdivision or development to preserve the hydrologic and habitat benefits of open space, promote sustainable agriculture into the future, and allow for future restoration of floodplain areas.	FP3.2	$468,000
4	2018-0875	McNeil Island Estuary Restoration	Department of Fish and Wildlife	The DNR Aquatic Restoration Program and Department of Fish and Wildlife are collaborating to restore shorelines and estuaries at impacted sites around McNeil Island. The objective of this NTA is to restore three estuaries located on McNeil Island.	EST3.3	$3,000,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0876	Acceleration of shoreline armoring removal in Central Puget Sound priority reaches	Mid Sound Fisheries Enhancement Group	Accelerate the removal of shoreline armoring on private property in prioritized areas along the Central Puget Sound nearshore.	CHIN7.1	$911,900
4	2018-0877	Targeted stormwater retrofits to improve water quality and flow in WRIA 8 and 9 salmon habitat	Mid Sound Fisheries Enhancement Group	The objective is to install green infrastructure stormwater retrofits on private properties to reduce stormwater input of toxics, improve water quality, and improve stream flow in priority salmon habitat areas in the WRIA's 8 and 9.	CHIN7.1	$362,000
4	2018-0878	Lake Washington Green Shorelines retrofits	Mid Sound Fisheries Enhancement Group	Develop and implement projects to restore altered shorelines on private properties in Lake Washington.	CHIN7.1	$545,000
4	2018-0880	Soos Creek water quality and habitat restoration	Mid Sound Fisheries Enhancement Group	Identify, develop, and implement salmon habitat and water quality restoration projects in the Soos Creek basin, an important salmon tributary to the Green River. •	CHIN7.1	$990,000
4	2018-0884	Washington Sea Grant Crab Team	Washington Sea Grant	1. Early detection of European green crab to increase the ability to control populations and reduce impacts. 2. Build a long-term dataset on estuary fauna and habitat to improve the understanding of, restore and protect Washington's estuaries.	EST1.1	$920,000
4	2018-0886	Marine Shoreline Design Guidelines: Engineering Technical Assistance, Training & Outreach 2020-22	Department of Fish and Wildlife	Targeted workshops along with field reviews with WDFW engineers specializing in shoreline processes & bank protection will improve technical capacity of local staff, reduce unnecessary shoreline armor and improve decisions based on MSDG principles.	SA1.5	$200,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0893	Forage Fish Habitat Tidal Range	Department of Fish and Wildlife	This study will expand our understanding of forage fish spawning ecology by comparing the tidal range of spawning distributions and habitat conditions among variable-use beaches at multiple spatial scales to identify site-specific habitat requirements.	SA1.1, CHIN4.1	$270,000
4	2018-0897	Bear Creek in stream restoration	Mid Sound Fisheries Enhancement Group	Restore priority in stream rearing habitat for salmon in Bear Creek, a Sammamish River tributary.	CHIN7.1	$932,500
4	2018-0901	Curley Creek prioritized restoration	Mid Sound Fisheries Enhancement Group	Restore priority salmon habitat in Curley Creek - a stream in Kitsap County that drains into Puget Sound near Port Orchard. &#65533;	CHIN7.1	$625,000
4	2018-0905	Nooksack Watershed Habitat Viability Assessment and Effectiveness Monitoring	Nooksack Indian Tribe	The objective is to update and expand the Nooksack salmon habitat viability assessment (documenting habitat status and trends) and identify contribution of land use and restoration.	CHIN1.9	$50,000
4	2018-0906	WRIA 1 Salmonid Recovery Plan Update	Nooksack Indian Tribe	The objective of this NTA is to update the WRIA 1 Salmonid Recovery Plan to incorporate best available science and monitoring and adaptive management actions.	CHIN8.1	$200,000
4	2018-0928	Water Quality Infrastructure Prioritization	City of Bellingham	Create a prioritized list of stormwater upgrades and retrofits that will maximize the efficiency and effectiveness of the City of Bellingham's Stormwater Utility in its mission to protect and restore water quality in our streams, lakes, and marine waters.	CHIN4.2	$300,000
4	2018-0939	West Cemetery Creek Water Quality Improvements	City of Bellingham	This project will implement top prioritized solutions to address extensive sediment migration and flood risk within West Cemetery Creek, which will protect and restore natural processes in the Whatcom Creek corridor.	CHIN2.5	$541,752

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0953	Roadway retrofit to include swales to reduce untreated stormwater going directly into marine waters.	City of Port Townsend	This project will retrofit existing roadways to include swales to provide treatment for total suspended solids, which will improve the water quality of the stormwater flowing into our marine waters and will also increase stormwater infiltration.	TIF2.1	$300,000
4	2018-0955	Second and Pussyfoot Creeks Community Project	King Conservation District	This NTA extends a proven sub-basin targeted outreach and implementation model to two new priority sub-basins of WRIA 10. The project focuses on water quality and quantity, salmon habitat related, education, financial and technical assistance.	BIBI3.1, CHIN2.5	$347,000
4	2018-0957	Willowmoor Floodplain Restoration Project	King County Flood Control District	The Willowmoor Floodplain Restoration Project will reconfigure the Sammamish River at Marymoor Park and reconnect the adjacent floodplain in a manner that balances flood control, habitat restoration, recreational access, and on-going maintenance.	CHIN7.1	$13,900,000
4	2018-0959	Revegetating the Elwha	Lower Elwha Klallam Tribe	Two large, salmon-blocking dams were removed from the Elwha River resulting in conversion of 800 acres of reservoirs to floodplains. Further revegetation and weed control of those lands is needed to establish healthy riparian buffers.	CHIN7.1	$750,000
4	2018-0968	Strategic outreach to encourage owners of priority King County Land Conservation Initiative properties to enroll in PBRS/CUT	King County	Enrollment in King County's PBRS and CUT programs is mostly opportunistic. We propose to develop a process to prioritize parcels for enrollment and launch a targeted outreach effort that will contribute directly to the Land Conservation Initiative.	LDC3.1, LDC3.2	$500,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0970	Forest Management for Water and Climate Preparedness: assessing alternative forest actions individually and in aggregate for estimates of effectiveness in improving surface and groundwater management for salmon using future scenarios.	The Tulalip Tribes	Identify priority locations to store surface and groundwater in the Snohomish Basin and prioritize forest management actions to positively influence basin hydrology in support of salmon and treaty resources and to reduce flood and wildfire hazards.	CHIN2.3	$302,000
4	2018-0971	Farm and forest plan implementation and barriers to adopting best management practices.	King County	Farm and forest plans without implementation are of limited value and envisioned water quality and habitat benefits are not realized. We need to better understand whether management recommendations are implemented and, if not, identify key barriers.	CHIN1.2, CHIN1.6, LDC2.1	$375,000
4	2018-0977	Skokomish River USACE Project Support	Mason Conservation District	Complete 5 large scale ecosystem restoration actions in the Skokomish watershed through: 1) acquisition of property necessary for project implementation, 2) completion of final designs, and 3) construction.	CHIN7.1	$25,622,000
4	2018-0978	Skokomish Watershed LWD Treatments	Mason Conservation District	The objective of this NTA improve conditions for Chinook Salmon throughout the Skokomish Watershed by installing LWD structures to improve instream habitat conditions, and facilitate sediment storage, sediment processing, and normative channel patterns.	CHIN7.1	$10,487,000
4	2018-0979	Skokomish Watershed Restoration Project Development and Agricultural Coordination	Mason Conservation District	1) Develop 11 previously identified ecosystem restoration projects from feasibility through final design, and 2) Continue coordination with the agricultural community to identify and implement high priority best management practices.	CHIN7.1	$1,144,983

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
4	2018-0980	Vance Creek Watershed Restoration Assessment	Mason Conservation District	The objective of this NTA is to develop a comprehensive plan that has been vetted by the community, and informed by a comprehensive sediment budget and hydraulic model to restore ecological function to the lower 4 miles of Vance Creek.	CHIN7.1	$550,000
4	2018-0981	Dungeness Off-Channel Reservoir Land Acquisition	Clallam Conservation District	The objective is to acquire property from the DNR for construction of a large off-channel reservoir to store spring snowmelt and winter runoff for use as late summer irrigation in place of Dungeness River water diversions.	CHIN7.1	$2,500,000
4	2018-0982	Dungeness Off-Channel Reservoir Design and Permitting	Clallam Conservation District	The objective is to complete the final design, including permitting for a large off-channel reservoir to store spring snowmelt and winter runoff for use as late summer irrigation in place of Dungeness River water diversions.	CHIN7.1	$2,500,000

NEAR TERM ACTIONS

TABLE 4-1B. TIER 3 NEAR TERM ACTIONS

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0085	Green Shores for Home (GSH) Phase II - Implementation Phase	Washington Sea Grant	Protect and restore shoreline processes through implementation of Green Shores for Homes, a voluntary credit and rating program using technical guidance for shoreline processes, habitat, water quality, and stewardship consistent with SA3.1.	SA3.1	$450,000
3	2018-0087	Clallam County Ground Water Resources Program Development, Implementation, and Management	Clallam County	The objective: develop, implement, and manage a new Clallam County Ground Water (GW) Program to identify barriers and gaps, produce an on-line database, address climate change, and balance future GW needs with instream flows and summer flow needs.	CHIN2.1	$260,000
3	2018-0091	Oak Harbor Marina Stormwater Improvement Project	City of Oak Harbor	The project goal is to provide treatment for stormwater from an approximately 45,000 ft2 impervious parking area to reduce pollutants, such as metals, oil, bacteria, PAH's, and nutrients, entering Puget Sound.	TIF2.1, CHIN2.5	$1,272,000
3	2018-0093	Oak Harbor Marina Beach Soft Armoring Project	City of Oak Harbor	This project will consist of removing approx. 1900 linear feet of shoreline armoring (riprap, and rocks), and installing soft shore protection, which may include native plants, gravel, sand, logs, and root masses, and regrading to match a natural slope.	SA3.3, SA2.1	$848,000
3	2018-0096	Similk Bay Shoreline Armor Removal Project	Northwest Straits Foundation	Remove over 200 linear feet of shore armor; import 580 tons of beach nourishment material suitable for forage fish spawning; create riparian corridor to restore cross-shore connectivity; demonstrate armor removal to 50 shoreline property owners.	SA3.3, SA3.4	$130,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0097	Sustainable Lands Strategy Communication and Outreach	Department of Fish and Wildlife	Build a strategic communication & outreach program that enables partners, landowners & decisionmakers to understand the benefits of collaboration around landuse decisions in the floodplain/estuary to make agriculture, habitat, & communities more resilient	FP3.1, EST3.1	$175,000
3	2018-0102	Wiseman Creek Channel & Floodplain Restoration	Skagit River System Cooperative	This project seeks to design a long tern solution to solve the degradation and impediments to recovery along the once productive Wiseman Creek system in the Utopia District of the Skagit Middle River.	FP3.3	$2,300,000
3	2018-0106	Skagit River Ross Island Reach Restoration Acquisition Strategy	Skagit River System Cooperative	This project seeks to develop a strategy for a targeted decision support framework that helps guide an lands acquisition approach favoring large, complex restoration actions, involving multiple partners and a target rural community.	FP3.3	$300,000
3	2018-0113	South Fork Dogfish Creek Regional Stormwater Treatment Facility and Habitat Restoration, Construction Phase	City of Poulsbo	The South Fork Dogfish Creek (SFDC) project will construct a regional stormwater facility to reduce toxics loading and protect Liberty Bay shellfish resources, restore degraded stream and buffer habitat, and replace a fish barrier culvert.	TIF2.1, SHELL1.9, LDC3.3	$1,345,000
3	2018-0124	Stormwater Threats and Clean Water Strategies to Conserve and Recover Puget Sound Salmon and their Habitats	US Fish and Wildlife Service	This project will guide stormwater management and species conservation activities in urbanizing areas of Puget Sound. Our research will identify and assess stormwater impacts to salmon and their habitats and identify clean water solution strategies.	TIF2.1, CHIN4.8	$2,400,000
3	2018-0126	Advancing Sea Level Rise Adaptation: Developing Multi-benefit Projects with Vulnerable Neighborhoods	Friends of the San Juans	Phase two objectives: restore coastal processes and habitats by extending adaptation planning and design efforts to new priority sites at the neighborhood scale and advance a suite of multi-benefit habitat resiliency projects towards implementation.	SA3.3	$250,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0129	Financing Options for Healthy Onsite Sewage Systems (OSS)	Snohomish County	Improve water quality and upgrade or re-open shellfish beds in the Snohomish-Stillaguamish watershed through financial tools for OSS repair, replacement, and maintenance and through homeowner education on OSS operations and maintenance.	SHELL1.8	$675,000
3	2018-0134	Enhancing Lowland Anadromous Streams Using Beaver Dam Analogs (BDAs)	The Tulalip Tribes	Collaborate with various agencies to identify and address issues associated with degraded fish habitat by introducing in-stream, organic structures known as Beaver Dam Analogs (BDAs) throughout anadromous systems of the Snohomish-Stillaguamish Watershed.	CHIN7.1	$45,234
3	2018-0137	North Whidbey Island Water Quality Outreach & Best Management Practice Assistance	Whidbey Island Conservation District	To encourage and support water quality best management practice implementation on private properties within North Whidbey Island watersheds.	BIBI3.1	$100,000
3	2018-0139	Lower Big Quilcene River Multiple Benefits Restoration and Protection Project	Hood Canal Salmon Enhancement Group	1) Complete a multiple benefit restoration design in the Lower Mile and Moon Valley reaches. 2) Protection of key floodplain parcels located within the Lower Mile and Moon Valley reaches. 3) Permits. 4) Pre and Post Construction/Restoration Actions.	FP3.3, EST3.3, CHIN7.1	$30,000,000
3	2018-0141	Data Gap Assessment - Vegetated Land Cover, including Pocket Estuary Habitat	North Olympic Peninsula Resource Conservation and Development Council	This NTA will fill a significant data gap by analyzing map data for historic, current, and future risks to loss of forest, farm, and estuary habitat on the North Olympic Peninsula. It will align partners to strategically prioritize and protect key lands.	LDC1.1	$180,000
3	2018-0143	SMP Effectiveness: North Olympic Peninsula	Clallam County	Improve effectiveness of Shoreline Master Programs (SMP). Use No Net Loss indicators to assess indicators' effectiveness to protect shoreline functions; assess development for compliance with SMP; determine policy and regulation improvements for two SMPs.	SA2.2	$400,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0146	A Multi-Benefit Restoration of the Lower Duckabush River and Estuary	Hood Canal Salmon Enhancement Group	Restoration planning, design and construction. Restore up to 10 acres of tidal connectivity to support summer chum, Chinook. Reduce high flood risk through conservation of up to 50 acres. Realign HWY 101 bridge for restoration and public safety purposes.	EST3.3, CHIN7.1	$90,544,000
3	2018-0148	Improving fish passage at the Ballard Locks to reduce mortality and ensure local and regional investment in habitat protection and restoration	WRIA 8 Lead Entity	Implement critical repairs and upgrades to the Hiram M. Chittenden (aka, Ballard) Locks to improve fish passage and survival for threatened salmon populations in the Lake Washington/Cedar/ Sammamish Watershed.	CHIN3.2	$5,450,000
3	2018-0152	Enhanced OSS in Clallam County's MRA Phase 2	Clallam County	Enhance Clallam County's OSS program in the MRA to upgrade harvestable shellfish beds, inventory all OSS for inspection, fix failing OSS, educate OSS owners, update the OSS Management Plan, and seek stable funding.	SHELL1.6, SHELL1.8	$240,000
3	2018-0153	Clallam County Enhanced PIC Phase 2	Clallam County	Decrease bacteria entering marine waters from upland sources by correcting non-point pollution sources. Improved water quality should decrease adverse human health impacts and increase commercial and recreational shellfish harvest opportunities.	SHELL1.11	$225,000
3	2018-0157	Conservation Reserve Enhancement Program (CREP) Expansion	State Conservation Commission	This NTA will expand the Conservation Reserve Enhancement Program (CREP) by identifying and addressing landowner barriers to participation through execution of three pilot projects.	BIBI3.1	$900,000
3	2018-0158	Puget Sound Livestock Stewardship for Shellfish	State Conservation Commission	Conservation Districts will work with partners to focus efforts in identified high priority shellfish growing area watersheds through education, technical assistance, and incentives to livestock owners to address and prevent fecal coliform pollution.	SHELL1.4	$2,125,000

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3	2018-0161	Cedar River Riparian Restoration and Stewardship	King County	This project will implement comprehensive restoration and stewardship activities in public and private riparian areas of the Cedar River through natural regeneration and planting of native trees/ vegetation.	LDC3.3	$300,000
3	2018-0162	Upper Snoqualmie River Riparian Restoration and Stewardship	King County	This project will implement comprehensive restoration and stewardship activities in public and private riparian areas of the Upper Snoqualmie River (above Snoqualmie Falls) through natural regeneration and planting of native trees/vegetation.	LDC3.3	$330,000
3	2018-0163	Puget Sound Estuary Restoration Resource Guide & Web Platform	Department of Fish and Wildlife	The objective of this NTA is to assemble best available science and lessons learned from large scale estuary restoration projects to support improved future restoration outcomes like improved efficiency, predictive outcomes, & stakeholder coordination.	EST1.5	$275,000
3	2018-0167	North Sound Riparian Modeling and Monitoring	Skagit River System Cooperative	To generate empirical, geo-spatial data, using high-resolution LiDAR, for evaluating the effectiveness of protection and restoration efforts in the North Sound, and draw clear conclusions to advance the effectiveness of habitat improvement.	CHIN1.3, CHIN1.5, LDC1.1	$344,792
3	2018-0168	Priority Landowner Outreach and Pilot Project Implementation for Multiple Benefits on the Dungeness River Delta	Jamestown S'Klallam Tribe	This action will reduce or remove stressors associated with shoreline armoring and water quality degradation along approximately 3 km of marine shoreline in the Strait Action Area, while also reducing flood risk. The action will also "tee up" future work	SA3.1	$120,800
3	2018-0170	Point Wilson Shoreline Restoration Planning and Design	Washington Sea Grant	This action aims to build partnerships and initiate the design of a large-scale shoreline restoration on the north side of Point Wilson in Fort Worden State Park in order to prevent ~100 feet of new armor, and eventually remove ~1300 ft of existing armor	SA3.3	$240,000

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3	2018-0182	Water Quality Focused Street Sweeping Program	City of Olympia	Expand an existing limited street sweeping program to city-wide with deliberate focus on water quality to reduce pollutants released to surface waters. GIS-based analysis will direct development and implementation of optimal sweeper operating procedures	BIBI1.1	$816,286
3	2018-0187	Barrier Spit and Associated Coastal Wetland Dynamics	Coastal Geologic Services, Inc.	Geormorphic change to barrier beach (large spit) complexes will be analyzed to document trends in erosion, accretion, habitats, and sea level rise and climate change impacts	SA1.3, CHIN5.1	$240,000
3	2018-0191	Lower Deschutes Habitat Acquisition	Capitol Land Trust	The objective of this proposal is to protect, through fee acquisition, approximately 33 acres of property along the Deschutes River. The property is owned by one landowner who is supportive of selling his property for conservation purposes.	CHIN7.1	$250,000
3	2018-0192	Puyallup Watershed Ecosystem Recovery Plan - Phases II and III	Puyallup River Watershed Council	To coordinate and lead a watershed scale approach to ecosystem recovery through the development and implementation of a Puyallup-White River Watershed (WRIA 10) Ecosystem Recovery Plan, a web based tool, outreach strategy, and project prioritization.	BIBI5.1	$103,500
3	2018-0193	Urban and Rural Residential Forest Health Management and Stewardship to reduce Stormwater Runoff impacts to Puget Sound	Department of Natural Resources	Increase capacity to manage stormwater runoff and improve stream health reducing toxics from developed areas across the landscape. Invest in the health of community trees and natural areas as green infrastructure that provides multiple co-benefits.	TIF2.1, LDC3.3	$745,728
3	2018-0194	Union Avenue Water Quality Retrofit	City of Olympia	This project will design and construct a stormwater treatment facility to treat runoff from an approximately 72-acre urban basin tributary to Moxlie Creek in Olympia.	TIF2.1, CHIN2.5, SHELL1.9	$600,000

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3	2018-0195	Brawne Avenue Basin Water Quality Retrofit	City of Olympia	This project would design and construct a stormwater treatment facility to treat runoff from an approximately 45-acre basin.	TIF2.1, CHIN2.5, SHELL1.9	$800,000
3	2018-0197	Martin Way at Mary Elder Water Quality Retrofit	City of Olympia	Design and construct a storwater treatment facility to treat runoff from approximately 140 acres of commercial property tributary to Woodard Creek.	TIF2.1, CHIN2.5, SHELL1.9	$550,000
3	2018-0198	Plum Street Water Quality Retrofit	City of Olympia	Design and construct stormwater treatment facilities for runoff from approximately 42 acres tributary to Moxlie Creek and Budd Inlet.	TIF2.1, CHIN2.5, SHELL1.9	$800,000
3	2018-0199	Fones Road Bioretention Retrofit	City of Olympia	This project will design and construct a bioretention facility to provide water quality treatment for runoff from approximately 10 acres at Pacific Avenue and Fones Road tributary to Woodard Creek.	TIF2.1, CHIN2.5, SHELL1.9	$350,000
3	2018-0202	Clallam County TMDL Pre-Assessment	Clallam County	Coordinate monitoring of Clallam County 303(d) Impaired waters to: 1) de-prioritize segments which are no longer Impaired, 2) identify additional segments needing remediation, and 3) highlight lands where protection would best protect water quality.	LDC1.1	$250,000
3	2018-0203	Lower Ohop Creek and Floodplain Protection and Restoration	Nisqually Land Trust	1: Permanently protect an additional 200 acres in the Lower Ohop Valley through fee acquisition and conservation easements. 2: Develop preliminary project designs for next phase of the Lower Ohop Creek realignment and floodplain restoration.	CHIN7.1	$950,000
3	2018-0204	Assess impacts and develop strategies to reduce impacts from forestry on freshwater quality	King County	The objective is to assess impacts of working forests on freshwater quality and the B-IBI indicator, and identify possible strategies to minimize the effects. This will guide the PSP B-IBI Implementation Strategy for working forest lands.	BIBI4.1	$97,920

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3	2018-0205	Shore Stewards	Washington State University Extension	The Shore Stewards program protects and improves water quality and shoreline function by using social marketing strategies to educate and motivate shoreline residents and businesses to make sound home and landscape management decisions.	SHELL1.6, SA3.1	$1,048,310
3	2018-0213	Stillaguamish Estuary Habitat and Chinook Resilience Project (Part I)	The Nature Conservancy	TNC will address adaptive management options to enhance estuarine processes and functions in the Stillaguamish estuary. Restoration will increase marsh channel connectivity for salmon, and improve freshwater delivery for bay-wide marsh resilience.	EST3.3	$1,192,920
3	2018-0221	Clallam County Stormwater Management Plan, Regulations, and Outreach	Clallam County	The objective for Clallam Co. is to have a workable, comprehensive, updated Stormwater Management Plan and fiscally and politically sustainable program that includes a stormwater strategy, regulations, staff and engineer training, and citizen outreach.	BIBI1.1	$173,630
3	2018-0223	Clallam County Seawater Intrusion Assessment, Planning, and Implementation	Clallam County	To obtain information on the extent of seawater intrusion along the Clallam Co. coast; identify seawater intrusion susceptible lands; use data to plan/develop policies/programs to protect ecosystems through acquisition and TDR of these susceptible areas.	LDC1.3	$165,500
3	2018-0224	Daylighting Brookhaven Creek: Feasibility Study	City of Langley	Langley is seeking funding to conduct a feasibility study to evaluate the potential of daylighting an approximate 170+/- foot section of Brookhaven Creek through Thomas Hladkey Park and increase awareness on stormwater drainage to the Puget Sound.	SHELL1.9, TIF2.1, CHIN2.5	$30,000
3	2018-0225	King County Shoreline Armor Monitoring	Department of Ecology	This project will characterize armor and intertidal habitat along King County marine shorelines. Data will be used to set armor reduction targets, prioritize restoration efforts, and monitor shorelines. It aims to address a nearshore monitoring data gap.	SA1.1, SA2.2, SA3.3	$198,000

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3	2018-0227	A Guide to Streamside Living	Hood Canal Salmon Enhancement Group	Promote protection of riparian habitat, benefiting salmon and reducing invasive weeds; Increase use of BMPs among landowners, contractors to reduce impacts of development & stormwater; Raise awareness of regulations and improve compliance.	CHIN1.10, BIBI3.1	$29,500
3	2018-0228	WRIA 1 Integrated Monitoring and Centralized Data Management System	Public Utility District No. 1 of Whatcom County	Establish and implement an integrated monitoring program that includes priority habitat, water quality, water quantity, stream flow, and land development/ land cover elements to inform adaptive management of management solutions in WRIA 1 recovery plans.	CHIN4.11, LDC3.4	$1,603,845
3	2018-0236	Skagit County Compliance Assurance Program	Department of Health	WSDOH and Skagit County plan to expand the PIC Program into the S. Skagit Bay area, and enhance work in the Samish and Padilla areas, including added source ID investigation, accelerated property assessments, and identification of septic system failures.	SHELL1.3, SHELL1.9, SHELL1.10	$745,412
3	2018-0248	Skykomish River Riparian Restoration and Stewardship	King County	This project will implement comprehensive restoration and stewardship activities in public and private riparian areas of the south fork Snoqualmie River through natural regeneration and planting of native trees/vegetation.	LDC3.3	$240,000
3	2018-0249	North Fork Stillaguamish Integrated Floodplain Management	Snohomish County	Identify opportunties in the North Fork of the Stillaguamish to advance salmon and ecosystem recovery priorities that can accommodate multiple land uses (agriculture, flood storage). This would complete integrated floodplain management in the county.	FP2.1	$100,000
3	2018-0250	Aquatic Habitat Restoration Program	City of Seattle	1) Increase aquatic habitat quantity and quality impacted by urban drainage; 2) Reconnect channels to floodplains to address priority urban sediment & water quality issues; 3) Provide incentives to implement restoration measures in streams and floodplains.	LDC3.3	$1,200,000

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3	2018-0253	Riparian Forest Enhancement and Restoration in Seattle's Salmon Bearing Creek Watersheds	City of Seattle	1. Restore riparian canopy conifer cover for improved salmon habitat and water quality. 2. Increase riparian habitat quantity and quality for multiple benefits within salmon bearing urban watersheds. 3. Decrease invasive species in riparian habitats	LDC3.3	$552,000
3	2018-0254	Puget Sound Spill Kit Program	ECOSS	ECOSS will provide education, training and technical assistance on stormwater management among business owners, managers, and employees and assist businesses to implement best management practices for stormwater pollution.	TIF1.1	$125,000
3	2018-0255	Enhanced OSS in Clallam County's MRA Phase 3	Clallam County	Enhance Clallam County's OSS program in the MRA to upgrade harvestable shellfish beds, inventory all OSS for inspection, fix failing OSS, educate OSS owners, update the OSS Management Plan, and seek stable funding.	SHELL1.6, SHELL1.8	$240,000
3	2018-0256	Surface Water Incentive Program	Snohomish County	The NTA proposal will expand the Surface Water Incentive program for Surface Water	CHIN2.5, CHIN2.6	$655,758
3	2018-0257	Clallam County Enhanced PIC Phase 3	Clallam County	Decrease bacteria entering marine waters from upland sources by correcting non-point pollution sources. Improved water quality should decrease adverse human health impacts and increase commercial and recreational shellfish harvest opportunities.	SHELL1.11	$225,000
3	2018-0260	South Fork Skokomish Fish Passage Improvement	Mason Conservation District	Select a preferred alternative and develop a final design to improve anadromous access to over 23 miles of mapped Chinook habitat in the upper South Fork of the Skokomish River.	CHIN7.1	$369,000

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3	2018-0267	Increase Approved Shellfish Acreage Through Expanded On-site Sewage (OSS) System Management in King County Required by RCW 70.118A	King County	Expand on-site sewage system (OSS) management in King County. Effectively manage, identify, and eliminate OSS pollution. Update database with OSS design features, location, and inspection status in sensitive areas that have impacted water quality.	SHELL1.6	$8,000,000
3	2018-0275	Ostrich Bay Creek Stormwater Treatment Retrofit Construction	City of Bremerton	Install Ecology approved stormwater treatment systems to treat runoff from 6.31 acres of urban roadway and parking lots and 8.15 acres of pervious surface to improve water quality entering Ostrich Creek, currently posted for "No Contact" due to pollution.	SHELL1.9, TIF2.1, SHELL1.10	$950,000
3	2018-0276	Re-Tree Snohomish County and Camano Island!	Snohomish Conservation District	Improve water quality and increase hydrologic resilience to climate change by providing one million native plants to landowners within the County (and Camano Is.) by 2025 through offering a Free Trees program combined with existing SCD habitat programs.	CHIN2.5	$255,000
3	2018-0279	Puget Sound Stream Thermalscape	US Geological Survey	A high-resolution statistical model of temperature for streams draining into Puget Sound will be developed to provide managers information about the spatial extent and connectivity of temperatures that can support salmon and other aquatic species.	CHIN4.3, CHIN5.1	$250,000
3	2018-0280	Stream-type Yearling Chinook Study in the Snoqualmie River	Snoqualmie Watershed Forum	This NTA would evaluate juvenile yearling Chinook habitat use and distribution across the lower Snoqualmie River watershed. Juvenile Chinook surveys will be conducted across channel types, habitat types, seasons, and day/night periods.	CHIN4.5	$90,000

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3	2018-0281	Puget Sound Conservation Districts Engineering Support for Habitat Restoration	State Conservation Commission	The objective of this NTA is to expand the capacity of the Puget Sound Conservation Districts (PSCD) to provide engineering support to private landowners, non-profits, tribal and government agencies for implementing NTAs related to habitat restoration.	EST3.3, SA3.3	$385,000
3	2018-0283	Nisqually Nearshore Habitat Protection and Restoration - Anderson and Ketron Islands	Nisqually Land Trust	1: Permanently protect 78 acres of nearshore, wetland and forested upland along South Oro Bay on Anderson Island. 2: Develop nearshore habitat restoration plan for South Oro Bay. 3: Permanently protect 70 acres on Ketron Island.	CHIN7.1	$2,975,000
3	2018-0284	Whitewater Reach - Nisqually River Protection and Restoration	Nisqually Land Trust	Permanently protect an additional 50 acres along the Whitewater Reach of the Nisqually River.	CHIN7.1	$360,000
3	2018-0285	McKenna Reach - Nisqually River Protection and Restoration	Nisqually Land Trust	1: Permanently protect up to 100 acres along the McKenna Reach of the Nisqually River. 2: Develop plans for floodplain and off-channel habitat restoration. 3: Restore native forest across 40 acres of floodplain and riparian habitat.	CHIN7.1	$750,000
3	2018-0293	Building Green Cities, Phase 2	Department of Commerce	Determine what incentives (outlined in WA Commerce's Building Green Cities Guidance document) work best to persuade developers to include non-mandatory LID practices in urban growth center redevelopment projects in pilot jurisdictions.	BIBI1.1	$360,000
3	2018-0295	Investigation of nutrients, phytoplankton and food web interactions in the Eastern Strait of Juan de Fuca and Admiralty Inlet	Jamestown S'Klallam Tribe	Understand how the prevalence of harmful algal blooms (HABs) and phytoplankton at the base of the food web impact salmon survival.	CHIN4.7, CHIN2.5, SHELL1.14	$240,000

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3	2018-0304	Comprehensive Fish Passage Assessment of 4 high priority subbasins	King County	The primary objective is to undertake comprehensive fish passage assessments in four high priority creek systems in order to be able to strategically repair fish passage barriers that will maximize access to existing salmonid habitat for the least cost.	LDC1.1	$200,000
3	2018-0306	30% Design of Priority Estuary Restoration Projects in the West Central Action Area	Kitsap County	To implement four high priority barrier/pocket estuary restoration projects (Tier 1), identified by the "West Sound Nearshore Integration and Synthesis of Chinook Salmon Recovery Priorities" report using a phased feasibility and design approach.	SA3.3, CHIN7.1	$875,000
3	2018-0310	Agricultural BMP Implementation Program	King County	The objective of this NTA is reduce non-point pollution from rural lands by developing a cooperative multi-agency partnership focused on data analysis, match funding, technical assistance and enforcement.	BIBI3.1	$250,000
3	2018-0311	Green Stormwater Infrastructure Incentive Program for Unincorporated Areas	King County	Establish a SWM-funded incentive program to encourage unincorporated private property owners to install GSI BMPs on their property in order to more effectively manage stormwater and engage the public on the benefits of each project.	TIF2.1	$250,000
3	2018-0312	Flow Monitoring in MS4	King County	Monitor King County's Municipal Separate Storm Sewer System for flow and turbidity to increase accuracy of current modeled catchments. Install equipment to track flow to prioritize drainage areas and assist with the elimination of dry weather flows.	TIF2.1	$150,000
3	2018-0316	Characterization of novel contaminants, including a suite of chemicals of emerging concern (CECs), in salmon rearing and spawning habitats	King County	Characterize CEC concentrations in salmon rearing/ spawning habitat to understand their potential to impact salmon and understand how CECs reach surface waters. Limited CEC data are available to evaluate impacts to salmon.	CHIN4.2	$453,000

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3	2018-0324	Coupeville outfall study	Town of Coupeville	The objective of this project is to study the feasibility of adding stormwater treatment facilities at one or more of the eight stormwater outfalls within the town limits of Coupeville.	CHIN2.5, SHELL1.9	$49,000
3	2018-0325	Dungeness Feeder Bluff Conservation	Coastal Watershed Institute	Conserve unarmored feeder bluff shorelines in the Dungeness Drift cell by purchasing bluff edge parcels, relocating homes landward and purchasing conservation easements on unarmored parcels. Monitor shoreline and provide education, technical assistance a	CHIN7.1, SA3.2, LDC3.1	$10,000,000
3	2018-0326	Penn Cove Water Quality Improvement -Coupeville Sewer Extension	Town of Coupeville	Extend the Town of Coupeville sewer line to include the waterfront homes along Parker Road in Coupeville, WA to improve water quality in Penn Cove.	SHELL1.9, CHIN2.5, SHELL1.6	$1,250,000
3	2018-0327	Puget Sound Critical Areas Monitoring and Adaptive Management Program	Department of Commerce	State agencies will technically assist local governments with monitoring the effectiveness of their critical areas regulations and adaptively managing their permitting programs under the Growth Management Act (GMA) and Shoreline Management Act (SMA).	LDC1.4	$195,000
3	2018-0329	Elwha River Estuary/ Nearshore/Drift Cell Conservation and Restoration	Coastal Watershed Institute	Conserve estuary and nearshore of the Elwha River by working with willing landowners to purchase properties and secure conservation easements that prohibit shoreline armor. Restore estuary and shoreline by removing nearshore process impeding armor.	EST3.3, CHIN7.1, SA3.3	$6,000,000
3	2018-0330	Catchment Wide Ditch Maintenance Retrofit Project	King County	This proposal is the second phase of a previously funded NTA. This project would be implementing recommendations for ditch maintenance strategies at a catchment scale to determine environmental impact related to water quality and flow control.	BIBI5.1	$250,000

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3	2018-0334	Stormwater Treatment Retrofits for Eastsound UGA	San Juan County	The goal of this NTA is to construct additional stormwater treatment systems in the Eastsound UGA. Eastsound is the most urbanized location in San Juan County's jurisdiction.	TIF2.1	$254,200
3	2018-0340	Estimate of Nooksack Chinook HOS and NOS Productivity from Smolt Trap Catch Analysis	Lummi Indian Business Council	Estimate the number of Nooksack Early Chinook by origin and stock as they emigrate past a point at the upper limit of the tide in the Nooksack River	CHIN4.3, CHIN4.4, CHIN4.5	$507,000
3	2018-0342	Ferry Landing Stormwater Treatment Improvements	San Juan County	Design and construct treatment for existing combined municipal and ferry landing stormwater discharges that currently receive insufficient treatment prior to discharge into near shore areas and in order to prevent nearshore water quality degradation.	TIF2.1	$2,100,000
3	2018-0343	Deschutes River Mile 21 Large Wood & Riparian Planting Implementation	South Puget Sound Salmon Enhancement Group	This construction project seeks to implement 2015 Deschutes River TMDL riparian and channel restoration actions by increasing habitat complexity and riparian cover to a 1,000 linear foot reach by installing large wood structures and planting 12 acres.	CHIN7.1	$614,000
3	2018-0344	Deschutes River Mile 33 Large Wood Installation	South Puget Sound Salmon Enhancement Group	This habitat restoration project seeks to add habitat complexity to a high priority reach of the mainstem Deschutes River by installing approximately 250 pieces of wood to a 1,500 foot reach implementing TMDL recommendations.	FP3.3, LDC3.3, SHELL1.10	$750,000
3	2018-0345	Budd Inlet Tributaries Fish Passage Implementation Project	South Puget Sound Salmon Enhancement Group	The objective of this project is to remove three fish passage barriers to two major tributaries to Budd Inlet: Gull Harbor (Boston Harbor Road) and Ellis Creek (Gull Harbor Road & 33rd). The Gull Harbor Culvert Replacement is fully designed.	EST3.3, FP3.3, SA3.3	$3,927,000

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3	2018-0346	Radio Tag Evaluation of Survival, and Migration of Adult Early Chinook in the Nooksack River	Lummi Indian Business Council	Determine the survival rate, migration timing and behavior of hatchery and natural Nooksack Early Chinook from the delta to the spawning grounds to evaluate selective fisheries, habitat use, and behavioral differences between stocks and origins.	CHIN4.4, CHIN4.3	$485,724
3	2018-0355	Our Green/Duwamish Watershed Wide Stormwater Strategy	King County	Build and implement a watershed-wide stormwater plan collaboratively with Green/Duwamish watershed partners to protect and improve water quality.	BIBI5.1, BIBI1.1	$375,000
3	2018-0359	Groundwater Availability for Summer Low Flows	US Geological Survey	Current/future monthly groundwater budgets of recharge, water use, and groundwater discharge are calculated for subbasins in the Puget Sound lowland. Budgets are compared to surface-water withdrawals and streamflows to identify summer low flow resilience.	CHIN2.1, CHIN2.2	$27,500
3	2018-0360	Thurston Shellfish Growing Areas OSS Pollution Prevention	Thurston County	Prevent fecal coliform contamination of important shellfish growing areas by ensuring that all onsite sewage systems are functioning properly. Protect growing areas in Eld & Totten Inlets which have threatened or concerned stations & open acres in Budd.	SHELL1.6	$1,037,107
3	2018-0369	Jakeway Creek Forest, Farm and Fish	Jefferson Land Trust	The objective of this project is to preserve nearly 150 acres of fish, farm and forest habitat at the head of Quilcene Bay in Jefferson County, Washington.	EST3.2, FP2.1, BIBI4.1	$1,750,000
3	2018-0372	Green Stormwater Infrastructure for Faith Based Organizations	City of Seattle	New program to replace impervious surfaces with pervious surfaces or bioretention at faith-based organizations.	TIF1.1	$2,000,000
3	2018-0375	Green Stormwater Infrastructure in Urban Villages	City of Seattle	Implement green stormwater infrastructure (GSI) retrofits in Urban Villages to reduce stormwater flows and improve water quality, while contributing to livability in dense, mixed-use neighborhoods by adding green and amenity space.	TIF1.1	$40,000,000

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3	2018-0377	Estimation of Hatchery Origin and Natural Origin early Chinook on Nooksack Spawning Grounds	Lummi Indian Business Council	Improve Spawning Ground Estimates of Nooksack Early Chinook Salmon by stock and origin and location and for evaluation of spawning success.	CHIN4.3, CHIN4.4, CHIN4.6	$871,200
3	2018-0378	Predation by Resident Chinook and Coho in Puget Sound	US Geological Survey	Estimate growth & predation by resident Chinook & Coho salmon on juvenile Chinook. Estimate artificial light pollution impacts on predation on juvenile Chinook. Determine the benefit of incremental reductions in light pollution on predation.	CHIN3.2	$386,897
3	2018-0380	Accelerating Riparian Restoration in Thurston County	Thurston County	1. Improve water quality by increasing restoration of degraded riparian areas. 2. Improve freshwater habitat conditions. 3. Understand and reduce the barriers (financial, technical, regulatory, social) to riparian restoration on private land.	LDC3.1, BIBI2.1, LDC3.3	$555,000
3	2018-0384	Hood Canal Steelhead Recovery Plan Development	Hood Canal Coordinating Council	To restore, protect, and maintain healthy, native, diverse, and harvestable natural and hatchery steelhead populations in the Hood Canal watershed by developing a plan to guide implementation of recovery efforts.	CHIN8.1	$150,000
3	2018-0385	Mid-Hood Canal Chinook Salmon Recovery Strategy	Hood Canal Coordinating Council	Identify and develop the necessary strategies and actions for the recovery of mid-Hood Canal Chinook salmon. Provide a forum to review the most current research and thinking on mid-Hood Canal Chinook to advance policy and technical decision making.	CHIN8.1	$175,000
3	2018-0386	Hood Canal Shellfish Initiative	Hood Canal Coordinating Council	Develop and implement actionable work plan for HCCC and its partners to collaboratively support Hood Canal shellfish resources, including sustainable production, recreational and subsistence harvest, native species, and the local shellfish community.	SHELL1.1, EST2.1, SHELL1.13	$120,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0387	HCCC Integrated Watershed Plan-Adaptive Management and Monitoring	Hood Canal Coordinating Council	Adaptively manage Integrated Watershed Plan (IWP) strategic priorities for the HCCC to implement and to guide Hood Canal regional actions that advance our shared vision for a healthy Hood Canal.	LDC3.4, EST3.4, FP3.4	$160,000
3	2018-0390	Stewart Road Bridge	City of Sumner	Replacing Stewart Road Bridge will remove a restriction to channel migration and allow for flows to spread out, reducing velocity, increasing the usage of habitat below the bridge while allowing large woody debris recruitment downstream.	FP3.3	$35,000,000
3	2018-0395	Kingston Recycled Water Feasibility Study	Kitsap County	The objectives of this action are to evaluate and quantify the elements of a project that will eliminate or greatly reduce the discharge of treated wastewater into Puget Sound, via the production of recycled water for beneficial uses in the vicinity.	CHIN2.1, CHIN2.5, SHELL1.9	$425,000
3	2018-0396	Tolt River Upper Frew Floodplain Reconnection Feasibility/Design	King County Flood Control District	1) Remove 2,500 feet of shoreline armoring (levee) and set it back. 2) Reconnect 23 acres of historic floodplain habitat.	FP3.3	$3,400,000
3	2018-0398	Makah Hake Plant Above Ground Storage Tank Clean Up	Makah Tribe	Conduct remediation of all contaminated materials from the Hake Plant Tank Brownfields site that are threatening the health of harvestable shellfish beds within the Strait of Juan de Fuca via stormwater runoff.	SHELL1.1, TIF3.1	$214,423
3	2018-0399	Integrated Hydraulic and Hydrologic Modeling in the Snohomish River and Stillaguamish River Watersheds	Snohomish County	Perform regional hydrologic modeling of future scenarios related to climate change in the Snohomish River and Stillaguamish River watersheds. Develop 2-D hydraulic models for the Snohomish and Stillaguamish Rivers for both existing and future conditions.	FP1.3, FP1.1	$713,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0403	Municipal Stormwater Pollution Accountability Project	Puget Soundkeeper Alliance	Reduce municipal stormwater pollution to Puget Sound by using education, outreach, recognition & accountability to increase compliance with permits' mandate to make Low Impact Development (LID) the preferred & commonly used approach to development.	LDC2.2, LDC3.1	$200,000
3	2018-0404	Strait NTA Implementation Assistance: A Pilot Action	Strait and Sound Environmental, Inc.	To help resolve recovery barriers: "Inadequate & unreliable funding" (Leadership Council); "Limited staff capacity to implement actions" & "Lack of reliable & sufficient action implementation funding" (Strait ERN LIO Ecosystem Protection & Recovery Plan).	FUND1.2	$372,400
3	2018-0411	Effects of PCB exposure on juvenile Chinook salmon survival.	WRIA 9 Lead Entity	Establish foundational assumptions for Puget Sound salmon chemical effect threshold development and apply them to develop a PCB tissue effects threshold for evaluation of juvenile salmon health and survival in the Duwamish estuary.	CHIN4.2	$90,000
3	2018-0418	Puget Sound Conservation Districts: Regional Shoreline Program Expansion	Puget Sound Conservation Districts Caucus	This action reduces armor demand & protects nearshore habitat/processes. 12 Puget Sound Conservation Districts establish a regional network of shoreline assistance with outreach, site assessments, design, and cost-share incentives for 400+ landowners.	SA3.1	$1,913,166
3	2018-0422	Transboundary Water Quality Coordination	Whatcom County	Coordinate and implement transboundary work between US and Canadian partners to reduce fecal coliform bacteria levels in surface waters and upgrade impaired shellfish growing areas in Portage Bay and Drayton Harbor.	SHELL1.11	$590,000
3	2018-0426	Knotweed Biocontrol in the Samish/Skagit River Floodplain	Skagit County Noxious Weed Control Board	Increase the function of the Samish/Skagit floodplain by establishing a biological control agent for invasive knotweed in order to collect efficacy and environmental data that can be analyzed and used in other infested Puget Sound watersheds.	FP3.4, CHIN7.1	$43,072

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0427	Addressing Ocean Acidification in Washington: Monitoring, Forecasting, Biological Response Experiments, and Regional Coordination	University of Washington	The Washington Ocean Acidification Center serves the entire state to advance the science of ocean acidification and provide a foundation for proactive strategies and policies to protect marine ecosystems and the people connected to them.	SHELL1.16	$350,000
3	2018-0434	Koch Creek Regional Stormwater facility	Kitsap County	The objective of this project is to enlarge an existing stormwater pond to capture water from 53 acres of drainage to prevent flooding and downstream erosion.	TIF2.1	$850,000
3	2018-0440	Uncertainty Fellow - Addressing priority analysis gaps in support of the development and execution of Implementation Strategies	University of Washington Tacoma	To resolve key uncertainties through the focused analysis of existing data and information in support of the development and execution of Implementation Strategies	FP3.4, TIF5.1, EST3.4	$108,641
3	2018-0444	Determining seasonality in nutrient cycling, organic-matter mineralization, alkalinity fluxes, and oxygen consumption rates in Puget Sound sediments.	Department of Ecology	Determining seasonality in nutrient cycling, organic-matter mineralization, alkalinity fluxes, and oxygen consumption rates in sediments to evaluate Salish Sea Model, support PS Nutrient Source Reduction Project, and address excess nutrient loading in PS.	CHIN2.5	$171,454
3	2018-0445	Making a comprehensive set of stream biological metrics publically available.	Department of Ecology	1) Report a comprehensive suite of stream biological metrics for invertebrates, periphyton, and aquatic vertebrates. 2) Make results available to the public by Internet 3) Report calculation methods in a Metric Dictionary. 4) Provide public training.	BIBI3.1, BIBI1.1	$339,941

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0446	The Beach Environmental Assessment, Communication, and Health (BEACH) Program Bacterial Assessment at Recreational Swim and Shellfish Beaches	Department of Ecology	Maintain and improve bacterial water quality at select recreational shellfish beaches by identifying beaches with increasing bacterial levels and working with PIC programs, DOH, local Tribal Nations, and LHJs to identify and remediate bacterial sources.	SHELL1.9	$180,000
3	2018-0448	Respiration measurements in the Salish Sea	Department of Ecology	Data collection for this project takes advantage of boat cruises for an existing funded study, at which samples will be collected to measure organic carbon oxidation rates in up to 20 sites around Puget Sound at an average of 10 locations per month.	CHIN2.5	$88,300
3	2018-0449	Implement salmon habitat recovery in Quartermaster Harbor	Department of Natural Resources	Improve critical salmon and herring habitat through the assessment of eelgrass growing conditions, common stressors and environmental variables in Quartermaster Harbor, an area with known water quality degradation.	CHIN4.8	$450,000
3	2018-0452	Steamboat Slough Invasive Cattail Control	Department of Fish and Wildlife	Improve the quality of salmonid rearing habitat in the Skagit River estuary by increasing the quantity and diversity of native vegetation at Steamboat Slough by 454 acres through the removal invasive cattail.	CHIN7.1, EST3.3	$996,300
3	2018-0454	Latino Stormwater Pollution Awareness and Behavior Change Campaign - Phase 2	Washington State University Extension	Improve water quality conditions in additional Snohomish and north King County impaired streams and lakes, by scaling up a social marketing and behavior change Latino audience campaign that will reduce stormwater pollution, including toxics.	TIF1.1, BIBI2.1	$604,800

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0460	Novel and Emerging Contaminant Detection and Source Identification in Water, Fish and Shellfish	University of Washington Tacoma	Our objective is to identify sources and apportion pollutant loads from stormwater by surveying Puget Sound water, fish, and shellfish for legacy and emerging contaminants, especially those that are toxic and widespread, while detecting source signatures.	TIF2.1	$241,937
3	2018-0467	Comprehensive, Easy-to-Use Site Productivity Map for Puget Sound Basin	Department of Fish and Wildlife	Create on-line site index maps to help land owners and local governments determine the widths of riparian management zones. Local governments would adopt this internet site as part of their critical area ordinances that protect riparian areas.	CHIN1.5, LDC3.3	$259,200
3	2018-0470	Fireproof Killer Whales: Reducing Flame Retardant Contaminants to Puget Sound	Department of Ecology	Reducing the loadings of flame retardants in households and waterways through the development of educational brochures, outreach regarding the actions one can take to decrease the hazards and exposure in the household (and possibly a rebate program).	TIF1.1, TIF4.1, TIF5.1	$76,000
3	2018-0472	Clean Cars Alternatives Assessments	Department of Ecology	Conduct a safer chemicals alternatives assessment for toxic chemicals of concern in vehicle components and that have been detected in stormwater runoff. Alternatives assessments identify high performance safer chemical substitutes that are cost effective.	TIF1.1, TIF2.1, TIF5.1	$390,000
3	2018-0479	Skagit County Pasture Management Outreach & Technical Assistance Program	Washington State University Extension	We will reduce fecal coliform in the Samish, South Skagit, and Padilla watersheds by implementing an intensive pasture management outreach program to give landowners the knowledge and resources to improve pasture management and reduce pollution risk.	SHELL1.9, SHELL1.4, SHELL1.3	$753,018

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0485	Making the Most of What You Already Got, Part 2: Exploring Relationships between Chinook Stock Productivity and Watershed Condition	Department of Fish and Wildlife	Using decades of chinook spawning ground survey data for Chinook and steelhead stocks throughout the entire Puget Sound Basin, develop statistical relationships between changes in spawner abundance and changes in land use.	CHIN4.3, CHIN4.6	$388,200
3	2018-0492	Identification of a chemical tracer for boat-related wastewater discharges to Puget Sound	University of Washington Tacoma	The objective of this project is to develop a scientifically defensible means of evaluating the extent and distribution of boat-related wastewater discharges through the identification and characterization of a set of set of specific tracer compounds.	SHELL1.2	$43,265
3	2018-0499	Stormwater System Maintenance Outreach Effort	Snohomish County	Improve the function of privately owned residential and commercial stormwater systems by explaining maintenance requirements, the responsibilities under Snohomish County Code and County's municipal obligations under the NPDES Phase I Permit.	CHIN2.6	$150,000
3	2018-0505	Strategic West Central Water Type and eDNA Assessment	Wild Fish Conservancy	Expand water type and eDNA assessments in prioritized West Central watersheds under substantial conversion pressure to address data gaps crucial to effective habitat protection, restoration, and ESA recovery planning.	LDC1.1, CHIN1.10, LDC1.4	$400,000
3	2018-0506	Conserve high-quality agricultural lands	North Olympic Land Trust	Between 2018 & 2022, North Olympic Land Trust plans to conserve a number of high-quality farms. This helps accomplish the Community Vision Statement for Clallam County's Agricultural Sector, and is a priority in NOLT's 2018-2023 Conservation Plan.	LDC3.2	$1,000,000

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3	2018-0507	Monitoring pollutants in benthic invertebrates and their associated sediments in Puget Sound urban bays: A missing link in the salmon-related food chain.	Department of Ecology	The objectives of this study are to measure levels of contaminants in benthic invertebrate tissue and their associated sediment, which can potentially be passed to higher levels of Puget Sound's benthic and pelagic food chain, including salmon.	CHIN4.2	$69,319
3	2018-0509	Measurement of Pharmaceuticals, Personal Care Products, and Perfluoroalkyl Substances in Budd Inlet and Port Gardner Bay sediments	Department of Ecology	Measure concentrations of personal care products and pharmaceuticals (PPCPs) and perfluoroalkyl substances (PFASs), contaminants of emerging concern in sediments from Budd Inlet and Port Gardner Bay, establishing baseline information for these bays.	CHIN4.8	$104,018
3	2018-0512	Jefferson County Parks Shoreline Armor Removal	Jefferson County Marine Resources Committee	Conduct feasibility assessment for shoreline armor removal at 4 County parks, develop conceptual designs for 2 of those sites, advance one to final design, submit permits and implement one shoreline restoration project.	SA3.3	$350,000
3	2018-0513	Reducing plastic pollution, and associated toxic chemicals, in the Salish Sea region	Zero Waste Washington	Collaboratively assess and reduce plastic pollution, including spurring voluntary and policy-based source control actions, in order to reduce loading of micro- and macroplastics (and associated toxic chemicals) impacting Salish Sea aquatic species.	TIF1.1	$170,000
3	2018-0520	Low English Proficiency Outreach Tool Kit	Pierce Conservation District	Apply lessons learned from a previous pilot program and begin implementing the approach with our Water Quality team, targeting Low-English Proficiency communities and creating a tool-kit that will help other organizations replicate the process.	CHIN2.6	$432,000

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3	2018-0521	Nature's Value in the Salish Sea: Identifying the Economics Behind a Healthy Puget Sound	Earth Economics	Monetize the ecosystem services of the Salish Sea to establish a baseline by which to measure future impacts of other Near Term Actions.	LDC1.1, LDC3.4	$75,000
3	2018-0523	King County Marine Shoreline Stabilization Regulatory Reform Project	King County	This project would implement temporary changes to county code and administrative procedures then evaluate if the revisions improve implementation of shoreline stabilization permit process and if the goal of no net loss of ecological function is being met.	SA2.2	$300,000
3	2018-0528	Deschutes River Estuary Restoration	Squaxin Tribe	The proposed NTA consists of two phases. Phase 1 will conduct a sediment transport study and produce a sediment management plan. In phase 2 we will remove the dam at the mouth of the Deschutes River and conduct restoration in the historic estuary.	CHIN7.1, CHIN2.5	$113,400,000
3	2018-0531	Infill - Land use planning to direct growth into the UGA	Snohomish County	Evaluation and analysis to identify locations within the existing UGAs for potential infill sites to accommodate growth. The objective is to prevent or minimize potential expansion of the UGA by accommodating forecasted growth within existing urban areas.	LDC3.2	$340,000
3	2018-0535	Making Space For Water Initiative: Water storage projects to restore salmon habitat, improve hydrology, and build climate resilience in the Stillaguamish and Snohomish River watersheds	Snohomish Conservation District	This initiative will create a strategy and a prioritized list of projects in strategic locations to improve the water holding capacity of the Stillaguamish and Snohomish Watersheds, including wetland, in-channel, protection, and reforestation activities.	CHIN2.3	$200,000

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3	2018-0538	Meadowdale Beach Park and Estuary Restoration Project	Snohomish County	Remove a portion of hard armored railroad embankment, an undersized culvert for Lunds Gulch Creek and fill material to restore shoreline processes and provide critical rearing habitat; while addressing public safety, beach access and infrastructure needs.	SA3.3	$18,400,000
3	2018-0540	Puget Sound Starts Here - A Regional awareness and behavior change campaign	King County	Motivate residents to adopt behaviors that prevent toxic chemicals, such as PAHs, pesticides and others, from entering the stormwater pathway so that toxic pollution loading in Puget Sound is decreased.	TIF1.1	$300,000
3	2018-0551	Water Supply and Growth in the Rural/ Resource Areas	Snohomish County	This NTA will foster collaboration with multiple jurisdictions to increase the understanding of hydrology, low flows and the interconnections with groundwater in support of watershed planning and project development.	CHIN2.1, CHIN1.1	$400,000
3	2018-0552	2018- 0552 Floodplains by Design: Accelerating multi-benefit actions at the local level.	The Nature Conservancy	Accelerate multi-benefit planning and implementation by deploying an integrated technical team that supports local efforts in addressing floodplain barriers, building local capacity, incorporating climate change data and & refining tools.	FP2.1	$1,451,000
3	2018-0557	Ebey Island Land Management and Land Use Coordination Plan	Department of Fish and Wildlife	Develop a plan that identifies and integrates habitat restoration, recreation, and agriculture objectives.	EST2.1	$75,000
3	2018-0564	Drainage-Based Management Planning	Whatcom County Public Works	Develop and implement Drainage Based Management Plans that address water quality, water supply, instream flow, and habitat in pilot subbasins. These plans would lead to binding agreements or water settlement agreements between the relevant parties.	CHIN2.2, FP2.1	$450,000

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3	2018-0566	Natural Yard Care Behavior Change Campaign	King County	Offer workshops and train interpreters on Natural Yard Care practices, stormwater, habitat and climate change impacts. Builds on established programs with Garden Hotline, landscape professionals and STORM members to recruit, train, evaluate and offer work	LDC3.1	$60,000
3	2018-0567	Communication Best Practices with Underserved Audiences	King County	Partner with community and ethnic media to engage new audiences previously not been included in general awareness campaigns on stormwater, pollution prevention and impacts. Build regional experience in community partnerships and best practices for nontrad	LDC3.1	$150,000
3	2018-0573	Strategies for Pinniped Predation on Salmon: Managing Protected Species Interactions	Long Live the Kings	1.Help report on current science regarding pinniped predation on salmon & factors that may exacerbate predation. 2.Review science, policy & management ramifications. 3.Provide recs for policy, communications, research, solutions testing & monitoring.	CHIN3.1, CHIN3.2	$68,971
3	2018-0579	Salmon Buffers for Regional Conservation Partnership Program	Pierce Conservation District	An $8.5 million grant from the USDA to conserve farmland and implement BMPs on working lands does not allow for salmon buffers or outreach and education, this project would fill that gap and align salmon recovery goals with farmland conservation goals.	BIBI3.1	$454,000
3	2018-0585	Long-term MS4 Planning to Protect and Restore Water Quality: Strategies, guidance and innovative approaches for lowland streams and Puget Sound recovery	Department of Ecology	Support development of long-term (MS4) planning to protect and restore the beneficial uses of receiving waters. Objective: Develop and implement framework for protecting beneficial uses at the basin scale to creatively engage tools and authorities.	BIBI5.1, LDC2.1, CHIN1.2	$50,000

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3	2018-0587	Skagit HDM Priority Projects	Department of Fish and Wildlife	This NTA will continue to build the relationships formed during the Skagit HDM project and advance Skagit HDM priority (green) projects on state owned land and collaborate with key stakeholders through the Farm, Fish, and Flood Initiative (3FI).	EST2.1	$4,000,000
3	2018-0595	Citizen Science and Stewardship of Aquatic Reserves in the Salish Sea	Department of Natural Resources	Our objective is to expand the Aquatic Reserves citizen stewardship network and increase the impact of citizen science monitoring in Puget Sound through increased project coordination and improved data sharing.	CHIN4.11	$620,000
3	2018-0599	Farm Plans and CAO Regulatory Flexibility Assessment	King County	Evaluate farm plans that were part of providing CAO regulatory flexibility to assess if the BMPs and actions called for within them have been fully or partially implemented and if the approach is leading to more, equal, or less ecological protection.	CHIN1.6	$150,000
3	2018-0601	Social Marketing to Improve Forest Health through Private Property Stewardship	King County	Improve stewardship on private lands, reduce "seed rain" from invasive plants that degrade habitat in WRIAs 7 and 8, and create public support for invasive weed removal and salmon recovery efforts with a social marketing campaign.	LDC3.1	$235,260
3	2018-0603	Local Coordination to Advance PSNERP-identified projects	Department of Fish and Wildlife	Build interest and support for habitat restoration project(s) through knowledge transfer and data collection.	EST2.1	$9,000,000
3	2018-0613	Developing tools for multi-benefit project selection and sequencing in the Snohomish River Basin	The Tulalip Tribes	Prioritize and sequence habitat restoration actions in the Snohomish Basin and describe projects that maximize salmon benefits while minimizing agricultural impacts while working within the fish, flood, farm communities.	FP2.1, EST2.1	$600,000

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3	2018-0615	Implementing Green Stormwater in Port Angeles: GreenLink Phase II	Futurewise	GreenLink Phase II will develop pre-design tasks and specific policy recommendations for green infrastructure projects to improve water quality, habitat, and community assets in and around Port Angeles' urban creeks.	LDC3.3	$248,700
3	2018-0616	Puget Sound Stream Simulation Culvert Effectiveness Monitoring	Department of Fish and Wildlife	This work will monitor stream simulation culverts in the Puget Sound. Results will provide insight on infrastructure function, and inform design guidance with a scientific foundation for current and future road crossing projects ensuring Chinook access.	CHIN1.1	$212,000
3	2018-0618	Stormwater Assessment, Outreach, and Assistance to Jurisdictions in the Snohomish Basin (WRIA 7)	King County	Quantify the extent and magnitude of coho urban runoff syndrome in WRIA 7; provide technical assistance to increase capacity of jurisdictions to address polluted stormwater runoff; & protect WRIA 7's robust coho population: 25-50% of all Puget Sound coho.	BIBI1.1, BIBI2.1	$164,500
3	2018-0620	WRIA 1 Integrated Program Outreach and Engagement	Public Utility District No. 1 of Whatcom County	Develop and implement an integrated and coordinated outreach and communication strategy that addresses Whatcom ecosystem recovery plan elements including water supply, water quality, floodplains, shellfish, chinook, and summer stream flows.	LDC3.1, FP3.1	$280,000
3	2018-0623	Geomorphic Flood Hazard Risk on the Lower Skykomish River	Snohomish County	Snohomish County will perform an assessment of geomorphic flood hazard risk in conjunction with geomorphology and infrastructure on Lower Skykomish River mile 0 to 13.5. Geomorphic flood hazards include lateral channel migration, erosion and avulsion.	FP1.1	$210,000

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3	2018-0625	Characterization of sediment bound pollutants as a function of particle size and effect on stormwater best management practice effectiveness	US Geological Survey	Characterize concentration of toxics bound to stormwater sediment and road solids as a function of particle size across a range of land uses. Use this data to evaluate the effectiveness of a range of stormwater BMPs in retaining toxics.	TIF2.1	$700,000
3	2018-0626	Budd Inlet bulkhead removal and shoreline softening	Department of Natural Resources	The objective of this proposal is to restore section of barrier and bluff-backed beach to alleviate degradation of sediment supply and transport, tidal flow, and other nearshore processes along approximately one mile of Budd Inlet shoreline.	SA3.3	$600,000
3	2018-0630	Lower Blackjack Creek Stormwater Facility Retrofits	City of Port Orchard	Objectives of this NTA include assessment, prioritization and retrofitting of existing stormwater facilities that impact the lower Blackjack Creek basin. This NTA will benefit the creek by improving water quality and attenuating flashy stormwater flows.	TIF2.1, BIBI5.1, CHIN2.6	$750,000
3	2018-0634	Nooksack River Floodplain Acquisitions	Whatcom County Flood Control Zone District	Acquire floodplain properties to protect existing habitat functions, provide future habitat restoration opportunities, and increase the options available to reduce future flood risk to human life and safety and public and private infrastructure.	CHIN7.1	$5,000,000
3	2018-0636	Riparian/Land Cover Change Analysis and Decision Support System	Pierce County Lead Entity	Development of a riparian and land cover change analysis and decision support system for WRIA 10 Puyallup Watershed.	CHIN1.4	$195,000
3	2018-0637	Island County Stormwater Technical Assistance and Outreach Network	Whidbey Island Conservation District	The intent of this project is to coordinate a network of local organizations focused on increasing community awareness and engagement to implement and evaluate the effectiveness of stormwater best management practices across Island County.	CHIN2.5, TIF1.1, BIBI2.1	$100,000

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3	2018-0641	Improved Landowner Development Decisions to Protect Critical Areas and Manage Stormwater	Kitsap County	Kitsap County will use a social marketing approach to proactively improve landowner decisions affecting land cover, stormwater, and critical areas. By reaching permit applicants before they apply, we will improve site design and reduce resource impacts.	LDC2.2, LDC3.1, BIBI3.1	$322,328
3	2018-0652	Ecological Integrity Assessments as an approach to prioritize protection and restoration actions and monitor progress in the Puget Sound Region	Department of Natural Resources	Improve knowledge of the locations of ecologically important lands. Improve the ability to identify and prioritize areas for restoration or protection. Improve the capacity of land managers to assess current conditions and monitor restoration progress.	LDC1.1, LDC1.4	$86,834
3	2018-0660	Puget Sound Watershed Characterization mid-scale modeling Phase II	Department of Ecology	Provide local governments with additional tools to assess the potential impacts to hydrologic processes in watersheds where growth is planned and facilitate alternative futures scenario development for long-range planning to minimize impacts.	BIBI5.1	$790,332
3	2018-0662	Middle Dungeness Road Decommissioning and Storage	US Forest Service	Decommission Forest Roads 2875020 (0.6 mi); 2875070 (1.8 mi); 2877050 (0.7 mi); 2877090 (1.4 mi); 2878050 (0.6 mi); 2878110 0.9 mi); Close, remove culverts, and place in storage Forest Road 2877052 (0.3 mi).	CHIN7.1, FP3.3, LDC3.3	$308,000
3	2018-0663	West Central Coordination of Freshwater Habitat and Flow Data	Kitsap County	The objective of this action is to coordinate information to establish baseline data for freshwater quality and quantity in the West Central LIO, and to establish numeric targets for salmonid habitat and instream flow.	CHIN1.1, CHIN1.9, CHIN2.1	$250,000
3	2018-0665	Hood Canal Climate Vulnerability Assessment	Hood Canal Coordinating Council	The Hood Canal Climate Vulnerability Assessment will support Hood Canal jurisdictions to consider projected climate impacts in order to protect Hood Canal environmental and community assets and plan for future climate resilience.	EST1.3, SA1.3, FP1.3	$95,000

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3	2018-0667	Shoreline armoring monitoring and characterization of chinook salmon rearing capacity in edge habitats of Snohomish-Stilly LIO rivers using regional approaches.	Snohomish County	This NTA will expand monitoring of shoreline conditions, including bank armoring, to characterize spatially-explicit conditions and apply a regional model of Chinook salmon rearing capacity in edge habitats of rivers and floodplains in the Sno-Stilly LIO.	CHIN4.3, SA1.1, SA3.4	$200,000
3	2018-0675	A framework and guidance for sub-tidal habitat monitoring in Puget Sound	US Geological Survey	First, facilitate collaboration among entities conducting SCUBA-based sub-tidal habitat monitoring in Puget Sound. Next, develop shared methodologies for sub-tidal monitoring. Third, extend existing sub-tidal monitoring data-sets	EST1.1	$140,800
3	2018-0690	Enhance Code Enforcement Effectiveness on the Tulalip Reservation	The Tulalip Tribes	1. Reduce # of open land use violation cases. 2. Reduce pollutants and improve habitat for Puget Sound. 3. Improve alignment and efficiencies between enforcement programs. 4. Coordinate resources (data, maps, techniques, priorities, programs, etc.).	CHIN2.4	$100,000
3	2018-0691	The Triad Restoration Project for Blackjack Creek	Kitsap Conservation District	The Triad project engages all three KCD programs in a pilot effort - agriculture, LID stormwater and habitat restoration in an unique focus - to control local stormwater and protect and improve habitat and water quality in the Blackjack Creek watershed.	TIF2.1, SHELL1.4	$720,000
3	2018-0692	Map Viewer of ecologically important areas in the Puget Sound basin	Department of Natural Resources	Improve knowledge of location and current condition of ecologically important areas. Distribute data on ecologically important lands to local, state, and federal permitting agencies.	LDC1.1, LDC3.1	$39,500

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0693	Big Buffers on Pilchuck River and French Creek	Snohomish Conservation District	This NTA will implement prioritized reach-scale habitat restoration and water quality actions prescribed in the Action Plan for Lower/Middle Pilchuck River & French Creek by working with rural and agricultural landowners to install wide riparian buffers.	LDC3.3	$500,000
3	2018-0701	Forest Health Management for Reduced Stormwater Runoff and Land Conversion (Phase I)	Puget Sound Conservation Districts Caucus	Identify and prioritize private forest lands for targeted marketing and delivery of forest stewardship planning services, forest health management project planning, and financial incentives to implement projects with private forest landowners.	LDC3.1, BIBI3.1	$900,000
3	2018-0704	Optimizing Green Stormwater Infrastructure (GSI) Placement in South Puget Sound	Washington State University	To develop a scalable, portable landscape-level method for locating and selecting GSI based on hydrological, societal, and economic controls; to distribute project results and findings through innovative and effective education and outreach activities.	BIBI1.1	$176,012
3	2018-0707	Shoreline Armoring Reduction and Prevention Program	Northwest Straits Foundation	Create behavior change to reduce armor demand. Provide workshops and community forums for 300 landowners. Provide 100 site visits. Identify feasible parcels for armor removal; provide 4 to 6 designs and permitting assistance for armor removal projects.	SA3.1, SA3.3	$960,000
3	2018-0715	Integrating climate resilience into farm-fish-flood project packages in the Snohomish and Stillaguamish River floodplains	Snohomish Conservation District	The Sustainable Lands Strategy (SLS) will integrate detailed climate modeling information into development and design of climate resilient fish, farm, and flood benefit projects in the Stillaguamish and Snohomish River floodplains.	FP2.1	$600,000
3	2018-0716	Snohomish County Enhanced Conservation Reserve Enhancement Program Pilot Project	Snohomish Conservation District	To increase enrollment and size of riparian buffers into the Conservation Reserve Enhancement Program by providing increased incentive payments.	CHIN2.5	$100,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0721	Engagement of state and local governments in basin-scale Puget Sound modeling and restoration planning	University of Washington Tacoma	Goal is to collaborate with LIOs to build their ecosystem restoration plans into a linked terrestrial-marine model of Puget Sound, to help LIOs visualize local and downstream benefits for salmon, water quality/quantity, and other ecosystem services.	CHIN1.1, BIBI5.1, TIF5.1	$656,000
3	2018-0723	Complete a site management plan for DNR's Dabob Bay Natural Area in Hood Canal to implement integrated strategies for protection and restoration of ecologically important uplands and tidelands, and fostering environmental education and public access	Department of Natural Resources	Develop a landscape plan ensuring the ecological health of Dabob Bay Natural Area, assessing environmental education and recreation opportunities on public lands, and furthering appreciation of and protection for Hood Canal per HCCC integrated strategies.	LDC3.1, LDC3.2	$352,000
3	2018-0726	Puget Sound Regional Riparian Cover Mapping Standards and Implementation	Environmental Science Associates (ESA)	Develop a riparian cover spatial database for Puget Sound using regionally-accepted standard methods to improve understanding of baseline conditions and monitoring of riparian habitats, and support regional and local salmon and ecosystem recovery efforts.	LDC1.1	$350,000
3	2018-0728	Feasibility Analysis of Priority Nearshore Restoration Projects on Public Lands	Kitsap County	To implement priority nearshore restoration projects on public lands by performing detailed feasibility, refined project scoping, and and 30% design on a selected set of highest priority projects ranked by the West Sound Nearshore Prioritization Tool.	SA3.3, CHIN7.1	$590,000

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3	2018-0729	Middle Dungeness Storm Damage Risk Reduction	US Forest Service	Undersized culverts on perennial or intermittent streams will either be replaced, fills lowered to reduce diversion potential, or overflow pipes installed (n=29). Roads include: 2880000 (1.0 mi); 2870000 (4.5 mi); 2870050 (2.8 mi); and 2878000 (2.0 mi).	CHIN7.1, FP3.2, FP3.3	$404,000
3	2018-0731	FSR 2870000 Road Decommissioning and Tubal Cain Trailhead relocating	US Forest Service	Decommission Forest Road 2870000 (1.1 mi); Relocate existing Tubal Cain Trail Head to new EMP of 2870000 road.	FP3.2, FP3.3, LDC3.3	$180,000
3	2018-0734	Dungeness Watershed Road Decommissioning, Closure, and Storage	US Forest Service	Complete remaining 29.7 miles of road decommissioning, closure, and storage on Forest Service roads within and connected to the Dungeness River 5th field watershed	CHIN7.1, FP3.3, LDC3.3	$1,782,000
3	2018-0735	Integrated Mapping and Decision Tools for Land Use Planning in Puget Sound	Department of Commerce	This NTA would create a web-based decision support tool to help governments manage growth and the environment, and we would also update development trend maps, and produce new GIS analysis, to support monitoring of land cover and development indicators.	LDC1.2, FP1.4, EST1.2	$998,750
3	2018-0739	Clean Water for Salmon: Accelerating market shift to Salmon-Safe development & land management	Salmon-Safe	Salmon-Safe will incentivize beyond code stormwater management, habitat conservation, and water quality at 25 new and retrofit development sites and leverage our success working with local governments to promote salmon friendly development policies.	CHIN2.6, LDC3.1	$328,000
3	2018-0740	Invertebrate supplementation as restoration action in select B-IBI basins	King County	This NTA calls for facilitating the colonization of invertebrates in select basins where B-IBI scores are lower than expected. The NTA was partially funded in 2017; additional funding is needed to complete the project and monitor effectiveness.	BIBI5.1	$238,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0741	Integrating Climate Change in Multi-Objective Floodplain Management	University of Washington	Work with integrated floodplain management groups to build climate change capacity and develop a common approach to planning for climate change. Identify key impacts, synthesize relevant science, and collaboratively scope new work to fill knowledge gaps.	FP1.5	$300,000
3	2018-0742	Assessment of stormwater management effectiveness on freshwater quality and the B-IBI indicator	King County	This NTA will retrospectively assess effectiveness of stormwater management in King County. This addresses a key question: to what degree have stormwater control and treatment facilities been effective in minimizing impacts to stream communities.	BIBI5.1	$120,000
3	2018-0746	Implementation of protection and restoration actions in B-IBI basins, Phase IV	King County	This NTA calls for implementation of restoration and protection actions in select B-IBI basins. Actions may include, but are not limited to, installation of stormwater BMPS, planting riparian areas, land acquisition, and in-stream habitat restoration.	BIBI5.1	$5,000,000
3	2018-0748	North Sequim Bay Drift Cell Conservation	Jamestown S'Klallam Tribe	Permanently conserve Gibson, South, Travis and Paradise Cove Spits, all clustered near the entrances to WA Harbor and Sequim Bay, along with the 5.2 miles of coastal feeder bluffs that support the spits.	CHIN7.1, SA3.2, LDC3.1	$5,000,000
3	2018-0752	Phthalates Research for Source Control (Phase II)	Zero Waste Washington	Analysis of and education about phthalates in external use products and alternatives in order to improve source control in the stormwater pathway that may recontaminate Commencement Bay and Duwamish Superfund sediment cleanup sites in Puget Sound.	TIF1.1	$152,700
3	2018-0760	McNeil Island Shoreline Restoration	Department of Natural Resources	Restore functions and natural processes of the nearshore ecosystem on McNeil Island through the removal of shoreline armoring and other debris.	SA3.3	$554,300

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3	2018-0767	Dungeness Watershed Road Storm Damage Risk Reduction	US Forest Service	Complete remaining storm damage risk reduction treatments (i.e. stream crossings, erosional risks) on 43.6 miles of Forest Service roads within the Dungeness River 5th field watershed	CHIN7.1, FP3.3, FP3.2	$2,616,000
3	2018-0769	Commercial Property Engagement through Parking Lot Retrofits in Bear/Little Bear Watersheds	Snohomish Conservation District	The objectives include: identifying the motivations and barriers of commercial property owners; providing stewardship opportunities to businesses, demonstrating types of parking lot retrofits, and reducing 1 million gallons of runoff per year.	BIBI2.1	$329,500
3	2018-0772	Design and feasibility study for a multi-criteria adaptive framework for assessing ecologically important lands	Department of Fish and Wildlife	The objective of this NTA is to design a framework to compliment the existing Ecologically Important Lands indicator and inform adaptive management by integrating known important locations, existing legislation (CAO, SMP, GMA, etc.) and regional modeling	LDC2.1, LDC1.1	$95,000
3	2018-0775	Stillaguamish Estuary Habitat and Chinook Resilience Project (Part II)	The Nature Conservancy	Using community and partner input on 3D hydrodynamic model scenarios, TNC will co-develop land-use planning priorities along the lower Stillaguamish River and delta to enhance resilience of the estuary while also addressing diverse community needs	EST1.3	$613,000
3	2018-0782	Improving the resilience of natural resources and communities on the Kitsap Peninsula to the effects of a changing climate.	Kitsap County	Improve the resilience of natural resources and communities on the Kitsap Peninsula to the effects of a changing climate.	LDC2.2, CHIN2.3, SA1.4	$136,700
3	2018-0784	Watershed-based planning model for the Kitsap Peninsula	Kitsap County	Land use planning is informed and assessed using a watershed-based model.	LDC1.2, LDC2.2	$186,700

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3	2018-0786	Sources and pathways of persistent organic pollutants (POPs) in Puget Sound's pelagic food web, and biomagnification of POPs from low trophic levels to ESA-listed Chinook salmon and Southern Resident Killer Whales	Department of Fish and Wildlife	Identify and better understand the impact of Duwamish River discharge on POPs in the pelagic food web that supports Chinook salmon. Identify characteristics of Elliott Bay's oceanography and biology that make it particularly susceptible to uptake of POPs.	CHIN4.8	$480,000
3	2018-0790	Improving Climate Change Resilience for Chinook Salmon During Summer Low Flows	Department of Fish and Wildlife	We will develop and implement a forecasting tool for projecting the impacts of climate change on summer low flows that can be used for prioritizing restoration actions that protect Chinook and other salmonids within Puget Sound watersheds.	CHIN4.10	$447,800
3	2018-0794	Habitat Evaluation Procedures Program	City of Seattle	Habitat Evaluation Procedures is a tool to be used during permit review to meet Seattle's SMP requirement of no-net-loss of ecological function. The model allows regulators and applicants to quantify the negative impacts from a proposed development in ord	LDC2.2	$235,000
3	2018-0795	Whatcom County Focused - Community Based K-12 Shellfish Education, and Stewardship: Meeting Washington Shellfish Initiative Goal 7: Educate the next generation about shellfish resources, ecosystem services and water quality.	Pacific Shellfish Institute	Inspire practice of stewardship by educating the next generation about shellfish resources, ecosystem services and water quality. Students, empowered to pursue conservation and science careers engage their families and communities.	SHELL1.4	$100,000

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3	2018-0800	Strawberry Creek culvert replacement Silverdale Loop Rd, Silverdale, WA	Kitsap County	To replace an under sized culvert that will reduce localized flooding and add stormwater water quality treatment. The new culvert will be designed to fish passage standards that will result in habitat restoration.	TIF2.1	$1,000,000
3	2018-0802	Feeding Salmon and Orca through Shoreline Restoration	Friends of the San Juans	The goal of the program is to restore healthy shorelines and benefit endangered salmon and orca. Objectives are to restore sediment supply bluffs, improve degraded intertidal and forage fish habitat, and reconnect coastal wetlands.	CHIN7.1	$175,000
3	2018-0807	Bainbridge Island Groundwater Management Plan	City of Bainbridge Island	To cooperatively manage the island's sole source aquifer system to protect quality, to assure quantity, and to provide for future needs for all beneficial uses, including promoting water conservation and reclamation and protecting instream flows.	CHIN2.1	$300,000
3	2018-0810	Stream and Lakeside Landowner Education and Assistance Program	Snohomish County	Engage stream and lakeside landowners to learn about and implement BMP&#65533;s along their shorelines to improve water quality, Chinook habitat and reduce shoreline erosion.	SA3.1, CHIN2.5	$590,903
3	2018-0811	Protect and Restore Habitat: Enhance Family Forest Fish Passage Program (FFFPP)	Department of Natural Resources	FFFPP helps small forest landowners replace or remove forest road stream crossing structures (primarily culverts) which are barriers to fish passage. Completed projects allow fish, including Chinook salmon, to access upstream habitat.	CHIN1.1	$3,500,000
3	2018-0812	Nonpoint Water Quality Specialists to Protect, Re-open, and Upgrade Shellfish Growing Areas	Department of Ecology	Expansion and enhancement of an existing nonpoint program to achieve greater recovery outcomes, and a continuation of an existing ongoing program that currently lacks secure ongoing funding to maintain baseline operations.	SHELL1.3, SHELL1.4, SHELL1.10	$2,640,748

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3	2018-0817	Protect and Restore Habitat: Fund Small Forest Owner Assistance	Department of Natural Resources	Provide education and technical assistance to small forest landowners with a focus on the need to bring forest roads up to rule standards. This will prevent sediment from entering nearby water bodies and help inform partners of culvert correction options.	CHIN2.5, LDC3.1	$500,000
3	2018-0818	Tarboo-Dabob Bay Shoreline Aquisition and Restoration Project	Northwest Watershed Institute	Acquire and restore 16 acres of high priority shoreline property within the Dabob Bay Natural Area.	SA3.2, SA3.3	$2,000,000
3	2018-0820	Puget Sound Fish Community Survey	Department of Fish and Wildlife	The objective of this NTA is to develop and implement a sampling plan to characterize and monitor trends in fish communities throughout Puget Sound.	CHIN4.1	$487,700
3	2018-0822	WA Department of Natural Resources (DNR) citizen science and K-12 education program to monitor local aquatic habitat effects from climate change	Department of Natural Resources	Recruit, train & develop citizen science volunteer program and K-12 education curriculum to monitor aquatic habitat effects from climate change, to develop local responses, and to raise awareness of DNR Aquatic Reserves.	CHIN4.11	$289,000
3	2018-0823	Quantifying effects of environmental variation and management actions on salmon and associated species across an existing observation network	Department of Natural Resources	We aim to analyze environmental DNA (eDNA) in water samples to test how salmon and associated species respond to environmental variation, to the protection of aquatic vegetation, and to the designation of aquatic reserves.	CHIN4.6	$150,000
3	2018-0826	Technical Assistance Program for San Juan County Shoreline Landowners	Friends of the San Juans	Objectives of the project are to provide technical assistance to shoreline property owners to cultivate restoration actions that will restore lost or degraded salmon and forage fish habitat and reduce demand for new hard armoring.	SA3.1	$600,000

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3	2018-0831	Improving understanding of the magnitude and spatial variability of pinniped predation on juvenile and adult Chinook marine survival in Puget Sound, with implications for Chinook salmon and killer whale recovery	Department of Fish and Wildlife	Bring together new information to assess Puget Sound harbor seal predation on Chinook by: 1) Identify predation hotspots with implications for spatial management. 2) Determine if and where seal predation limits Chinook populations and recovery.	CHIN3.2	$684,246
3	2018-0833	Riparian Characterization, Outreach, Technical Assistance and Microbial Source Tracking (MST) in Northern Snohomish County Subbasins to Reduce Fecal Coliform (FC) Pollution	Snohomish County	Delineate vegetation widths and land use within the 200' riparian buffer in northern Snohomish County. Subbasins, prioritized by livestock presence, will be selected for outreach, technical assistance and microbial source tracking to reduce FC pollution.	SHELL1.4	$475,000
3	2018-0835	Titlow Estuary Restoration Project	South Puget Sound Salmon Enhancement Group	The Titlow Estuary Restoration project will remove shoreline armor and fill, restore fish passage and tidal hydrology, reclaim estuarine and freshwater tidal wetlands, and improve water quality to an estuarine embayment in the Tacoma Narrows.	CHIN7.1	$7,558,000
3	2018-0836	Enhancing soil health in a changing climate for hydrologic, habitat, and agricultural benefits	Snohomish Conservation District	Program to focus on all 3 aspects of soil health (biological, structural, and chemical) increasing biological activity, structure, and nutrient cycling to increase infiltration, holding capacity, nutrient cycling, and address production and resiliency.	BIBI3.1	$140,000

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3	2018-0837	Implementing a Strategic Watershed based Stormwater Facilities Retrofit Plan and Projects	Snohomish County	The objective is to implement a strong, documentable, data-driven approach to identify, prioritize, and implement water quality and detention facility projects that cost-effectively improve and protect waterbodies from stormwater.	BIBI5.1	$750,000
3	2018-0838	Outreach and assessment for acquisition and restoration within the Dabob Bay Natural Area	Northwest Watershed Institute	Assess and prioritize remaining unprotected private parcels remaining within the boundaries of the 10,000 acre Dabob Bay Natural Area for potential protection and/or restoration, including assessing habitat and landowner interest.	EST3.1, SA3.1	$40,000
3	2018-0843	Sound Horsekeeping - controlling mud and manure on horse properties in the Snohomish and Stillaguamish River watersheds and Camano Island	Snohomish Conservation District	Provide horse owners with the equipment, technical assistance and funding needed to remove barriers to implementation of BMPs that improve water quality	SHELL1.4	$270,000
3	2018-0847	Anderson Creek and Shoreline Restoration Project - Phase II	Northwest Watershed Institute	Complete Phase II of the Anderson Creek and Shoreline Restoration Project within the state's Dabob Bay Natural Area - annual vegetation maintenance and monitoring of the newly restored site for four years.	SA3.3, EST3.3	$28,000
3	2018-0848	Advanced distillation treatment - optimizing a new approach to dairy manure processing for clean water and nutrient management	Snohomish Conservation District	Install a pilot project for a new advanced distillation system for dairy manure processing that supports economic viability of dairies and reduces the potential impact of nutrient and manure contamination to surface waters.	SHELL1.9	$2,250,000

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3	2018-0849	Mitigating Contamination to Nearshore Habitat from Creosote Pilings	San Juan County	To reduce the leaching of creosote from County-owned infrastructure pilings to nearshore waters and reduce resulting water quality and habitat impairment. Improve herring spawning habitat.	CHIN2.5	$200,000
3	2018-0850	Squalicum Creek Reroute Phase 4	City of Bellingham	The Phase 4 project builds on three prior projects to rehabilitate floodplain processes. Project objectives are to reroute the stream away from existing infrastructure to improve water quality, salmon habitat and trail coordination downstream of Bug Lake.	FP3.3, LDC3.3	$1,672,405
3	2018-0856	Marine Drive Sewer System Design and Construction	City of Bremerton	Design & construct a wastewater collection system to replace failing septic systems that degrade marine waters to improve water quality of Oyster/Ostrich Bays, & implement fecal coliform TMDL action plan, that supports reopening shellfish growing areas.	SHELL1.9, SHELL1.10	$9,900,000
3	2018-0861	Oil Spill Dispersant Use in San Juan County Waters - Dispersant Alternatives	San Juan County	Identify the opportunities and barriers to alternative oil spill dispersants that are less toxic and potentially more effective than Corexit 9500 for use in San Juan County and other waters in Washington.	CHIN6.2	$25,000
3	2018-0866	Green Innovation: Reducing Impacts of Microplastics in the Marine Environment	Northwest Green Chemistry	Conduct green chemistry research and promote incentives on the design stage of plastic products that are intended to biodegrade for their performance in the marine environment. Hazardous substances migration from plastics additives is a growing concern.	TIF1.1, TIF5.1, TIF2.1	$350,000
3	2018-0868	Innovative Bioretention Design for Improved Nutrient Removal Efficiency, Performance and Cost Reduction.	Snohomish Conservation District	This project will test the hydraulic capacity and water quality treatment performance of a new Vertical Underdrain combined with high performance media for bioretention. This design could improve performance and reduce installation and maintenance costs.	TIF2.1, CHIN2.5	$600,000

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3	2018-0869	Natural Yard Care for Latino Professionals	Snohomish Conservation District	The main objective of this NTA is to motivate Latino landscape professionals and their clients to adopt Natural Yard Care practices.	BIBI2.1	$311,000
3	2018-0873	Monitoring effectiveness of multi-benefit floodplain project implementation in Snohomish and Stillaguamish Rivers	Snohomish Conservation District	Multi-benefit floodplain planning will require development and implementation of a monitoring framework that includes ecosystem health, changes in development and land-use, flood impacts and risk, and agricultural viability.	FP3.4	$300,000
3	2018-0881	Reducing health risks of shellfish-associated illnesses in a changing climate through PIC program workshops, peer knowledge exchange and messaging collaborations	University of Washington	Promote safe shellfish consumption as Puget Sound changes socially and environmentally by supporting collaborations, events and messaging for PIC programs on approaches to prepare for and manage factors affecting water quality and human health	SHELL1.11	$180,000
3	2018-0882	A Regional Outreach Model for Privately Managed Stormwater Facilities	Snohomish Conservation District	The objectives of this NTA are to increase the awareness and actions of landowners and managers to ensure that stormwater facilities on private property continue to function as designed.	BIBI1.1	$280,000
3	2018-0883	Stormwater Solutions for Lake Ballinger	Snohomish Conservation District	The objective of this proposal is to develop a residential stormwater solutions program in the multi-jurisdictional framework of the Lake Ballinger Watershed Forum, to enable sustained investment and collective impact within this TMDL area.	BIBI2.1	$356,000

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3	2018-0885	Support Additional Reach-Scale Planning Efforts for Riparian Protection and Restoration in Puget Sound Agricultural Landscapes	Department of Ecology	We will expand a program supporting reach-scale planning in agricultural landscapes in Puget Sound. 3 new selected project sponsors will receive grants to support development of focus area plans which will then be eligible for implementation funding.	LDC1.1	$360,000
3	2018-0887	Further Investment in Implementing Riparian Protection and Restoration in Puget Sound Agricultural Landscapes	Department of Ecology	Our grant program has helps project partners identify and prioritize riparian areas in Puget Sound agricultural areas for acquisition and restoration. This NTA will further support implementation efforts identified during reach-scale planning processes.	LDC3.3	$1,500,000
3	2018-0888	Capacity Building for Strategic Project Funding in the Snohomish-Stillaguamish LIO	Snohomish County	Build capacity to develop and implement a funding strategy that leverages efforts to efficiently and effectively compete for project funding such that local recovery funding is enhanced/expanded and more sustainable in the long term.	FUND1.1, FUND1.2	$200,000
3	2018-0894	Nooksack Chinook Life Cycle Modeling	Nooksack Indian Tribe	The objective of this project is develop a quantitative life cycle model for Nooksack early chinook populations to inform recovery and restoration planning.	CHIN4.3	$200,000
3	2018-0902	Shoreline Armor Implementation, Compliance and Effectiveness Monitoring	Department of Fish and Wildlife	Our objective is to advance monitoring efforts of Hydraulic Project Approval (HPA) permitted marine shoreline armoring by use of digital and remote sensing devices to enhance our understanding of current shoreline land-use and physical attributes.	SA1.1, SA1.2	$350,000
3	2018-0912	Puget Sound Conservation District Stormwater Action Team Phase II	Puget Sound Conservation Districts Caucus	The Regional Stormwater Action Team Phase II will hone and replicate efforts that will be piloted within N. Sound communities under the 2016 Action Agenda, to focus on accelerating action within S. and W. Sound conservation districts and their partners.	BIBI1.1, BIBI2.1	$295,000

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3	2018-0916	Environmental Stewards	ECOSS	To change individuals behavior that negatively affect water quality into Puget Sound by raising awareness of stormwater and actions everyone can do to prevent stormwater pollution and improve quality.	FUND1.1	$75,000
3	2018-0917	Tidal Water Crossing Structure Barrier Assessment, Prioritization and Design Guidelines Phase 2	Department of Fish and Wildlife	Improvement of technical guidance for intertidal water crossings (e.g. tidegates, culverts & bridges) would allow prioritization and implementation of fish passage remediation and habitat restoration work in estuarine systems.	CHIN7.1	$250,000
3	2018-0921	Nearshore Geospatial Framework 2	Coastal Geologic Services, Inc.	The Nearshore Geospatial Framework facilitates spatial analysis by standardizing nearshore data. The resulting structures may be used to create comparable analysis at scales from individual shoretype segments to the whole Puget Sound region.	CHIN1.3, CHIN4.11	$69,912
3	2018-0924	George Davis Creek Habitat Assessment	King County	The habitat assessment will determine the extent, quantity, and quality of potential spawning and rearing habitat features for aquatic species, especially for native kokanee and other salmonids, in George Davis Creek, a tributary to Lake Sammamish.	FP1.1	$60,750
3	2018-0925	Squalicum Creek Reroute at Wandering Wood	City of Bellingham	The Squalicum Creek Reroute at Wandering Wood protects and restores floodplain processes in the Hannegan Valley. The project includes acquisition and design that will result in improved water quality, salmon habitat, and flood conveyance.	FP3.2, LDC3.3	$750,000
3	2018-0926	Sustaining School Green Stormwater Infrastructure	Snohomish Conservation District	The objective of this NTA is to utilize social marketing and peer-to-peer networks to increase the support, integration, and maintenance of green stormwater infrastructure (GSI) at the school district and facility level.	BIBI1.1	$199,300

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3	2018-0927	Marine and Nearshore Restoration Implementation in WRIA 1	Coastal Geologic Services, Inc.	Ready and implement 1-3 nearshore restoration projects in WRIA 1. Phase 1 explores feasibility and land owner willingness. Phase 2 entails design development and project implementation.	SA1.2, SA2.1, SA3.3	$360,000
3	2018-0931	Coastal Groundwater Impact Assessment for Coordinated Investment Planning	US Geological Survey	Evaluate the extent, timing and frequency that groundwater ponding and salinity will be affected by climate change and sea-level rise to provide tools for ecosystem restoration outcomes, valued agriculture and urban planning (storm water).	EST1.1, EST1.2, FP1.5	$400,000
3	2018-0932	Stormwater Retrofit Design Project	City of Bellingham	Based on a prioritized list of stormwater infrastructure upgrades and retrofits created through a Water Quality Infrastructure Prioritization study, the City will select a project(s) and forward the project(s) to design.	CHIN2.5	$307,750
3	2018-0934	Stormwater Retrofit Construction Project	City of Bellingham	Based on a prioritized list of stormwater upgrades and retrofits created through a Water Quality Infrastructure Prioritization study, the City will construct a water quality project(s).	CHIN2.5	$1,983,300
3	2018-0935	Engaging the Community in Ecosystem Recovery Phase 2	Jefferson County	WSU Extension and the North Olympic Salmon Coalition will partner to provide training and ongoing coordination to community volunteers and students who will help implement stormwater mitigation and riparian restoration related projects.	BIBI3.1, BIBI1.1	$100,000
3	2018-0936	Conserving Species of Greatest Conservation Need in Imperiled Ecosystems: Prairie and Oak Woodlands of the Puget Sound Region	Department of Fish and Wildlife	Prevent conversion of prairie and oak woodland that are ecologically important areas for restoration and management in the Puget Sound Basin through identification (mapping), surveys, and technical guidance.	LDC3.4, LDC1.1	$300,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0937	Freshwater mussel eDNA collection to identify ecologically important areas in Puget Sound.	Department of Fish and Wildlife	eDNA baseline surveys of freshwater mussels (indicators of stream health) in Puget Sound salmon-bearing streams to identify ecologically important areas for protection and watershed restoration.	LDC1.1	$350,000
3	2018-0943	Pursue Long-Term Funding for Nonpoint Water Quality Specialists to Protect and Improve Fresh and Marine Water Quality	Department of Ecology	Secure stable, long-term funding to expand and enhance an existing nonpoint program to achieve greater Puget Sound recovery outcomes.	SHELL1.3, CHIN1.10, BIBI3.1	$0
3	2018-0945	Develop an outfall strategy for Puget Sound	Department of Health	Currently, about 2/3 of areas Prohibited from shellfish harvest are due to impacts from wastewater outfalls. This NTA would address obstacles to reducing these Prohibited areas, reducing pollution impacts and make for a healthier Puget Sound.	SHELL1.9, TIF1.1	$500,000
3	2018-0946	Whatcom Creek Estuary Enhancement, Holly to Roeder	City of Bellingham	The Whatcom Creek Estuary Enhancement project completes design of prioritized actions to improve critical salmon habitat. Actions include analysis and final design to remove piles, armor, and debris; stabilize eroding banks, and place habitat features.	CHIN7.1	$400,000
3	2018-0947	Port Hadlock Urban Growth Area (UGA) Sewer System / Water Reclamation Facility Plan Implementation	Jefferson County	Manage development sprawl, meet Section 303 standards for Chimacum Creek, reduce fecal coliform levels, protect water quality and temperature, benefit shellfish and fish habitat and other aquatic life in the Hood Canal.	CHIN2.5, SHELL1.6	$45,211,000
3	2018-0949	Rural Property Surface Water Management Tools and Training	Washington State University Extension	Develop effective tools and provide training to empower landowners, landscapers, and agency staff to effectively manage and reduce runoff along with associated contaminants.	BIBI3.1, BIBI1.1	$217,639

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0950	Northern Puget Sound Regional Salmon Habitat Model and Atlas	Coastal Geologic Services, Inc.	This project will produce a digital atlas of the region's Chinook salmon marine habitat use. This connectivity atlas will be created in two formats, with elegant and intuitive data structures for GIS analysts and beautiful maps for everyone.	CHIN1.3, CHIN4.3, CHIN4.11	$119,376
3	2018-0952	Phase 2 Municipal Level Climate Action Planning for the North Olympic Peninsula	North Olympic Peninsula Resource Conservation and Development Council	Develop prioritized, municipality-specific climate action plans that address sea level rise, increased precipitation, & other projected climate impacts in Clallam County and potentially 1 or 2 additional jurisdictions on the North Olympic Peninsula.	FP2.1, SA2.1	$170,000
3	2018-0956	Farm Friendly Communities: Agricultural Education for Change	Whatcom Conservation District	Create a community of understanding, and support for conservation, through place-based agricultural education leading to improvements in water quality, upgrades of shellfish growing areas and protection of the region's most ecologically important areas.	LDC3.1, SHELL1.4, BIBI3.1	$305,000
3	2018-0958	Lower Stillaguamish PIC Phase III	Snohomish County	Restore the 1,800-acre Port Susan commercial shellfish growing area to Approved status and prevent the 2,200-acre South Skagit Bay shellfish area from being downgraded by proactively identifying and correcting sources of bacterial pollution.	SHELL1.3, SHELL1.4, SHELL1.11	$300,000
3	2018-0964	Regulatory Harmonization for Salmon Habitat Protection and Restoration - Phase I: Methods and Tools	The Tulalip Tribes	Identify sets of indicators for population, climate, landscape processes and salmon habitat linked to regulations; build decision support tool to estimate effectiveness of regulatory and restoration actions for decision-making.	CHIN1.1, CHIN1.2, CHIN1.4	$394,085

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0965	Phase 2: Implementation of Recommendations from the Coastal Streams and Embayments Prioritization Along Puget Sound Shores with a Railroad	Environmental Science Associates	1) Advance implementation of priorities from NTA 2016-0198 2) Develop communication strategy 3) Engage many partners 4) Create restoration budgets for priorities 5) Develop tools to inform BNSF of mitigation value 6) Link priorities to BNSF maintenance	EST3.3, CHIN7.1, EST3.1	$275,000
3	2018-0966	Regulatory Harmonization for Salmon Habitat Protection and Restoration - Phase 2: Application of methods and tools developed in Phase I for regulatory permit support and policy action guidance for two pilot study areas in the Snohomish Basin	The Tulalip Tribes	Leverage and expand the pilot assessments from Phase 1 to improve and refine the indicators and estimate the effects of small changes in aggregate and overtime by applying analyses developed in each pilot to the other pilot.	CHIN1.4	$258,380
3	2018-0972	Implementation of the top recommendations generated by the Snoqualmie Valley Fish Farm Flood advisory committee	King County	The Snoqualmie River Fish, Farm, Flood initiative resulted in a suite of recommended actions, most of which do not have identified sources of funding or dedicate staff. We propose to secure needed resources to implement the highest priority strategies.	CHIN7.1, LDC3.3	$5,000,000
3	2018-0974	SoundToxins: Partnership for Monitoring Harmful Algae in Puget Sound	Washington Sea Grant	To expand SoundToxins to additional sites in Puget Sound. Determine environmental conditions that promote the onset and flourishing of HAB events and unusual bloom events. Document new species entering the Salish Sea. To enable selective harvesting.	SHELL1.15, SHELL1.14	$600,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
3	2018-0976	Suspended sediment-bound toxic chemical fluxes from the Snohomish and/or Stillaguamish River to Puget Sound.	US Geological Survey	Quantify concentrations and fluxes of river suspended sediment and sorbed toxic chemicals transported from the watershed to Puget Sound that can affect salmon habitat, flood conveyance capacity, shellfish beds, and nearshore habitat.	CHIN4.2	$600,000

NEAR TERM ACTIONS

TABLE 4-1C. TIER 2 NEAR TERM ACTIONS

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
2	2018-0092	Oak Harbor Marina Water Shading Reduction Project	City of Oak Harbor	This project will consist of the removal of covered moorage roofs, support structures, 21 dock fingers and 10 pile removing approximately 46,000 ft2 of over-water shading at a marina, improving valuable habitat for marine finfish and shellfish.	LDC3.3	$1,325,000
2	2018-0135	Mercer Island Riparian and Shoreline Restoration	King County	Restoration planting and invasive species removal from Mercer Island by a multi-jurisdictional public-private partnership on public and private lands to protect enhance and recover ecosystem processes and function on shorelines, wetlands, and waterways.	LDC3.3	$281,500
2	2018-0145	Connecting Hood Canal communities to conservation through the Hood Canal Watershed Education Network	Hood Canal Salmon Enhancement Group	Coordinate outreach and resources among agencies & NGOs on shellfish & water quality issues. Engage businesses, landowners, and agricultural producers in efforts to reverse shellfish downgrades with BMPs. Build identity of Puget Sound Starts Here Campaign.	BIBI3.1	$46,000
2	2018-0150	Phase III Skagit County Social Marketing Project	Department of Health	We will use social marketing techniques to encourage landowners in target watersheds to manage their personal pollution contribution to achieve an upgrade of the 4000 acre shellfish beds in Samish Bay and reduce threat to 2260 acres in S. Skagit Bay.	SHELL1.6, SHELL1.9, SHELL1.4	$598,409
2	2018-0165	GSI at scale: Maintenance and inspection of GSI installations in the Puget Sound	Washington State University Extension	A key challenge in bringing GSI to scale is understanding why GSI systems fail. This NTA will combine perspectives from social science, economics, and hydrology to explore current best practices in inspection and maintenance to ensure GSI systems success.	CHIN1.6, CHIN1.10, CHIN4.11	$374,388

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
2	2018-0196	Capitol Way Water Quality Retrofit	City of Olympia	This project will design and construct a water quality treatment facility for runoff from approximately 20 acres tributary to Capitol Lake.	TIF2.1, CHIN2.5	$650,000
2	2018-0208	MyCoast: The Statewide Citizen Science Reporting APP.	Department of Natural Resources	Launch a statewide mobile APP to capture public reports of marine debris, creosote, shoreline change, king tide damage, and other citizen science data.	SA3.3, SA3.4	$100,000
2	2018-0209	Planting trees to decrease stormwater runoff.	Department of Natural Resources	The project will incorporate trees into local stormwater management strategies as green stormwater infrastructure: identify sites and plant trees in areas with high capacity to mitigate stormwater runoff and provide ecological co-benefits.	LDC1.1, LDC3.3	$485,000
2	2018-0210	Bacteria Source Identification and Reduction Program	King County	This proposed program folds in numerous ongoing bacteria source identification and reduction efforts and proposes to expand upon them. Existing efforts include PIC efforts on Vashon and Poverty Bay (shellfish) and FC TMDLs in King County (creeks).	BIBI5.1, SHELL1.3	$450,000
2	2018-0232	Fish barrier correction	Department of Natural Resources	DNR will prioritize 22 possible fish barriers in the Puget Sound Basin and remediate 2 on Forest Service-controlled roads located on DNR-managed lands.	CHIN1.1	$659,700
2	2018-0269	Snoqualmie River Temperature Study	Snoqualmie Watershed Forum	Use data collection and modeling to increase understanding of the thermal regime of the Snoqualmie River, allowing partners and stakeholders to better plan restoration and protection actions to protect and enhance thermal refugia.	CHIN1.2	$300,000
2	2018-0302	Illahee Creek Stormwater Retrofit Project	Kitsap County	This project will address flow control and stormwater treatment to reduce erosion and protect water quality in Illahee creek, that drains to Sinclair Inlet in Kitsap County.	TIF2.1	$2,900,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
2	2018-0303	BMPs for stormwater outfalls	King County	Outfall inventory: representative outfall case studies. Develop guidance to help determine water quality and flow control opportunities associated with outfalls. Complete guidance for making decisions around outfalls.	BIBI1.1, TIF2.1	$200,000
2	2018-0313	Engaging the community to address air pollution in the Duwamish Valley	Duwamish River Cleanup Coalition/ Technical Advisory Group	DRCC/TAG will work with partners and community to identify, mitigate and reduce air pollution impacting storm water and human health. Industry and trucking outputs cause pollution, which is exacerbated by air inversion events in the river valley.	TIF4.1	$195,000
2	2018-0317	Poverty Bay Bacterial Source Tracing	King County	The overall objective is to complete comprehensive synoptic source tracing for bacteria in the creek basins draining to Poverty Bay. This includes work in Massey, McSorley, Woodmont, Redondo, and Cold Creeks.	SHELL1.9	$3,545,000
2	2018-0336	Sub-Pavement Infiltration	King County	Expand the practical applications of sub-pavement infiltration by developing alternatives to typical permeable pavement road design that replace the permeable pavement portion of the section with conventional pavement and water quality treatment options.	CHIN2.5, TIF2.1	$284,848
2	2018-0339	Evaluation of Retrofit Funding Strategies	King County	Study strategies to fund retrofit projects critical to restoration of KC streams. The study will include a broad survey of available strategies including raised LID standards in conjunction w/in lieu fees; transfer of flow credits, and advertising.	FUND1.2	$150,000
2	2018-0365	Accelerate development and implementation of innovative water treatment technologies	PureBlue	To accelerate the pace and success of water treatment technology development and implementation by connecting innovators with the resources, customers, funders, mentors, and other stakeholders needed to research and implement innovative approaches.	TIF2.1	$600,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
2	2018-0366	Development of a Washington State Stormwater Resources Library	PureBlue	Develop a user-friendly Stormwater Resources Library that will serve as a formal system to collect, organize, and efficiently share the many valuable pieces of stormwater information and resources being produced among the professional community statewide.	CHIN2.6, BIBI1.1	$200,000
2	2018-0410	Orcas Love Raingardens - a pilot program to make the connection between raingardens and orca conservation for generations to come	Defenders of Wildlife	Decrease toxics to Puget Sound by increasing rate of adoption of LID using a pilot program to install and maintain raingardens schools and parks in Tacoma. Integrate raingardens into curriculum and engage the public using orca narrative.	TIF2.1	$180,000
2	2018-0420	Study to Improve Understanding and Increase Effective Engagement in Reducing Impacts from Vessel Traffic	Friends of the San Juans	Increase understanding of and reduce the risks and impacts from vessel traffic by improving effective engagement by the public, governmental and non-governmental organizations, and local government in vessel traffic related permitting processes.	CHIN6.1	$42,000
2	2018-0438	Juanita Creek Instream Pond Evaluation	City of Kirkland	Evaluate the water quality and flow control function served by 3 instream ponds in the Juanita Creek Watershed. Develop plans to either facilitate maintenance or to abandon the ponds in a way that is beneficial to the stream habitat.	TIF2.1	$479,000
2	2018-0439	Microbial Source Tracking in Little Bear Creek (WRIA 8)	Snohomish County	1) Conduct Microbial Source Tracking to differentiate bacterial contaminants as human or wildlife; 2) Identify the watershed setting for microbial sources and if contributed by humans or wildlife. Determine if select BMPs attract wildlife sources.	SHELL1.10	$293,400
2	2018-0464	Identification of a marker of fecal bacterial contamination from raccoons.	University of Washington Tacoma	To identify a marker of fecal bacteria contamination of raccoon scat as a tool in support of regional pollution identification and correction activities.	SHELL1.11	$82,292

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
2	2018-0471	Upgrading WDFW's Priority Habitats and Species program to better protect Chinook and other salmon with new PHS maps, user guides, training material and face-to-face technical assistance	Department of Fish and Wildlife	Provide maps, spatially explicit management recommendations, definitions, methodologies, users' guides, and training for delineating and protecting what WDFW considers "Fish and Wildlife Habitat Conservation Areas" per GMA for Chinook and other salmon.	CHIN1.3, CHIN1.5	$883,000
2	2018-0483	City Habitats: Alternative Approaches to Accelerate Stormwater Investment	The Nature Conservancy	The project will: 1) prioritize areas for green stormwater retrofits, and 2) pilot alternative compliance approaches that pair public funding and private investments to accelerate implementation of nature-based solutions to reduce toxic stormwater runoff.	TIF3.1, TIF2.1	$6,000,000
2	2018-0491	Increasing regulatory effectiveness by closing loopholes (exemptions) in state and local regulations	Skagit River System Cooperative	Examine common exemptions from local and state regulations including the structure of the exemption. Show site specific examples of habitat loss from these exemptions. Make recommendations to policy on regulatory changes needed to avoid future habitat los	CHIN1.2, CHIN1.7, CHIN1.10	$28,078
2	2018-0527	The Economic Benefits of the Southern Resident Killer Whales	Earth Economics	Demonstrate the economic value of the Southern Resident Killer Whales in order to spur funding for Chinook Salmon habitat restoration.	CHIN4.3	$90,000
2	2018-0529	Using Holistic Benefit Cost Analysis to Prioritize Salmon Habitat Restoration Projects	Earth Economics	Inform the prioritization of salmon habitat restoration projects by using a benefit-cost analysis method that values not just economic benefits, but environmental and social benefits as well.	CHIN1.4	$70,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
2	2018-0555	New Ruralism	Snohomish County	Achieve multi-benefits for ecosystems and agriculture by evaluating suitable agricultural lands in rural areas to offset losses to the agricultural land base resulting from ecosystem restoration in the estuaries and floodplains.	EST2.1, FP2.1	$310,000
2	2018-0558	Floodplains by Design: Inspiring a healthy rivers movement through a strategic communications and learning network	The Nature Conservancy	1) Deepen engagement of key constituencies in integrated floodplain management. 2) Build a highly skilled cohort of practitioners to lead large, multi-benefit recovery efforts. 3) Increase knowledge of the economic benefits of integrated floodplain mngt.	FP3.1	$1,580,000
2	2018-0576	Suspended sediment-bound toxic chemical fluxes from large rivers to Puget Sound.	US Geological Survey	Provide training to PSP LIOs to collect data to better estimate the chemical fluxes in large rivers that enter the Puget Sound.	CHIN4.2	$600,000
2	2018-0617	Watershed Engagement for Decision Makers WRIAs 5 & 7	Sound Salmon Solutions	Raising the awareness of WRIA 5 & 7 decision makers regarding watershed management strategies, methods and their successes and challenges in managing water quality and restoring habitat for shellfish, salmon, and human health.	FP3.1, EST3.1, LDC3.1	$33,000
2	2018-0627	Lower French Creek Fish Passage Improvements	Snohomish County	Lower French Creek Fish Passage Improvements reduce the physical and biological barriers to fish passage from the Snohomish River to Lower French Creek, while maintaining and protecting farm land through flood reduction techniques.	CHIN2.1	$1,200,000
2	2018-0650	Measuring Habitat Project Effectiveness	Snohomish County	This NTA will monitor selected habitat projects at various stages (pre- and post-implementation) to evaluate outcomes relative to objectives and assess progress/contributions toward salmon recovery targets or related PSP Vital Signs.	CHIN4.4, FP3.4, SA3.4	$86,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
2	2018-0683	Camp 2nd Chance Habitat Restoration & Stewardship Education	Weed Warriors	Camp 2nd Chance Rain Garden is a replicable educational outreach project engaging members of a sanctioned homeless camp, Camp 2nd Chance, in storm-water education, pollution control, and rain garden creation, including elements from the PSSH program.	LDC3.3, CHIN2.3, FP3.1	$25,000
2	2018-0686	Stormwater Management Education and Technical Assistance for Farmers and Ranchers	Tilth Alliance	Deliver stormwater management technical assistance for farmers and ranchers in the Puget Sound region. Provide best management practice education, technical assistance, and training opportunities for interested farmers and ranchers.	BIBI1.1	$600,000
2	2018-0694	Greater Nooksack River Basin Strategic Conservation Plan Development and Implementation	Whatcom County	Development and implementation of an adopted Strategic Conservation Plan will result in the protection of working land economies and healthy ecosystems.	LDC2.1, LDC3.2, FUND1.2	$500,000
2	2018-0718	Duwamish Riverbank Stabilzation @ S. 104th St	City of Tukwila	The project objectives are to remove a local road and replace an armored section of riverbank with a more naturalized bank, and create off-channel salmon habitat with the purchase of adjacent private property.	CHIN7.1	$8,200,000
2	2018-0736	Stormwater park retrofits for water quality, compact development and human health	Puget Sound Regional Council	To improve water quality, compact development, and human health through learning lessons from already-built stormwater parks, identifying opportunities for stormwater parks regionwide, and catalyzing the development of new stormwater parks.	BIBI5.1	$198,965
2	2018-0753	Shellfish Growing Area Water Quality Improvement	Department of Health	The primary objective of the NTA is to identify and implement new and unforeseen pollution identification and correction projects related to marine water quality restoration near shellfish harvesting areas.	SHELL1.11, SHELL1.9	$600,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
2	2018-0755	Tacoma to Puyallup Multi-Modal Trail Connection	Puyallup Watershed Initiative	Identify the final Tacoma to Puyallup Trail Connection alignment and work collaboratively, across jurisdictions, to identify funding to design and construct a multi-modal trail for all ages and abilities between downtown Tacoma, WA and Puyallup, WA.	LDC1.3, TIF3.1	$195,000
2	2018-0756	Shellfish Growing Area Water Quality Protection	Department of Health	The primary objective of the NTA is to identify and implement new and unforeseen pollution identification and correction projects aimed at protecting marine water quality in shellfish harvesting areas.	SHELL1.11, SHELL1.9	$600,000
2	2018-0757	Perform upland landuse characterization to identify upland land activities that can contribute to the degradation of an area leading to prohibition of shellfish harvesting, limit recreational activities, and damage aquatic environments	Department of Natural Resources	Perform upland landuse characterization to identify upland land activities that can contribute to the degradation of an area leading to prohibition of shellfish harvesting, limit recreational activities, and damage aquatic environments	SHELL1.9, SHELL1.4	$100,000
2	2018-0758	Interagency Coordinating Committee: Planning, planting and managing trees as green stormwater infrastructure and for the co-benefits they provide.	Department of Natural Resources	This project will organize an interagency technical advisory committee to share information about best management practices for trees being planted as green stormwater infrastructure and tree co-benefits in the Puget Sound.	LDC2.1	$150,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
2	2018-0761	Evaluate Use of MS2 Coliphage as Viral Pathogen Indicator in Shellfish Tissue and Water	Department of Health	This NTA will develop capacity for Health and its partners to evaluate temporal, geographic, and interspecies variability of viral indicator concentrations in shellfish tissue, wastewater effluent, and marine waters.	SHELL1.9, SHELL1.10, SHELL1.11	$350,000
2	2018-0763	Integration of intense monitoring practices at a watershed scale: Monitoring water quality and quantity from headwaters to estuary to better understand the status of salmon and shellfish habitat in two East Kitsap watersheds.	D&H Technology Solutions, Inc.	The objective of this monitoring study is to collect water quality and quantity data in 5 minute intervals at each station located within each watershed. Event driven automated sampling will occur based on storm, low-flow, and environmental conditions.	CHIN4.2, SHELL1.10, SHELL1.14	$684,000
2	2018-0765	Accelerating shoreline protection and recovery - incentives and accountability (Nature's Scorecard)	Washington Environmental Council	Increase the rate of shoreline recovery through accountability and incentives. Evaluate Shoreline Master Program best practices, communicate metrics of success for the general public, showcase leading communities, and strengthen management approaches.	SA3.1	$220,500
2	2018-0768	City Habitats: A Regional Partnership for Stormwater Innovation	The Nature Conservancy	City Habitats is accelerating adoption of effective, equitable approaches to green stormwater infrastructure by developing a network of practitioners with a vision to increase investment and demand for nature-based solutions to stormwater management.	TIF1.1	$1,250,000
2	2018-0771	June is Orca Month - Grow public support for orca recovery, including abundant salmon, reduced toxics, and decreased vessel interference	Washington Environmental Council	Increase public support and political will for the programs needed to accelerate Southern Resident orca recovery (salmon, toxics, vessel interference)	FUND1.1	$344,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
2	2018-0791	Beyond "I heart Puget Sound" - engaging the public in Puget Sound recovery	Washington Environmental Council	Update research on attitudes, beliefs, and triggers for action. Engage new audiences, enhance support, and connect people with Puget Sound and the Salish Sea. Increase public support for projects and additional funding needed for protection and recovery.	FUND1.1	$198,000
2	2018-0796	Clarks Creek Restoration Plan, Dispute Resolution Agreement: A focused Plan to protect Core Salmonid Habitat	Pierce County	The goal of the Clarks Creek Plan is to prioritize and implement a more focused set of programs and capital projects to increase stormwater treatment, reduce sediment loads and protect the beneficial uses of the 7 Salmonid species native to the watershed.	CHIN2.5	$5,018,732
2	2018-0845	Protecting Channel Migration Zones in Puget Sound	Department of Fish and Wildlife	This work will develop Growth Management Act guidance to local governments on delineating and protecting channel migration zones on relevant streams consistent with WDFW's new Priority Habitat and Species Riparian Ecosystem Protection Recommendations.	CHIN1.1, CHIN1.3, CHIN1.5	$57,054
2	2018-0852	You should have seen the fishing in the old days; stories from San Juan Islands elders to guide future actions	San Juan County Lead Entity	Use stories from native and non-native elders to help guide and inform salmonid public education, restoration, and protection.	CHIN4.9	$15,000
2	2018-0853	Development of supported materials, guidance, and ongoing development of stakeholder participation of Pollution, Identification, and Correction (PIC) programs.	Department of Natural Resources	Compile PIC program techniques and develop documents, educational sessions, and workshops to support development, implementation, coordination, and identify measurable outcomes of PS PIC programs to support WQ improvements and protect shellfish harvesting	SHELL1.3, SHELL1.6, SHELL1.11	$170,000

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
2	2018-0862	South Sound Shellfish Recovery	Pierce County	The primary objective for the proposed NTA is to upgrade 1714.7 acres of shellfish growing area and prevent future downgrades in Approved areas by implementing a comprehensive, coordinated Shellfish Protection Program throughout South Puget Sound.	SHELL1.11, SHELL1.9, SHELL1.3	$25,044,390
2	2018-0863	Vessel Traffic Oil Spill Risk Consequences - Expanded Assessment	San Juan County	Address primary data gaps in Phase 1 NTA Oil Spill Risk Consequences to San Juan County. Expand assessment of ecological and economic consequences to waters and shorelines in jurisdictions beyond SJC, and potentially to cultural and social consequences.	CHIN6.1	$100,000
2	2018-0889	Watershed Improvement District Technical Assistance	Whatcom Conservation District	Provide technical assistance to Whatcom County Watershed Improvement Districts facilitating the implementation of Agricultural and Watershed Enhancement Management Plans.	LDC3.3, SHELL1.4	$800,000
2	2018-0904	Water Typing / eDNA Assessments	Wild Fish Conservancy	Expand water type and eDNA assessments to fill fundamental presence / absence data gaps about chinook, steelhead / rainbow, and bull trout distribution, and address data gaps crucial to CAOs and restoration, protection, and acquisition planning.	CHIN4.3, LDC1.4, CHIN1.1	$400,000
2	2018-0911	Clear Choices for Clean Water	Thurston Conservation District	To improve water quality in the Puget Sound through the expansion of the program, Clear Choices for Clean Water through increased direct education & access to tools to enable positive behavioral change that improve water quality in the aggregate.	SHELL1.9, SHELL1.4, LDC3.1	$165,000
2	2018-0922	Ranges of Woody Debris Frequency and Volume for Stream Habitat Restoration in King County and Other Puget Sound Lowland Areas.	King County	The project will analyze existing and new information to describe region-specific, reference loading rates of woody debris in small- to mid-sized (up to 15 m wide) streams for enhanced habitat restoration and other resource decision-making.	FP1.1	$87,250

TIER	NTA #	NTA TITLE	OWNER	OBJECTIVES	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	COST
2	2018-0938	Intertidal Habitat and Riparian Vegetation Model to Prioritize Recovery Planning	US Geological Survey	Intertidal riparian vegetation and habitat complexity will be classified and mapped to upgrade outdated habitat indices (NWI, CCAP) and advance assessments of habitat availability and food production supporting salmon and Puget Sound recovery.	CHIN4.1, EST1.1, SA1.1	$209,792
2	2018-0944	Development of a predictive tool for morphologic change and sediment transport rates on gravel beaches	Confluence Environmental Company	Collection of beach topography, grain size and wave data at three sites in Puget Sound to test and validate a beach morphology change model and alongshore gravel transport formulas which can be used in the feasibility and design of restoration projects.	SA3.4, SA1.1	$140,000
2	2018-0948	Salmon Heroes: Field Based Education Program for Improved Water Quality	Environmental Science Center	Expand the program to bring Salmon Heroes to more students across the South Central Puget Sound area, particularly in low-income areas. More students and families become stewards through hands-on education on stormwater quality and salmon recovery.	EST3.1	$180,830
2	2018-0967	Urban Tree and Forest Canopy Cover Toolkit (Phase II)	King Conservation District	Develop a web-based urban forestry toolkit for PS communities, supporting a strategic interface w/ stormwater & habitat priorities to achieve reduced stormwater runoff & pollution, improved infiltration & habitat, & to address E&SJ concerns.	BIBI1.1	$150,000
2	2018-0969	Regulatory Harmonization for Salmon Habitat Protection and Restoration - Phase 3: Operationalizing harmonization methods, tools and data from two pilot studies for use in Snohomish Basin and broader applications in Puget Sound	The Tulalip Tribes	Formalize the methods and decision support tools from Phase 2 for wider use in Snohomish Basin. Generalize methods, tools and reporting functions for regional applications at in Puget Sound. Make available online and develop training for new users.	CHIN1.1, CHIN1.2, CHIN1.4	$238,240

CHAPTER 5 | ONGOING PROGRAMS FOR PUGET SOUND RECOVERY

Table 5-1 shows a list of ongoing programs that contribute to recovery. The table includes the program name, the agency or organization that administers the program, the strategies and sub-strategies the program contributes to (see the Appendix to this Action Agenda for strategies and sub-strategies), the Vital Signs and Regional Priority approaches the ongoing program is aligned to (see *Chapter 3* for Regional Priority descriptions), and a brief description of the program. The ongoing programs in this section are organized alphabetically by the name of the entity that administers each program. This list of ongoing programs currently excludes non-governmental programs that contribute to Puget Sound recovery.

The magnitude of work to protect and recover Puget Sound that occurs through ongoing programs cannot be overstated—ongoing programs are recognized as the critical foundation for Puget Sound recovery. They are continuing efforts that provide regulatory oversight, technical support, implementation resources, financial resources, or guidance that may have preceded the Action Agenda. They are not considered Near Term Actions because they are not discrete recovery actions proposed for inclusion in the Action Agenda— they are ongoing.

Consideration of ongoing programs is essential to identify future priorities for Puget Sound recovery. Understanding the magnitude of work that is already occurring allows the recovery community to identify improvements, possibilities for integration, and potential gaps in existing work. This consideration of ongoing programs currently occurs during the development of local and regional plans such as Implementation Strategies and LIO ecosystem recovery plans. The Near Term Actions listed in *Chapter 4* are designed to improve on, or expand, ongoing programs or to fill gaps where ongoing programs do not exist. The recovery community will use the following table of ongoing programs as a source for future efforts to prioritize action, but the existing list should not be considered comprehensive. The Puget Sound Partnership will continue to improve its inventory of ongoing programs and strengthen its working relationships with ongoing programs throughout the region.

ONGOING PROGRAMS

TABLE 5-1. ONGOING PROGRAMS

AGENCY / ORGANIZATION	PROGRAM NAME	PARTNER AGENCIES / ORGANIZATIONS	LINKED 2016 ACTION AGENDA SUB-STRATEGY	LINKED 2018 REGIONAL PRIORITY APPROACH	PROGRAM DESCRIPTION
City of Seattle	Green Shores for Homes	San Juan County; Washington Sea Grant	16.3	SA3.3	Voluntary, incentive-based program that helps waterfront homeowners restore natural shorelines and enjoy the many recreational, scenic, environmental, and shoreline-protection benefits they bring. The program provides criteria for shore friendly development and recognition for waterfront homeowners, contractors and jurisdictions that apply the criteria.
Governor's Office	Washington Shellfish Initiative,	NOAA National Shellfish Initiative, Department of Health, Department of Ecology, Department of Fish and Wildlife, Washington Sea Grant, Pacific Coast Shellfish Growers Association	19.4, 22.1	SHELL	The Washington Shellfish Initiative is a partnership between state and federal government, Tribes, the shellfish aquaculture industry and non-government entities to promote critical clean-water commerce, elevate the role that shellfish play in keeping our marine waters healthy and create family wage jobs.
Governor's Office	Results Washington Initiative		24.1		Results Washington is Governor Jay Inslee's data-driven initiative to make government more effective, efficient and customer-focused. Results Washington focuses the efforts of multi-agency teams, partners and customers on collaborative strategies, targets, timelines and action items. Goals of the initiative include a prosperous economy, a clean environment, healthy communities, and efficient, effective, and accountable government.

AGENCY / ORGANIZATION	PROGRAM NAME	PARTNER AGENCIES / ORGANIZATIONS	LINKED 2016 ACTION AGENDA SUB-STRATEGY	LINKED 2018 REGIONAL PRIORITY APPROACH	PROGRAM DESCRIPTION
Governor's Office	Governor's Salmon Recovery Office	Recreation and Conservation Office	6.5	CHIN 1.1	Coordinates a statewide salmon recovery strategy. Helps develop and implement regional recovery plans. Secures funding for local, regional, and state recovery efforts. Prepares the Web site and biennial State of the Salmon in Watersheds report to the Legislature. Advises the Salmon Recovery Funding Board.
Local governments	Land use activities and programs	Washington Department of Commerce, Washington Department of Ecology	1.1, 1.2, 2.3, 4.2	LDC 1.1, LDC1.2, LDC2.1, LDC3.3, TIF3.1	Local governments administer a wide variety of programs to regulate and influence land use. These include zoning ordinances, shoreline master plans, critical area programs, comprehensive plans, transfer of development rights, and more. The intent of these programs is to influence where and how different types of development occur and designate lands for other uses including conservation and public use. These activities and programs can be used to encourage maintaining and increasing urban tree canopies, removing invasive species, reducing stormwater pollution, maintaining open space and conserving habitat, reducing flood risk, planting native vegetation, and restoring creeks and streams. Local goverments develop these activities and programs in accordance with applicable state law, educate residents about them, and ensure compliance and enforcement.
Local governments	Environmental monitoring activities and programs	Washington Department of Ecology	25.2		Local governments conduct environmental monitoring for a wide variety of parameters including water quality, stream flow and flooding, stream health, groundwater, sediment quality, and more. This monitoring data is shared with the public and other government agencies.

AGENCY / ORGANIZATION	PROGRAM NAME	PARTNER AGENCIES / ORGANIZATIONS	LINKED 2016 ACTION AGENDA SUB-STRATEGY	LINKED 2018 REGIONAL PRIORITY APPROACH	PROGRAM DESCRIPTION
Local governments	Environmental education and outreach activities and programs		26.3, 27.4, 28.4		Local governments provide a wide variety of resources and opportunitties that support environmental education including volunteer and stewardship opportunities, school programs and curriculum materials, environmental signage and information, and more. These programs educate local residents and visitors about issues like stormwater management, climate change, increasing efficient use of resources, habitat conservation, and other local environmental concerns.
Local governments	Wastewater management activities and programs		14.1, 14.2, 14.3, 14.4	 CHIN 2.5	Local governments are responsible for managing wastewater. Local governments protect public health and the environment by collecting and treating wastewater while recycling valuable byproducts.
Local governments	Shoreline management programs and shoreline master plans	Washington State Department of Ecology	2.3, 16.1, 16.3, 16.2, 17.1	 LDC3.2, LDC3.3, EST3.2, EST3.3, SA3.2, SA3.3, SHELL1.1	Cities and counties around Puget Sound develop and implement shoreline master programs, as required by state law. These local programs and plans protect and restore saltwater and freshwater shorelines for future generations, provide for water-dependent uses, and ensure access to public shorelines. Plans are periodically updated to incorporate new information.
Local governments	Critical area programs		2.2	 LDC3.2, LDC3.3	Each city and county in Washington state is responsible for identifying, designating, and protecting critical areas in their local environment under the Growth Management Act. The Act identifies five types of critical areas: wetlands, areas critical for recharging aquifers used for potable water, areas subject to frequent flooding, geologically hazardous areas, and fish and wildlife habitat conservation areas.

AGENCY / ORGANIZATION	PROGRAM NAME	PARTNER AGENCIES / ORGANIZATIONS	LINKED 2016 ACTION AGENDA SUB-STRATEGY	LINKED 2018 REGIONAL PRIORITY APPROACH	PROGRAM DESCRIPTION
Local governments: stormwater discharge permit holders	(STORM) Stormwater Outreach for Regional Municipalities		9.4	TIF1.1, BIBI1.1	Independent coalition of over 80 Puget Sound Area cities and counties who work together to ensure that regional and local stormwater efforts are effective, consistent, and cost efficient.
Local governments: stormwater discharge permit holders	Stormwater Programs (including National Pollutant Discharge Elimination System Phase I and II implementation)	Washington Department of Ecology; U.S. Environmental Protection Agency	10.3	CHIN2.6, TIF2.1	To prevent harmful pollutants from being washed or dumped into waterbodies, federal law requires cities and other high density areas to develop and implement stormwater management programs to minimize the discharge of pollutants from the sewer system.
Local governments, including Hood Canal Coordinating Council and Pierce, King, and Thurston Counties	In-lieu-fee compensatory mitigation programs		1.4, 29.6		Enable developers with permitted impacts to wetlands and other habitats to pay a fee to the sponsor of an approved in-lieu-fee program, rather than building a separate mitigation project, if an approved program exists in the same watershed as the impact.
Local governments	Locally generated funding sources		29.4	FUND1.2	Local governments can use funds generated from utility rates, fees, assessments, and other funding mechanisms available to local governments to implement pollution prevention, habitat protection and restoration, and other recovery-related activities. Some local governments may also distribute this funding to protection and restoration projects through grant programs.

AGENCY / ORGANIZATION	PROGRAM NAME	PARTNER AGENCIES / ORGANIZATIONS	LINKED 2016 ACTION AGENDA SUB-STRATEGY	LINKED 2018 REGIONAL PRIORITY APPROACH	PROGRAM DESCRIPTION
Local governments	Transfer of development rights programs	Puget Sound Regional Council, Washington Department of Commerce	3.1, 29.6	TIF3.1	Use incentives and market forces to encourage the protection of rural lands and open space by relocating development to areas designed to accommodate growth and development. Local jurisdictions can also use these programs to preserve cultural or historical sites, or to preserve affordable housing in urban areas.
Local governments, including King, Jefferson, Kitsap, Pierce, Skagit, Snohomish, Whatcom Counties and cities	EnviroStars: Green Business	Washington Department of Ecology; U.S. Environmental Protection Agency	9.4	TIF1.1	One-stop shop for Washington businesses to learn, get help, and get recognized for protecting the environment and public health. The program unifies green business initiatives in the region and across all environmental areas—including energy and water conservation, pollution prevention, and the reduction of toxics, waste, and greenhouse gas emissions.
Local governments	EnviroStars: Clean Marina Washington	Envirostars Cooperative; Puget Soundkeeper; Northwest Marine Trade Association; Washington Sea Grant; Washington Department of Ecology; Washington Department of Natural Resources; Washington State Parks	18.1		Incentive program that sets qualification standards and certifies marinas for improving their operations to better protect the environment. As of August 2016, there were 73 certified Clean Marinas in Washington.

AGENCY / ORGANIZATION	PROGRAM NAME	PARTNER AGENCIES / ORGANIZATIONS	LINKED 2016 ACTION AGENDA SUB-STRATEGY	LINKED 2018 REGIONAL PRIORITY APPROACH	PROGRAM DESCRIPTION
Local government: Snohomish County	Snohomish Sustainable Lands Strategy	Local tribes, businesses, and non-profits	5.4	EST3.2, EST3.3, FP3.2, FP3.3	Established with the intent that fish, farm, and flood management advocates can make more progress by working together than by being at odds with each other. The Sustainable Lands Strategy was convened in 2010 by Snohomish County, Tulalip and Stillaguamish Tribes, state and federal agencies, and agricultural and environmental stakeholders to improve coordination and generate progress for fish, farm, and flood management interests.
Local health departments and organizations	Local onsite sewage system programs	Washington State Department of Health	13.1	SHELL1.6	Local health departments play a key role in properly managing onsite sewage systems to limit the amount of contaminants discharged into the environment. Local jurisdictions are responsible for developing local plans and rules for managing onsite sewage systems (including installation, operation, inspection, reporting, and maintenance); certifying service providers; and evaluating risks to the environment and public health from onsite sewage systems.
15 salmon recovery Lead Entities	Salmon Recovery 4-year work plans, planning and implementation		2.2, 6.1, 6.5	LDC3.3, CHIN7.1, CHIN1.1	Plans for salmon recovery that implement the watershed-specific chapters of the Puget Sound Salmon Recovery Plan. They describe previous accomplishments, identify the current status of recovery actions, and propose future actions and any changes in recovery strategies in the next 4 years. Technical and policy reviews of each watershed's four-year work plan update are conducted by regional experts to evaluate the consistency and appropriate sequencing of actions with the Puget Sound Salmon Recovery Plan, as well as to identify support at both the watershed and regional scale for overcoming barriers to implementation. Actions identified in the plans may include fish passage barrier removal, watershed assessments, and other habitat protection and restoration actions.

AGENCY / ORGANIZATION	PROGRAM NAME	PARTNER AGENCIES / ORGANIZATIONS	LINKED 2016 ACTION AGENDA SUB-STRATEGY	LINKED 2018 REGIONAL PRIORITY APPROACH	PROGRAM DESCRIPTION
Northwest Straits Commission	Northwest Straits Marine Conservation Initiative	Marine Resources Committees (seven counties), Northwest Straits Foundation	1.2, 8.1, 16.2, 16.3, 19.2, 26.2, 27.1, 10.3, 28.4,	 LDC 1.4, 2.1, SA1.5, SA2.1, EST1.5, EST2.1, CHIN1.1, CHIN2.5, SHELL1.1, FUND 1.2	A nationally-recognized conservation initiative, the Northwest Straits Marine Conservation Initiative brings together scientists and countless community volunteers in seven counties in northwest Washington. The Northwest Straits Initiative's unique and innovative approach combines sound science and ecosystem perspective together with citizen energy and entrepreneurship to improve efforts to save Puget Sound.
Pacific Coast Shellfish Growers Association	Ongoing programs to support shellfish production	Pacific Shellfish Institute	19.3	 SHELL1.13	The Pacific Coast Shellfish Growers? Association (PCSGA) represents growers in Alaska,? Washington, Oregon, California and Hawaii. PCSGA works on behalf of its members on a broad? spectrum of issues, including environmental protection, shellfish safety, regulations, technology and marketing
Partnership Tribal Co-Management Council	Partnership Tribal Co-Management Council		23.2	 Vital Sign Wheel	The Partnership Tribal Co-Management Council provides an official forum for the early and frequent involvement of tribes in Puget Sound Partnership activities, including policy and project development and prioritization.
Puget Sound Institute	Puget Sound Ecosystem Research Initiative		15.4, 25.1	 Vital Sign Wheel	The Puget Sound Ecosystem Research Initiative conducts, coordinates, and disseminates scientific research to inform policy decisions necessary to carry out the Puget Sound Partnership Action Agenda.
Puget Sound Partnership	Puget Sound Acquisition and Restoration	Recreation and Conservation Office	2.1, 2.2, 2.3, 16.1, 16.2	 CHIN1.8, LDC3.2, LDC3.3, FP3.3, EST3.3, FUND1.2	The Puget Sound Acquisition and Restoration (PSAR) fund supports projects that recover salmon and protect and recover salmon habitat in Puget Sound. The state legislature appropriates money for PSAR every 2 years in the Capital Budget. PSAR is co-managed by the Puget Sound Partnership and the Recreation and Conservation Office. Local entities identify and propose PSAR projects. The Salmon Recovery Funding Board prioritizes projects for funding.

AGENCY / ORGANIZATION	PROGRAM NAME	PARTNER AGENCIES / ORGANIZATIONS	LINKED 2016 ACTION AGENDA SUB-STRATEGY	LINKED 2018 REGIONAL PRIORITY APPROACH	PROGRAM DESCRIPTION
Puget Sound Partnership	Science Work Plan		25.1	Vital Sign Wheel	Identifies priority science work actions for Puget Sound recovery and recommends improvements to ongoing science. The plan is intended to guide effective investment in the most important science actions and programs.
Puget Sound Partnership	Sspporting local recovery planning and implementation	Local Integrating Organizations	23.1	Vital Sign Wheel	The Partnership works with Local Integrating Organizations (LIOs) to support the actions and programs identified as high priority for the long-term health of local watersheds and Puget Sound. LIOs enable communities to guide the implementation of Action Agenda priorities at an ecosystem scale, and to prioritize local actions for investment. LIOs create Ecosystem Recovery Plans and associated 2-year implementation plans.
Puget Sound Partnership	Tracking implementation and funding of Near Term Actions		24.1	Vital Sign Wheel	The Partnership tracks implementation and funding of Near Term Actions. These updates support local and regional communication about progress toward Puget Sound recovery. NTA reports highlight successes and barriers, allow learning to be shared and inform discussions with Partnership boards, committees and partners about exploring solutions to common challenges. NTA status and funding information is featured in the Action Agenda Report Card and the biennial State of the Sound report.
Puget Sound Partnership	Communications program	partners in recovery	27.5, 28.5	Vital Sign Wheel	Develops communication material about topics related to Puget Sound recovery. The Partnership does not communicate directly with the public, but helps the partners in recovery develop consistent messaging and communication tools that can be used throughout the region.

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Puget Sound Partnership	Boards program, including the Leadership Council		24.1	 Vital Sign Wheel	Sets the direction for Puget Sound recovery by adopting and guiding development and implementation of the Action Agenda. The Leadership Council also serves as the regional salmon recovery organization for Puget Sound salmon species.
Puget Sound Partnership	Financial and Ecosystem Accounting Tracking System (FEATS)		24.2	 Vital Sign Wheel	A tracking and reporting system for the EPA and the cooperative agreement recipients. FEATS reports enable project officers to more easily determine the status of outputs and deliverables for tasks and subtasks, as well as actions taken by the recipient. The FEATS reports help to ensure that tasks in the negotiated work plan are being accomplished and that funds are being spent in a timely manner and within the approved budget.
Puget Sound Partnership	National Estuary Program Online Tool (NEPORT)		24.2	 Vital Sign Wheel	Each year (September) the Puget Sound Partnership coordinates data collection on behalf of EPA for the National Estuary Program Online Reporting Tool (NEPORT) report. This report includes two key components: HABITAT: Information on Puget Sound habitat protection/restoration projects completed (or expected to be completed) in the current federal fiscal year. LEVERAGING: Information on how EPA NEP funds have been used to leverage additional resources towards the implementation of the Puget Sound Action Agenda. This information is used to highlight the region's achievements and helps us to advocate for continued federal investment in Puget Sound recovery.
Puget Sound Partnership	Puget Sound Vital Signs		24.2	 Vital Sign Wheel	Develops and reports on the shared measurement system for Puget Sound recovery, specifically measures of progress toward the six Puget Sound recovery goals.

AGENCY / ORGANIZATION	PROGRAM NAME	PARTNER AGENCIES / ORGANIZATIONS	LINKED 2016 ACTION AGENDA SUB-STRATEGY	LINKED 2018 REGIONAL PRIORITY APPROACH	PROGRAM DESCRIPTION
Puget Sound Partnership	Science Program		25.1	Vital Sign Wheel	Develops and oversees the overall framework of science activities needed to support protection and restoration of Puget Sound under the Action Agenda.
Puget Sound Partnership	Biennial State of the Sound report		24.2	Vital Sign Wheel	Every 2 years the Partnership shares its latest data and information on our shared progress in recovering and protecting Puget Sound. This helps partners and decisionmakers understand how well the recovery effort is going and creates an opportunity for dialogue about the pace, course, and investments being made. The report provides an overview of progress for the following 3 key components: 1) ecosystem recovery goals 2) recovery management system 3) the funding situation and what is needed to accelerate ecosystem recovery.
Puget Sound Partnership	Puget Sound Ecosystem Monitoring Program	PSEMP steering commitee, working groups, and participants	25.2	Vital Sign Wheel	The Partnership convenes PSEMP, which is a collaborative network of researchers who study and communicate about Puget Sound ecosystem status and trends and effectiveness of recovery actions to decision-makers, scientists, and the public.
Puget Sound Partnership	Develop and update the Puget Sound Action Agenda	partners in recovery	22.2	Vital Sign Wheel	Lead the collaborative effort to develop the Action Agenda, which charts the course for recovery by outlining the strategies and actions needed to protect and restore Puget Sound.
Puget Sound Partnership	Mobilizing funding		29.1, 29.2, 29.3, 29.4, 29.5	FUND1.2	Maintain and expand funding sources for Puget Sound recovery actions and programs. Work with government and private organizations to ensure adequate funding for recovery.

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Puget Sound Partnership	Training for partners and behavior change programs		26.1, 28.1	 Vital Sign Wheel	Support integration of social approaches throughout the Action Agenda and Implementation Strategies, in order to build public and political support for implementation of many types of projects, and to ensure resiliency for future Puget Sound recovery efforts. Also support local partners who are the practitioners of social approaches, and ensures that local partners have the necessary resources to effectively engage people in their local areas. Provide guidance and training to partner organizations to ensure that stewardship programs for Puget Sound recovery are based on best practices and lessons learned.
Puget Sound Partnership	Aligning state funding with Action Agenda priorities		29.3	 FUND1.2.	Work with state agencies to develop natural resource agency budget proposals, based on priorities in the Action Agenda. Rank state agency budget requests and proposed cuts based on priorities in the Action Agenda for use by the Office of Financial Management and the Legislature. Work with state agencies to align grant criteria and project selection with priorities in the Action Agenda.
Puget Sound Salmon Recovery Council	Steelhead Recovery Planning coordination and support	National Oceanic and Atmospheric Administration, National Marine Fisheries Service	1.2, 6.4, 8.2	 CHIN1.1, CHIN8.1	Explore the possibility of developing a regional Steelhead recovery plan under the Endangered Species Act, and the potential role of the Salmon Recovery Council.
Puget Sound Salmon Recovery Council	Chinook Salmon Recovery Plan Monitoring and Adaptive Management: Updates and Implementation		1.3, 6.3, 6.5, 8.3	 CHIN1.1, CHIN8.1	Coordination and support for updates and adaptive management of the Puget Sound Chinook Salmon Recovery Plan and watershed chapters and recovery strategies.

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Puget Sound Salmon Recovery Council	Marine Survival of Steelhead (and Chinook and other species) Research Program		6.4, 8.2, 16.2, 16.3	CHIN4.7	Multi-year study on marine survival of salmonid species to determine where and why steelhead are dying in Puget Sound. The research is developed and implemented by a collaboration of state and federal agencies, Tribes, local government, and non-profit organizations. The effort is coordinated by Long Live the Kings, the Puget Sound research coordinator for the overarching Salish Sea Marine Survival Project.
Puget Sound Starts Here Steering Committee	Puget Sound Starts Here	federal, state, and local governments; nongovernmental organizations; Puget Sound Partnership; Department of Ecology; STORM	9.4, 27.1	TIF1.1, BIB11.1	Puget Sound Starts Here raises awareness of how our everyday actions impact waterways in the Puget Sound region and what we can do to prevent pollution. The Puget Sound Starts Here campaign is a collaborative partnership of federal, state and local governments, tribes, nonprofit organizations and businesses dedicated to protecting Puget Sound. The campaign promotes regional coordination and collaboration, using our individual group's actions to make a big difference.
Puget Sound Federal Task Force	Puget Sound Federal Task Force Action Plan	U.S. Department of Agriculture, U.S. Department of Commerce, U.S. Department of Interior, U.S. Department of Defense, U.S. Environmental Protection Agency, U.S. Department of Transportation		Vital Sign Wheel	The Puget Sound Federal Task Force is working to implement77 actions for Puget Sound recovery, listed in the Action Plan. Topics include shoreline armoring, addressing fish passage barriers, floodplains, riparian and instream habitat, stormwater, vessel traffic, and shellfish.

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Puget Sound Federal Task Force	Science Enterprise	U.S. Department of Agriculture, U.S. Department of Commerce, U.S. Department of Interior, U.S. Department of Defense, U.S. Environmental Protection Agency, U.S. Department of Transportation		 Vital Sign Wheel	Federal and state agencies and partners are developing the scope for a multi-partner collaborative science enterprise to support Puget Sound ecosystem recovery and resilience. The team is applying an integrated systems-thinking approach to identify and prioritize roles, functions, and needs. The chosen approach addresses the complexity of ecosystem recovery as a linked social-ecological system and applies appropriate systems models and tools.
U.S. Army Corps of Engineers (Seattle District)	Regional levee-based vegetation standards	Puget Sound Partnership, local levee owners	5.2, 5.3	 FP2.1, FP2.2, FP3.1, FP3.2	Collaborative effort to develop levee vegetation standards that facilitate maintenance of safe levees, reduced flood risk, and improved habitat for listed salmon.
U.S. Army Corps of Engineers	Puget Sound Nearshore Ecosystem Restoration Project	Washington Department of Fish and Wildlife	29.1	 FUND1.2	A collaborative effort between government agencies, universities, tribes, and environmental organizations. The U.S. Army Corps of Engineers and the Washington Department of Fish & Wildlife are conducting a General Investigation study to improve our understanding of changes to nearshore ecosystems, significant ecosystem problems, and potential solutions to those problems. Ultimately, the program will develop a strategic approach to guide decision making and design and implement actions that will protect and restore Puget Sound's shorelines.

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U.S. Army Corps of Engineers	Puget Sound and Adjacent Waters Restoration Program		29.3	 FUND1.2	Focuses on implementing critical projects for the preservation, protection and restoration of critical ecosystem processes, habitats, and functions within the Puget Sound basin. Priority projects are selected by consulting with regional stakeholders including non-profit organizations, tribes, the state and federal agencies.
U.S. Department of Agrigulture, Natural Resources Conservation Service	Watershed Survey and Planning		1.1, 5.1	 LDC 1.1, LDC1.2, LDC1.4, LCD2.1, FP1.1, FP1.2, FP1.5, FP2.1	This program assists Federal, State, and local agencies and tribal governments to protect watersheds from damage caused by erosion, floodwater, and sediment and to conserve and develop water and land resources. Resource concerns addressed by the program include water quality, opportunities for water conservation, wetland and water storage capacity, agricultural drought problems, rural development, municipal and industrial water needs, upstream flood damages, and water needs for fish, wildlife, and forest-based industries.
U.S. Department of Agrigulture, Natural Resources Conservation Service	Watershed and Flood Prevention Operations Program		1.2	 LDC 1.4, LDC2.1, FP1.4, FP2.1, CHIN1.1, CHIN2.2	This program helps units of federal, state, local and tribal of government (project sponsors) protect and restore watersheds up to 250,000 acres. This program provides for cooperation between the Federal government and the states and their political subdivisions to work together to prevent erosion; floodwater and sediment damage; to further the conservation development, use and disposal of water; and to further the conservation and proper use of land in authorized watersheds.
U.S. Department of Agrigulture, Natural Resources Conservation Service	Environmental Quality Incentives Program		3.1, 5.3, 15.2, 29.2	 LDC3.1, FP3.1, BIBI3.1, FUND1.2	Provides agricultural producers with financial resources and one-on-one help to plan and implement conservation practices. Using these practices can lead to cleaner water and air, healthier soil and better wildlife habitat, all while improving agricultural operations.

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U.S. Department of Agriculture, Natural Resources Conservation Service	Agricultural Management Assistance		3.1, 29.2	LDC3.1, BIBI3.1, FUND1.2	Provides financial and technical assistance to agricultural producers to voluntarily address issues such as water management, water quality, and erosion control by incorporating conservation into their farming operations.
U.S. Department of Agriculture, Natural Resources Conservation Service	Conservation Stewardship Program		3.1, 29.2	LDC3.1, BIBI3.1, FUND1.2	Helps agricultural producers design and develop a custom plan to build on existing conservation efforts while strengthening operations. Goals achieved can include improved grazing conditions, increased crop yields, or improved wildlife habitat.
U.S. Department of Agriculture, Natural Resources Conservation Service	Agricultural Conservation Easement Program		5.4, 29.1, 29.2	FP3.2, FP3.3, FUND1.2	Provides financial and technical assistance to nonfederal partners to help conserve agricultural lands and wetlands, such as by placing development easements on those types of lands.
U.S. Department of Agriculture, Natural Resources Conservation Service	Healthy Forest Reserve Program		29.1	FUND1.2, BIBI3.1,	Helps landowners restore, enhance and protect forestland resources on private lands through easements and financial assistance.

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U.S. Department of Agriculture, Forest Service	Integrated Resource Restoration program		12.2	 BIBI4	Facilitates and supports an integrated approach to land management, recognizing that to effectively restore our national forests and grasslands, we need to integrate our restoration activities to meet multiple objectives at the same time.
U.S. Department of Agriculture, Forest Service	Northwest Forest Plan		12.2	 BIBI4.1	Developed to manage National Forest lands within the range of the northern spotted owl. The Plan contains land management objectives with specific requirements for aquatic protection and restoration.
U.S. Department of Agriculture, Forest Service	Forest Stewardship Program	Department of Natural Resources	3.1	 LDC3.1, BIBI3.1	A nationwide program providing advice and assistance to help family forest owners manage their lands. The program is a cooperative effort between the U.S. Forest Service and state forestry agencies. In Washington state, the program is administered by the Department of Natural Resources
U.S. Department of Agriculture, Farm Services Agency	Conservation Reserve Program and Enhancement Program	Washington State Conservation Commission, Natural Resources Conservation Service	3.1, 15.2	 LDC3.1, BIBI3.1	The Conservation Reserve Program pays a yearly rental payment in exchange for farmers removing environmentally sensitive land from agricultural production and planting species that will improve environmental quality. The Enhancement Program targets high-priority conservation issues identified by government and non-governmental organizations to focus the Conservation Reserve Program

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U.S. Federal Emergency Management Agency	National Flood Insurance Program and Biological Opinion	NOAA Fisheries, local cities and counties	5.3	FP3.2	The National Flood Insurance Program (NFIP) aims to reduce the impact of flooding by providing affordable insurance and by encouraging communities to adopt and enforce floodplain management regulations. In 2008, the National Marine Fisheries Service issued a Biological Opinion finding that implementation of the NFIP in Puget Sound adversely affects the habitat of threatened and endangered species. FEMA has put together an implementation plan that allows communities to apply the performance standards contained in the Biological Opinion by implementing a Model Ordinance, a Programmatic Checklist, or on a permit by permit basis as long as it can be demonstrated that there is no adverse effect to listed species.
U.S., Department of Commerce, National Oceanic and Atmospheric Administration (NOAA)	Natural Resource Damage Assessment Program	U.S. Fish and Wildlife Service, Tribal Governments, Department of Ecology (resource-specific leads)	21.2		Process used to evaluate the impacts of oil spills, hazardous waste sites, and ship groundings on natural resources. Enables NOAA and partners t o identify the extent of natural resource injuries, the best methods for restoring them, and the type and amount of restoration required.
U.S., Department of Commerce, NOAA	Native Oyster Rebuilding Program	Department of Fish and Wildlife, Department of Natural Resources, Tribes, Puget Sound Restoration Fund, Commercial shellfish growers.	19.2	SHELL1.12	NOAA and partners are implementing a 10-year endeavor to rebuild dense, breeding populations of Olympia oysters in Puget Sound. The proposed goal of the project is to restore 100 acres of native oyster habitat in Puget Sound by 2020.

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U.S. Department of Commerce, NOAA Fisheries	Fisheries Management		6.5	CHIN1.1, CHIN3.2, CHIN4.3, CHIN4.4, CHIN4.10	NOAA Fisheries helps coordinate research and fisheries management of west coast salmon populations.
U.S. Department of Commerce, NOAA Fisheries	Puget Sound Chinook Salmon Recovery Plan	Shared Strategy; state, local, and tribal governments; watershed and citizen groups	1.1, 6.1, 6.3, 6.4, 8.1	CHIN	Recovery plan for threatened Puget Sound Chinook salmon, as required by the Endangered Species Act. The plan was developed by Puget Sound citizens and governments and adopted by NOAA Fisheries. The plan outlines regional and watershed specific strategies and actions for recovering Chinook salmon.
U.S. Department of Commerce, NOAA Northwest Fisheries Science Center	SoundToxins	Washington Sea Grant, Washington Department of Health	25.2		Soundtoxins is a monitoring program designed to provide early warning of harmful algal bloom events in order to minimize both human health risks and economic losses to Puget Sound fisheries. It is a diverse partnership of Washington state shellfish and finfish growers, environmental learning centers, Native tribes, and Puget Sound volunteers.
U.S. Department of Commerce, NOAA Fisheries	Pacific Coastal Salmon Recovery Fund		29.2	FUND1.2	The Pacific Coastal Salmon Recovery Fund (PCSRF) is a grant program established to reverse the declines of Pacific salmon and steelhead by supporting conservation efforts in California, Oregon, Washington, Idaho, and Alaska. The program is essential to preventing the extinction of the 28 listed salmon and steelhead species on the West Coast and, in many cases, has stabilized the populations and contributed to their recovery course.
U.S. Department of Commerce, NOAA Fisheries	Endangered Species Act take prohibition (Pacific salmon)	state and local governments, tribes	6.4	CHIN1.10, TIF1.1	Prohibits take of protected salmon without specific authorization. Identifies activities that are likely to result in take, such as development that blocks fish passage, illegal fishing, discharging pollutants into salmon habitat, and others.

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U.S. Department of Commerce, NOAA Fisheries	Puget Sound Steelhead Recovery Plan	Governor's Salmon Recovery Office, Puget Sound Partnership, Washington state agencies, Puget Sound watersheds, tribes	1.1, 6.4		NOAA Fisheries is currently in the process of developing a long-term recovery plan for Puget Sound steelhead with federal, state, tribal, local, and private partners.
U.S. Department of Interior, Fish and Wildlife Service	Cooperative Endangered Species Conservation Fund		2.2, 16.1, 16.2	LDC3.1, LDC3.2, LDC3.3, EST3.1, EST3.2, EST3.3	Grant program that provides financial assistance for states to undertake conservation projects for threatened and endangered species.
U.S. Department of Interior, Fish and Wildlife Service	Landowner Incentive Program		3.1	LDC3.1, LDC3.2, LDC3.3, BIBI3.1	Grant program to establish or supplement state programs that provide financial assistance to private landowners to protect and restore habitats for threatened and endangered species, or other at-risk species.
U.S. Department of Interior, Fish and Wildlife Service	National Fish Passage Program		6.4	LDC3.3	Provides technical assistance on project development and funding for native fish and aquatic species barrier correction projects. Projects are prioritized based upon the benefits to species and the geographical area. Typical projects include barrier culvert removal or replacement with a fish passable culvert or bridge and re-opening oxbow and off channel habitats.
U.S. Department of Interior, Fish and Wildlife Service	Legacy Roads and Trails Program		12.2	BIBI4, CHIN1.1	Addresses a maintenance backlog on roads, trails, and bridges on National Forest lands by stormproofing roads that are still needed and retiring ones that are not.

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U.S. Department of Interior, Fish and Wildlife Service	U.S. North American Bird Conservation Initiative	State and federal agencies, non-profits and stakeholder groups.	15.1		A coalition of state and federal government agencies, private organizations, and bird initiatives in the United States working to ensure the long-term health of North America's native bird populations.
U.S. Environmental Protection Agency	Design for Environment Program		9.2	 TIF1.1	Design for the Environment is an EPA program that promotes development of safer products to replace toxic chemicals. Household and commercial products that carry the Design for the Environment logo have been tested to meet stringent criteria for human and environmental health.
U.S. Environmental Protection Agency	Puget Sound Watershed Management Assistance Program		16.3	 EST3.2, EST3.3, LDC3.2, LDC3.3, SA3.2, SA3.3, FP3.2, FP3.3, BIBI1.1, TIF3.1, CHIN1.2	Grant program to support the development of land use management tools to manage and minimize the effects of population and economic growth on water quality and aquatic habitat. Grants are given to local and tribal governments and special purpose districts.
U.S. Environmental Protection Agency	Superfund Program and National Priority List		21.2	 TIF	EPA's Superfund program is responsible for cleaning up some of the nation's most contaminated land and responding to environmental emergencies, oil spills and natural disasters. The National Priorities List is the list of priority sites among the known or threatened releases of hazardous substances, pollutants, or contaminants that guides EPA in determining which sites warrant further investigation for remediation.

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U.S. Environmental Protection Agency	National Estuary Program and Puget Sound Geographic Funds		29.1	FUND1.2	EPA provides funding to Washington state agencies and to the Northwest Indian Fisheries Commission to implement the Action Agenda. The funding is further distributed to individuals and organizations around the sound to implement recovery Near Term Actions.
Washington State, treaty tribes, U.S. Department of Commerce, NOAA Fisheries	Salmon and Steelhead Fishery: Harvest Management Program		6.3	CHIN	Harvest of steelhead and salmon in Puget Sound is co-managed by treaty tribes and the State of Washington. Harvest management plans have been developed for many of the species.
Washington Department of Agriculture	Dairy Nutrient Management Act (RCW 90.64 and WAC 16.611)	Department of Ecology	9.6	CHIN2.4, SHELL1.3, TIFF1.1, BIBI3.1	Requires all licensed cow dairies to develop and implement nutrient management plans, register with the Department of Agriculture, and participate in a program of regular inspections and compliance. The program is intended to protect water quality from livestock nutrient discharges and help maintain a healthy agricultural business climate.
Washington Department of Agriculture	Concentrated Animal Feeding Operation Permit	Department of Ecology	11.2	CHIN2.4, CHIN2.5, SHELL1.5, BIBI3.1	Washington Departments of Agriculture and Ecology coordinate resources to enforce federal CAFO rules and permits in Washington State. Ecology administers, develops, and processes CAFO permits. Agriculture inspects permitted facilities and provides technical support. The permits protect water quality from CAFO discharges.

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Washington Department of Commerce	Growth Management Services		1.1, 1.2, 4.1, 4.2, 4.3, 29.1	LDC 1.1, LDC 1.2, LDC 1.3 LDC 1.4, LDC2.1 LDC3.1, LDC3.4, TIF3.1, FUND1.2	Growth Management Services' primary goal is to help local governments implement and abide by the Growth Management Act, which includes a mandate to contain most growth within urban growth areas, thereby helping to protect other areas from the results of intense development. This dovetails with PSP's mandate to protect and restore Puget Sound and its watersheds.
Washington Department of Ecology	Air - Reducing Toxic Diesel Emissions	Local Clean Air Agencies; Washington Sea Ports	9.3	TIF1.1	Diesel vehicle exhaust is a leading source of polycyclic aromatic hydrocarbons (PAHs), which have been identified as a toxic of concern for fish in Puget Sound. The Clean Diesel Program administered by the Department of Ecology helps to reduce toxic diesel emissions, including PAHs, at their source by providing pass through grants to local air agencies, ports, and fleet managers to repower, replace, or retrofit high polluting, dirty diesel engines. Reductions of diesel emissions at ports and along shorelines helps to prevent deposition and runoff of PAHs into Puget Sound.
Washington Department of Ecology	Air - Reducing Toxic Woodstove Emissions	Cities, counties, conservation districts, NGOs	9.3	TIF1.1	Wood smoke from residential home heating is a significant source of polycyclic aromatic hydrocarbons (PAHs), a toxic of concern for fish in Puget Sound. The Residential Wood Smoke Reduction Program administered by the Department of Ecology provides pass through funding to local clean air agencies serving the Puget Sound region for uncertified, inefficient, woodstove change-outs to cleaner home heating appliances, which reduces the creation and transport of PAHs into Puget Sound.

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Washington Department of Ecology	Beach Environmental Assessment, Communication, and Health (BEACH)	Department of Health	21.3		Primary state program for monitoring and notification of water quality contamination at marine beaches. The BEACH program monitors marine beaches for fecal bacteria, notifies the public when the results are high, and educates the public on how to avoid getting sick from playing in saltwater.
Washington Department of Ecology	Environmental Assessment Program - Long Term Marine Water Quality Monitoring Program	WWU Shannon Point Marine Center		CHIN2.5	Long-term monitoring of physical, chemical and bio-optical water quality variables for water quality status and trends to identify ecosystem changes in Puget Sound and the coastal estuaries. The majority of the monitoring stations are located in Puget Sound.
Washington Department of Ecology	Environmental Assessment Program - Freshwater Quality Monitoring Program			CHIN2.5	Statewide monitoring of physical and chemical water quality variables at freshwater river and stream stations to understand the health of Washington's waterways. About a quarter of these monitoring stations are in tributaries that flow into Puget Sound.
Washington Department of Ecology	Environmental Assessment Program - Marine Sediment Quality Monitoring Program	Puget Sound Ecosystem Monitoring Program (PSEMP) stakeholders		CHIN2.5	Long-term monitoring of Puget Sound sediment and sediment-dwelling invertebrate communities to determine condition and change-over-time in response to multiple environmental pressures. All monitoring stations are located in Puget Sound.
Washington Department of Ecology	Hazardous Waste and Toxics Reduction - Local Source Control Partnership in Puget Sound	U.S. Environmental Protection Agency and many cities and counties within Puget Sound	9.4	TIF1.1	Provides specialists in multiple communities that offer free, hands on assistance to help businesses resolve potential pollution issues. These efforts reduce pollution by, reviewing spill prevention practices, providing best management practices for stormwater management, explaining hazardous waste regulations and by providing recycling or disposal resources for hazardous waste. 13 of 21 counties that offer Local Source Control Assistance are in the Puget Sound making approximately 62% (61.9%) of the program fall within the Puget Sound.

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Washington Department of Ecology	Hazardous Waste and Toxics Reduction - Urban Waters Technical Assistance Visits	Businesses within the Puget Sound Region	9.4	CHIN2.5	Provides technical assistance to local businesses increases education and awareness of RCRA regulations and helps reduce releases to the environment. 43 of the 63 total visits in 2017 were in the Puget Sound action area.
Washington Department of Ecology	Hazardous Waste and Toxics Reduction - Reducing Toxic Threats, Toxics Reduction Technical visits and special projects	Toxic reduction staff and interested businesses within the Puget Sound.	9.4	TIF1.1	Works with interested businesses to reduce toxics in processes and products by working with the businesses and providing technical assistance. 90 of the 142 businesses receiving technical assistance were in the Puget Sound.
Washington Department of Ecology	Hazardous Waste and Toxics Reduction - Resource Conservation and Recovery Act (RCRA) Compliance Inspections	The U.S. Environmental Protection Agency.	9.6	TIF4.1	Conducts RCRA compliance inspections aids in the reduction of hazardous waste releases to the Puget Sound. The program conducts inspections statewide however approximately 64% of compliance inspections occur within the Puget Sound Region.
Washington Department of Ecology	Hazardous Waste and Toxics Reduction - Corrective Action project management and education and outreach	The U.S. Environmental Protection Agency and specific responsible parties.	21.2		Corrective action project management adheres to cleanup efforts and timelines required by the Federal Government. This cleanup prevents additional contamination from entering waterways within the Puget Sound region. The education and outreach efforts inform the communities impacted by cleanup sites by providing them information and resources. Of 34 corrective action sites, 24 are within the Puget Sound or 70.5%.
Washington Department of Ecology	Puget Sound Watershed Characterization Assessment	Department of Fish and Wildlife, Puget Sound Partnership	1.1, 10.1, 15.2	LDC1.1, LDC1.2, LDC1.3, LDC2.1, BIBI5.1	Tool that allows planners and resource managers to identify the most important areas to protect and restore watershed resources, and areas more suitable for development. This information will help communities avoid harmful land use patterns and actions and alternatively identify those that improve the health of Puget Sound's land and water ecosystems.

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Washington Department of Ecology	Regional Oil Spill Planning	U.S. Environmental Protection Agency, Pacific State/British Columbia Oil Spill task Force, Puget Sound Harbor Safety Committee	20.1, 20.2	CHIN6.1, CHIN6.2	Transboundary effort to coordiante oil spill prevention and response.
Washington Department of Ecology	Shorelands - Wetland Mitigation Compliance Program	U.S. Army Corps of Engineers, local governments	1.4, 2.1, 6.5	CHIN1.10, CHIN2.4, CHIN4.3	Ensures the successful replacement of wetland losses through compliance checks on compensatory mitigation sites and enforcement of mitigation requirements.
Washington Department of Ecology	Shorelands - Wetland Mitigation Banking Program	U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, local governments	1.2, 1.3	CHIN1.10, CHIN1.5	Ensures successful replacement of wetland losses through certification and oversight of wetland mitigation banks (large restoration projects that consolidate compensatory mitigation for several projects.
Washington Department of Ecology	Shorelands - Wetland Technical Assistance	local governments	1.2, 1.3, 1.4, 2.1	CHIN1.10, CHIN1.1, CHIN1.2, CHIN1.4	Protects wetlands by providing technical assistance on wetlands to local governments for updating and implementing their local development regulations. Conditions wetland permits to protect wetland functions and values.
Washington Department of Ecology	Shorelands - Northwest Straits Commission	WDNR, WDFW, DOE, NOAA, Puget Sound Restoration Fund, Northwest Straits Foundation, USGS and numerous others	17.2	SA3.2	Works to engage local citizens in Northwest Straits and Puget Sound recovery and protection projects through seven county based Marine Resources Committees. Facilitates partnership building between NGOs, local, federal and state agencies and citizen driven volunteer groups for project implementation.

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Washington Department of Ecology	Shorelands - Shoreline Master Programs	local governments, state agencies, tribal governments	1.2, 1.3, 2.1, 5.3, 8.1, 8.2, 8.3	CHIN1.1, FP1.5, CHIN1.2, SA1.5, SA2.1, SA3.2	Protects shorelines and wetlands through a cooperative program with local governments. Applies in statutorily defined areas that includes all marine waters, rivers larger than a certain rate of flow, and lakes larger than 20 acres.
Washington Department of Ecology	Shorelands - Floodplains by Design	Local governments, landowners, tribal governments,	5.1, 5.2, 5.3, 5.4	FP1.2, FP2.1, FP2.2, FP3.2	Grant program for large-scale multi-benefit floodplain restoration projects that improve habitat, prevent flood hazards and protect farmland.
Washington Department of Ecology	Shorelands - Floodplain Management	Local governments	5.1, 5.2, 5.3	FP1.5	Provides technical assistance, flood ordinance reviews, and community assistance visits to local governments as part of the National Flood Insurance Program.
Washington Department of Ecology	Shorelands - Coastal Hazards resilience network	Local governments, academia	8.1, 8.2	EST1.3, CHIN5.1	Improves regional coordination and collaboration through partnerships among practitioners to make Washington's coastal communities more resilient to natural hazards including sea level rise.
Washington Department of Ecology	Shorelands - Padilla Bay National Estuarine Research Reserve	Washington Department of Natural Resources, Washington Department of Fish and Wildlife, National Oceanic and Atmospheric Administration, U.S. Geological Survey, Conservation Districts, County government	27.4	LDC 1.1	Manages a 12,000 acre estuarine protected area and carries out extensive programs in research, monitoring, resource protection, professional training and public education

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Washington Department of Ecology	Solid Waste Management - Moderate Risk Waste management	Local governments	9.1	FUND1.2	Provide technical assistance to local governments in managing household and moderate-risk waste. Many consumer products contain toxic chemicals that make them hazardous. These products need to be handled properly to prevent them from entering the environment. This work is done statewide, including in the Puget Sound region.
Washington Department of Ecology	Solid Waste Management - Organic materials management	Local Governments	9.4, 9.6	BIBI3, TIF1.1	Organic materials management includes composting. Compost, is useful for filtering stormwater, and when applied to soils reduces the need for chemical fertilizers and pesticides. This work is done statewide, including in the Puget Sound region.
Washington Department of Ecology	Solid Waste Management - Biosolids management	Northwest Biosolids; Pacific Northwest Clean Water Association; Local Jurisdictional Health Authorities		CHIN1.10, CHIN2.5	Permitting, technical support and enforcement to ensure that the beneficial use of biosolids generated from wastewater treatment facilities is protective of surface and groundwater. This work is done statewide, including in the Puget Sound region.
Washington Department of Ecology	Solid Waste Management - Litter pick up	Local governments, Department of Natural Resources, Department of Corrections, Department of Fish and Wildlife, and State Parks)		TIF1.1	Ecology leads a partnership of state and local agencies to keep our state's roads and highways clean, pick up illegal dumps, and prevent people from littering in the first place. This work is done statewide, including in the Puget Sound region.
Washington Department of Ecology	Solid Waste Management - Community Litter Cleanup Program	Local governments	29.4	TIF1.1, FUND1.2	Provides local governments with funding for litter pickup, illegal-dump cleanup, and litter-prevention education. This work is done statewide, including in the Puget Sound region.

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Washington Department of Ecology	Solid Waste Management - Local Solid Waste Financial Assistance Grants	Local governments	9.4, 29.4	 TIF1.1, FUND1.2	Grant program that provides funding to local governments for solid and hazardous waste programs. Work includes moderate risk waste, organics management, and facility enforcement. This work is done statewide, including in the Puget Sound region.
Washington Department of Ecology	Solid Waste Management - Public Participation Grants	Non-governmental Organizations	9.4, 29.3	 TIF1.1, FUND1.2	Grant program that provides funding to individuals and not-for-profit public interest organizations to increase public understanding and involvement in cleaning up contaminated sites and improving recycling and waste management. This work is done statewide, including in the Puget Sound region.
Washington Department of Ecology	Solid Waste Management - Waste Reduction and Recycling Education Grants	Local governments, Non-governmental Organizations	9.4	 TIF1.1, FUND1.2	New competitive grant program for local governments and non-profit organizations for statewide education programs designed to help the public with litter control, waste reduction, recycling, and composting.
Washington Department of Ecology	Spill prevention	Industry and federal, tribal, state, and local governements	20.1	 CHIN6.1	This program works with the regulated community and others to minimize the environmental threat of oil spills from vessels, railroads, pipelines, and oil handling facilities by focusing on human procedural and organizational factors. The regulated community consists of a variety of industries and private businesses that refine, transport, and supply oil products throughout Washington. Approximately 60 percent of this program's work is dedicated to the Puget Sound.

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Washington Department of Ecology	Spill Preparedness	Industry and federal, tribal, state, and local governements	20.2	CHIN6.2	This regulatory program requires oil handlers to be prepared to respond if they have an oil spill. In Washington, the oil spill community — which includes tribes; industry; and local, state, and federal agencies — maintains oil spill plans to ensure a level of preparedness in the region. Ecology reviews and approve industry oil spill contingency plans, provides technical assistance, and tests the efficacy of plans through oil spill drills. Approximately 70 percent of this program's work is dedicated to the Puget Sound.
Washington Department of Ecology	Spill response	Industry and federal, tribal, state, and local governements	20.3	CHIN6.2	Ecology responds to and cleans-up spills of oil, hazardous substance, pollutants, and illegal drug manufacturing facilities. Spill response capability is maintained 24 hours a day, seven days a week, statewide. To protect human safety and minimize damage to Washington's environmental, cultural, historic and economic resources, Ecology works closely with other agencies, tribes, and responsible parties, federal and local emergency response personnel. After spills occur, work begins to restore the publicly-owned resources that were injured (natural resource damage assessment). Ecology provides funds to local communities to stage equipment around the state. Approximately 74 percent of this program's work is dedicated to the Puget Sound.
Washington Department of Ecology	Toxic Cleanup Program - Contaminated sites hazard rankings and prioritization	County Health Departments	21.2	TIF3.1, CHIN2.5	Process for identifying risks associated with a specific cleanup site and prioritizing sites for cleanup based on best available science.

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Washington Department of Ecology	Toxic Cleanup Program - Cleaning up priority bays in Puget Sound	Ports, local governments, Tribes, environmental groups, Puget Sound Partnership, Environmental Protection Agency	2.3, 18.1, 21.2, 27.2, 28.2, 28.4	 CHIN2.5, SA3.3, TIF1.1, FP3.3	In 2007, Ecology prioritized toxics cleanup and habitat restoration in seven important bays in the greater Puget Sound Area. This baywide approach has guided our work over the past decade, resulting in cleanups that are coordinated, cost effective, and achieved more quickly. The goal of baywide cleanups is to protect the most sensitive habitat in Puget Sound, in part with a focus on supporting nursery habitat for herring, salmon, and clean shellfish. Baywide cleanup is an approach that doesn't focus only on one site, but covers an entire bay, harbor, or inlet. Priority Bays include: Fidalgo and Padilla Bay/ Anacortes, Budd Inlet, Port Angeles Harbor/Rayonier Mill, Port Gamble, Port Gardner Bay/Everett, Bellingham Bay, Oakland Bay, Lower Duwamish Waterway. https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-sites/Toxic-cleanup-sites/Puget-Sound
Washington Department of Ecology	Toxic Cleanup Program - Tacoma Smelter Plume	Pierce County, King County	9.1, 21.2, 27.2, 28.2	 CHIN2.5, TIF1.1	For almost 100 years, the Asarco Company operated a copper smelter in Tacoma, Air pollution from the smelter settled on the surface soil of more than 1,000 square miles of the Puget Sound basin, Arsenic, lead, and other heavy metals are still in the soil as a result of this pollution. Ecology provides various services and programs to cleanup residential properties, public parks and childcares, and redevelopment properties. https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-sites/Toxic-cleanup-sites/Tacoma-smelter

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Washington Department of Ecology	Toxic Cleanup Program - Underground Storage Tank Program	Environmental Protection Agency, Western States Petroleum Association, Washington Oil Marketers Association, Petroleum Retail Sale Organizations	9.1, 9.4, 9.6	TIF1.1	Protects the environment by regulating more than 9,200 tanks across the state. Ensures these tanks are installed, managed, and monitored to prevent releases in to the environment. The federal requirement is to inspect tanks every three years but Ecology inspects tanks every two and a half years. Conducts compliance inspections at about 1,200 facilities each year and provide technical assistance to tank owners. https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanups/Underground-storage-tanks
Washington Department of Ecology	Toxic Cleanup Program - Remedial Action Grant Program		29.3	FUND1.2	Grant program to cleanup hazardous waste sites; Puget Sound as one of the priority areas. There are various grant types for cleanups conducted under supervision by Ecology or EPA, independently or for area-wide investigations. These grants support cleanup of some of the most dangerous contamination and important habitat around Puget Sound. https://ecology.wa.gov/About-us/How-we-operate/Grants-loans/Find-a-gran-or-loan
Washington Department of Ecology	Watershed Plan Implementation and Flow Achievement Capital Grant Program		7.1, 7.2, 29.3	CHIN2.1, CHIN2.3, FUND1.2, LDC3.1	Grant program that funds projects that improve water supply, stream flows, and instream habitat conditions. Grant applicants must use one of several possible methods for flow achievement.

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Washington Department of Ecology	Water Quality - Control Stormwater and Wastewater Pollution	Stormwater and wastewater permittees, Non-profitss, cities, counties	7.210.2, 14.1, 14.4, 18.1	CHIN2.1, CHIN2.2, CHIN2.3, CHIN2.5, CHIN2.6, TIF2.1	Ecology prepares tools, provides assistance, and offers compliance strategies to control the quantity and quality of stormwater runoff from development and industrial activities. Ecology works with local governments and other stakeholders to implement a municipal stormwater program and permitting system. Ecology protects Washington's water by regulating point source discharges of pollutants to surface and ground waters. This is done with a wastewater permit program for sewage treatment plants and an industrial discharge program for other industries. A permit is a rigorous set of limits, monitoring requirements, or management practices, usually specific to a discharge, designed to ensure a facility can meet treatment standards and water quality limits. The permit is followed by regular inspections and site visits. Technical assistance and follow up on permit violations also are provided through various means.
Washington Department of Ecology	Water Quality - National Estuary Program Stormwater Strategic Initiative	Washington Department of Commerce, Washington State University	9.4	BIBI5.1	The Puget Sound Partnership has developed three Strategic Initiatives (SIs) that emphasize priority topics with issues critical to Puget Sound recovery within the Action Agenda - Stormwater, Habitat, and Shellfish. The SI Leads each facilitate an Advisory Team made up of technical and policy experts in the region, as well as work in coordination with one another, the Puget Sound Partnership, EPA , Tribes, Local Integrating Organizations and others throughout the region. SI Leads manage NEP sub-awards which implement work approved in the Action Agenda Implementation Plan via EPA's National Estuary Program grant to clean up Puget Sound.

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Washington Department of Ecology	Water Quality - Clean Up Polluted Waters - standards and water quality improvement plans (TMDLs)		14.3	CHIN2.5	The federal Clean Water Act requires Ecology to develop water quality standards and identify water bodies that fail to meet those standards. Ecology does this by reviewing thousands of water quality data samples and publishing an integrated water quality assessment report. This report lists the water bodies that do not meet standards. Ecology works with Ecology's Environmental Assessment Program (EAP) to perform field sampling and modeling analyses to support development of water quality improvement reports (Total Maximum Daily Loads) in collaboration with local interests. The goal is to reduce pollution by establishing conditions in discharge permits and nonpoint source management plans. EAP also conducts effectiveness monitoring to document improvements in water quality.
Washington Department of Ecology	Water Quality - Reduce Nonpoint Source Water Pollution	Cities, counties, conservation districts, non-profits	9.4	CHIN1.10	Nonpoint source pollution (polluted runoff) is the leading cause of water pollution and poses a major health and economic threat. Types of nonpoint pollution include fecal coliform bacteria, elevated water temperature, pesticides, sediments, and nutrients. Sources of pollution include agriculture, forestry, urban and rural runoff, recreation, hydrologic modification, and loss of aquatic ecosystems. Ecology addresses these problems through raising awareness; encouraging community action; providing funding; and supporting local decision makers. Ecology also coordinates with other stakeholders through the Washington State Nonpoint Workgroup, the Forest Practices Technical Assistance group, and the Agricultural Technical Assistance group.

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Washington Department of Ecology	Water Quality - Provide Financial Assistance	Cities, counties, towns, federally recognized tribes, special purpose districts, conservation districts, and nonprofits (for 319 grants).	9.1, 10.1, 10.5, 29.3	 CHIN2.4, CHIN2.5, CHIN2.6, TIF1.1, TIF2.1, BIBI2.1, BIBI5.1, FUND1.2	Ecology provides grants, low interest loans, and technical assistance to local governments, state agencies, and tribes to enable them to build, upgrade, repair, or replace facilities to improve and protect water quality. This includes meeting the state's obligation to manage the Water Pollution Control Revolving Fund in perpetuity. Ecology also funds nonpoint source control projects, such as watershed planning, stormwater management, freshwater aquatic weed management, education, and agricultural best management practices. Grants are targeted to nonpoint source problems and communities where needed wastewater facilities projects would be a financial hardship for taxpayers. Local governments use loans for both point and nonpoint source water pollution prevention and correction projects. Ecology coordinates grant and loan assistance with other state and federal funding agencies.
Washington Department of Ecology	Water Resources - Water use metering program	Local governments, Non-governmental Organizations	7.3	 CHIN1.6, CHIN1.7	Requires certain water users to meter their water use. Ecology uses metering data to monitor real-time impacts of surface water diversions and groundwater withdrawals, compliance with acquired mitigation packages, water right enforcement, protection of trust water acquisitions, and proof of historical use.
Washington Department of Ecology	Water Resources - Water right permitting program		1.3	 CHIN1.10	Ecology issues water rights only in areas where water is available. Water for new uses is becoming more difficult to come by due to the growing population and court decisions. In addition to issuing water rights, Ecology are also responsible for protecting streamflows for fish, wildlife, recreation, aesthetics, water quality, and navigation. Ecology accomplishes this by setting instream flows, which are essentially water rights for rivers.

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Washington Department of Ecology	Water Resources - Enforcement of water resources laws		1.3	CHIN1.10	Ecology enforce water resources laws statewide, including taking actions on illegal water users, and curtailment of junior water users when water shortages occur. Although this is a statewide activity, particular focus is given to areas affecting Puget Sound.
Washington Department of Ecology	Water Resources - Implement instream flow rules	Local governments	1.3	CHIN1.10	In all basins where instream flows are adopted, Ecology conditions new water right permits to protect the instream flow levels. In some basins allocations are limited and tracked from water reserved for new uses. In others, Ecology takes a very active role in finding or providing mitigation and reliable water supplies for rural development.
Washington Department of Ecology	Water Resources - Streamflow Restoration program	Local governments	1.2, 3.2, 6.4, 7.1, 23.2	FUND1.2, CHIN1.1, CHIN1.5, CHIN1.5, CHIN1.8	In 2018, the legislature passed the Streamflow Restoration Act, chapter 90.94 RCW. Under this law, Ecology will lead planning efforts in eleven basins in Puget Sound to protect and restore streamflows. In addition, the legislature authorized $300 million to be spent on flow enhancement projects over the next 15 years statewide to improve streamflows and fish habitat.
Washington Department of Fish and Wildlife	Ecosystems Support	Department of Natural Resources	2.1, 17.2, 1.2, 1.2, 1.1	LDC3.2, SHELL1.1, LDC1.4, LDC2.2, LDC1.1	In order to protect our Aquatic species and habitats, WDFW offers conservation technical assistance to local governments and individuals. This includes working for marine protected areas and the State of Washington Aquatic Habitat Guidelines program, as well as assisting DNR with forest practices. Additionally, WDFW's ecosystem support work includes land use analysis and assistance to local governments working on protecting ecologically important areas under GMA.

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Washington Department of Fish and Wildlife	Estuary and Salmon Restoration Program	Recreation and Conservation Office	16.2, 29.1	 EST3.3, FUND1.2, EST3.2	The Estuary and Salmon Restoration Program provides grants to protect and restore the Puget Sound nearshore.
Washington Department of Fish and Wildlife	Fishery and Hatchery Science and Management		6.3, 27.4	 CHIN 1.7, CHIN 4.3, SHELL 1.1, SHELL 1.12, SHELL 1.13	This program spans WDFW's fisheries management, from hatchery production to fisheries and shellfish science and monitoring. It includes shellfish disease science and annual pre-season razor clam population assessments, which allows WDFW to offer the maximum number of harvest opportunities while maintaining a sustainable razor clam population base. It also includes salmonid monitoring and forecasting required by the 2016 NOAA BiOp and Pacific Salmon Treaty obligations. This program also includes work to protect marine ecosystems by removing derelict gear (e.g. crab pots) from sensitive areas.
Washington Department of Fish and Wildlife	Hydraulic Project Approval Program		8.3	 EST1.5, EST2.2, EST3.2, SA1.5, SA2.2, SA3.2	The Washington Department of Fish and Wildlife (WDFW) administers the HPA program under the state Hydraulic Code, which was specifically designed to protect fish life. WDFW Habitat Biologists are available to assist with the application process and ensure projects meet state conservation standards for fish and their aquatic habitat.

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Washington Department of Fish and Wildlife	Lands Conservation			 LDC 1.4, LDC 2.1, LDC 3.2, LDC 3.3; CHIN 1.10; SHELL 1.1	WDFW owns and manages over a million acres of land and over 600 water access sites. This land base is strategically developed based on the conservation needs of fish and wildlife and provides sustainable fishing, hunting, wildlife viewing, and other recreational opportunities when compatible with healthy and diverse fish and wildlife populations and their habitats. This program includes law enforcement for the protection of these lands from unpermitted hydraulic projects, development of multi-benefit plans for the conservation and recovery of ecologically important areas, and robust habitat monitoring strategies that track ecological integrity resulting from multi-benefit land use plans. This program also includes acquisitions and restoration work (including noxious weed control and forest health practices).
Washington Department of Fish and Wildlife	Comprehensive Wildlife Conservation Strategy		15.1	 LDC2.1	The CWCS provides a solid biological foundation and strategic framework for the Washington Department of Fish and Wildlife, its conservation partners and Washington residents to take action with specific c action plans: 1. To identify and safeguard wildlife and natural habitats important to many of our family traditions and for future generations. 2. To conserve all wildlife and the habitats they live in, starting with the animals and places most in need. 3. To assure that the natural habitats needed by wildlife are healthy enough to provide clean water and air for both wildlife and people.
Washington Department of Fish and Wildlife	Aquatic Invasive Species Prevention and Enforcement		15.3, 15.4	 SHELL1.2, CHIN4.1	Aquatic Invasive Species and Ballast water management programs

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Washington Department of Fish and Wildlife	Fish Passage			CHIN7.1, LDC3.3, CHIN4.3	WDFW leads the state in resolving fish passage barrier problems, and is an active partner in supporting the public, state and local agencies, and restoration groups with their efforts to locate, prioritize and fund fish passage barrier repairs across Washington State
Washington Department of Fish and Wildlife	Shellfish Safety	Washington Department of Health		SHELL 1.1, SHELL 1.3	WDFW Police officers assist the Washington Department of Health (DOH) in compliance with the cooperative National Shellfish Sanitation Program (NSSP). They patrol shellfish beds, inspect processors, dealers, markets, and businesses, and investigate cases to protect consumers, public safety, the Washington State shellfish industry, and shellfish habitat. The objective of the NSSP patrols are to ensure that shellstock is only harvested from areas free of excessive concentrations of pathogenic microorganisms, biotoxins, and poisonous substances.
Washington Department of Fish and Wildlife	Regional Fisheries Enhancement Groups (RFEGs)			CHIN 2.1, CHIN 7.1, LDC 3.1, LDC 3.3	RFEGs are implementers of restoration projects that benefit the Hirst decision, the Martinez Culvert decision, SRF Board and State initiatives. Several RFEG projects are on Lead Entity 4-year work plans, and RFEG efforts span from outreach and community engagement to fish passage and riparian restoration projects. In Washington's decentralized/localized salmon recovery strategy, RFEGs play a lead role in salmon recovery.

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Washington Department of Fish and Wildlife	Instream Flows	Department of Ecology	7.1	CHIN2.2	The Washington Department of Fish and Wildlife (WDFW) recommends instream flows to be conditions of water rights or Clean Water Act Section 401 certification (issued by Ecology) and hydroelectric power project licenses or exemptions (issued by the Federal Energy Regulatory Commission). When a major water project is planned, WDFW and Ecology request that the project proponent conduct an instream flow study in consultation with the agencies to provide adequate information on which to base an instream flow recommendation or requirement.
Washington Department of Fish and Wildlife	Salmonid Life Histories and Survival Research			CHIN3.2, CHIN4.1, CHIN4.2, CHIN4.3, CHIN4.8	WDFW uses applied science around to improve our understanding of the life cylce of salmonids and other species in our waters. This includes studies like forage fish and toxics-focused biological observation system.
Washington Department of Fish and Wildlife	Puget Sound Nearshore Ecosystem Restoration Program	U.S. Army Corps of Engineers	16.2, 29.1, 29.2	EST3.3, SA3.3	The Puget Sound Nearshore Ecosystem Restoration Project is a comprehensive assessment of Puget Sound's 2,500 miles of shoreline to understand how humans have impacted the nearshore zone---our beaches, bluffs, inlets and river deltas---and what opportunities exist to improve the health of the nearshore zone and its ability to support biological features humans value such as shorebirds, shellfish, salmon, orcas and great blue herons. It is a partnership between the Washington Department of Fish and Wildlife and the U.S. Army Corps of Engineers.

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Washington Department of Fish and Wildlife	National Estuary Program	Washington Department of Natural Resources		 CHIN 1.1, CHIN1.2, CHIN1.10, CHIN 4.1, CHIN 5.3, EST, SA, FP, LDC, FUND 1.2	Washington's Department of Fish and Wildlife and Department of Natural Resources serve as co-leads of the Habitat Strategic Initiative, one of three Strategic Initiatives (along with Stormwater and Shellfish) developed by the Puget Sound Partnership. The Strategic Initiative Lead (SIL) facilitates an Advisory Team made up of technical and policy experts in the region, develops and manages habitat recovery Implementation Strategies, and works in coordination with the other SILs, the Puget Sound Partnership, EPA, Tribes, Local Integrating Organizations, and other partners throughout the region. The Habitat SIL grants EPA Puget Sound Geographic Funds to implement work approved in the Action Agenda's Implementation Plan.
Washington Department of Health	Wastewater Management Program (Large and Small Onsite Sewage Systems)	Local Health Jurisdictions	13.1, 13.2	 CHIN2.5, SHELL1.6, SHELL1.7	Program includes staff time, technical support, education and awareness as well as funding related to OSS Local Management Programs implementation by local health jurisdictions with an emphasis on counties with marine recovery or other specially designated areas. LOSS program includes inspection, design, review and regulation of large on-site sewage systems (between 3,500 and 100,00 gallons).
Washington Department of Health	Shellfish Growing Area Classification	Department of Ecology, Tribes, Department of Agriculture, Puget Sound Partnership, Conservation Districts, Industry, Local Health Jurisdictions, Counties	19.1	 SHELL1.1, SHELL1.9	Shellfish growing area classification programs fall within the Shellfish Growing Area section of the Office of Environmental Health and Safety at Department of Health. These programs collect and analyze marine water quality and shoreline pollution source data to evaluate the safety of shellfish in the nearby environment. The programs create the appropriate classification for each area which dictate the availability of commercial and recreational shellfish harvesting opportunities.

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Washington Department of Health	National Estuary Program	Washington Department of Ecology, Washington Department of Agriculture	13.1, 13.2, 13.3, 17.1, 19.1, 21.4	SHELL 1.1, SHELL 1.3, SHELL 1.5, SHELL 1.6, SHELL 1.7, SHELL 1.8, SHELL 1.9	The Puget Sound Partnership developed three strategic initiatives (SIs) that emphasize priority topics with issues critical to Puget Sound recovery within the Action Agenda- Stormwater, Habitat and Shellfish. Lead agencies for each SI facilitate an Advisory Team made up of technical and policy experts in the region, as well as work in coordination with one another, the Puget Sound Partnership, EPA, Tribes, Local Integrating Organization partners and others throughout the region. SI Leads manage sub awards which implement work approved in the Action Agenda's Implementation Plan via a cooperative agreement from EPA. Both the Shellfish Strategic Initiative and the work of the Pathogens Lead Organization (2011-2019) fall within the NEP program at DOH.
Washington Department of Health	Water Quality Restoration Program	Local Health Jurisdictions, Counties, Tribes, Non-profits, Industry, Academia, Landowners, Conservation Districts	19.1, 21.4	SHELL1.3. SHELL1.5, SHELL1.6, SHELL1.9, SHELL1.11	The water quality restoration program falls within the Shellfish Growing Area section of the Office of Environmental Health and Safety at Department of Health. This program provides technical support via staff time to jurisdictions who are required to set up a Shellfish Protection District and create closure response plan in response to degraded water quality. The program also provides technical support and guidance to locally implemented pollution identification and correction programs and identifies threatened water quality stations/ areas of priority for water quality restoration.
Washington Department of Natural Resources	Natural Areas		1.1, 15.2	LDC 1.1, LDC2.1, LDC3.4, LDC3.2	WDNR is actively building a statewide system of natural areas that includes examples of all major ecosystem types and many rare species. This is done in cooperation with other state and federal agencies and non-profit organizations. Sites are actively monitored and provide opportunities for research and education. They also provide a reference standard for each ecosystem type for ecological restoration efforts.

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Washington Department of Natural Resources	Natural Heritage Programs		1.1	 LDC 1.1, LDC2.1, LDC3.4, LDC3.2	The Natural Heritage Program maintains scientific information and expertise on Washington's native ecosystems and rare plant and animal species to help prioritize and guide efforts to conserve Washington's natural diversity.
Washington Department of Natural Resources	Rivers and Habitat Open Space Program		2.1, 29.6	 LDC3.2, FUND1.2, FP3.2, LDC3.1	WDNR purchases conservation easements from private forest landowners to protect riparian forest lands and critical habitats for threatened and endangered species.
Washington Department of Natural Resources	Family Forest Fish Passage Program	RCO	2.2, 3.1, 12.2,	 LDC3.1, LDC3.3, FP3.3, BIBI3.1, BIBI4.1, FUND1.2	WDNR works with the Recreation and Conservation Office to provide financial assistance to small forest landowners to remove fish passage barriers, such as culverts, on their forest roads.
Washington Department of Natural Resources	Forest Riparian Easement Program		3.1	 LDC3.1, BIBI3.1, LDC3.2, FUND1.2	WDNR protects habitat adjacent to fish-bearing streams by purchasing conservation easements from small forest landowners along riparian areas and adjacent slopes.
Washington Department of Natural Resources	Aquatic Reserves		8.1	 EST1.1, EST1.2, EST1.3, EST1.4, EST2.1, EST3.4, SA3.4	WDNR identifies habitats and species that merit higher levels of protection and management and supports them through activities such as monitoring and restoration within the boundaries of state aquatic reserves.
Washington Department of Natural Resources	Forest Practices Program including the Habitat Conservation Plan		12.1	 CHIN2.5, BIBI4.1, BIBI3.1, LDC3.2	WDNR protects aquatic and riparian-dependent species habitat on state and private forestlands. Projects completed under this effort include fish passage barrier removal.

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Washington Department of Natural Resources	Leasing program for State Owned Aquatic Lands		16.1	EST3.2, EST3.3, SA3.2, SA3.3	When WDNR authorizes leases on lands owned and managed by the state it may attach site specific provisions to the lease, such as the removal of toxic materials, to protect habitat and other resources.
Washington Department of Natural Resources	Dredged Material Management Program		16.1, 16.2	EST3.2, EST3.3	DNR manages dredge disposal sites on state-owned aquatic lands and contracts for environmental monitoring at the sites.
Washington Department of Natural Resources	Creosote Removal Program		16.2	EST3.3	WDNR removes toxic creosote-treated pilings and debris that wash onto beaches, lagoons, and estuaries of Puget Sound, and removes creosote-treated structures and pilings that no longer serve a function.
Washington Department of Natural Resources	Puget Sound Corps	Department of Ecology, Department of Fish and Wildlife, Department of Veterans Affairs, State Parks	16.2	EST3.3	WDNR provides service and training opportunities to young adults and military veterans through projects on state lands that restore and protect Puget Sound.
Washington Department of Natural Resources	Nearshore monitoring and aquatic assessment		16.4	EST1.1, EST1.3, EST3.4, SA3.4	WDNR conducts various research and monitoring activities focused on topics such as eelgrass, kelp, ocean acidification, and adaptive management.
Washington Department of Natural Resources	Derelict Vessel Removal Program	U.S. Coast Guard	17.1	EST3.3, SHELL1.2	WDNR removes derelict and abandoned vessels that pose ongoing risks to marine and freshwater aquatic habitat.

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Washington Department of Natural Resources	Washington Community Forest Trust Program			LDC3.2,LDC2.1, LDC3.1	The Community Forest Trust Program includes maintenance activities and operational support for community forests, with an emphasis on self-sustaining, active forest management as well as recreation.
Washington Department of Natural Resources	Aquatics land acquisitions and exchanges			EST3.2, SA3.2, FP3.2	WDNR uses land acquisitions and exchanges to maximize the return on state lands, protect unique state aquatic areas, and produce better public access opportunities
Washington Department of Natural Resources	Invasive Species Management			FP3.3, SA3.3, EST3.3	WDNR works to control aquatic invasive plants and animals on state-owned aquatic land statewide.
Washington Department of Natural Resources	Terrestrial land acquisitions and exchanges			LDC3.2	WDNR uses land acquisitions and exchanges to maximize the return on state lands, to protect lands with high conservation value, and to produce better public access opportunities.
Washington Department of Natural Resources	Urban and Community Forestry			LDC 1.1, LDC1.2, LDC2.1, LDC3.2, LDC3.3, BIBI5.1,	The Urban & Community Forestry program provides coordinated technical, educational and financial assistance to communities and cities to help establish locally-funded, supported, and maintained urban forestry programs to enhance the quality of life and health in Washington's urban areas.

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Washington Department of Revenue	Designated Forest Land and Open Space Tax Program		3.1, 3.2	 LDC3.1, BIBI3.1	The Open Space Taxation Act, enacted in 1970, allows property owners to have their open space, farm and agricultural, and timberlands valued at their current use rather than their highest and best use. This designation often results in a lower assessed value and lower taxes. Specific requirements must be met to qualify for this designation. The program's purpose is to maintain, preserve, conserve, and otherwise continue in existence adequate open space lands for the production of food, fiber, and forest crops and to assure the use and enjoyment of natural resources and scenic beauty for the economic and social well-being of the state and its citizens.
Washington Department of Revenue	Local Toxics Control Accounts and Toxics Cleanup Program	Department of Ecology	21.2	 TIF1.1, CHIN2.5	Voters authorized a tax on hazardous materials, including petroleum products, pesticides, and some chemicals. Funds raised by the tax are dedicated to a broad range of toxic pollution prevention, hazardous and solid waste management, water and environmental health protection and monitoring, and toxic cleanup purposes.
Washington Department of Transportation	Fish Barrier Correction		6.2	 CHIN7.1	State highways cross streams and rivers in thousands of places in Washington State, which can impede fish migration. WSDOT has worked for more than two decades to improve fish passage and reconnect streams to help keep our waterways healthy. WSDOT Fish Barrier Correction is a priority.
Washington Invasive Species Council	2015 Washington Invasive Species Council Strategic Plan		15.2		Provides policy level direction, planning, and coordination for combating harmful invasive species throughout Washington and preventing the introduction of others that may be potentially harmful.

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Washington Recreation and Conservation Office	Habitat and Recreation Lands Coordinating Group		2.1, 16.1	 LDC3.2, EST3.2	Created by the Washington legislature to improve the visibility and coordination of state habitat and recreation land purchases and disposals. The group has established a process for making state habitat and recreation land purchases and disposals more visible and coordinated.
Washington Recreation and Conservation Office	Land and Water Conservation Fund		5.3, 5.4, 29.3	 FP3.2, FP3.3, LDC3.2, LDC3.3, FUND1.2	Grant program that provides funding to preserve and develop outdoor recreation resources, including parks, trails, and wildlife lands.
Washington Recreation and Conservation Office	Aquatic Lands Enhancement Account Program		5.4, 16.1, 16.2, 29.3	 FP3.2 FP3.3, EST3.2, EST3.3, LDC3.2, LDC3.3, SA3.2, SA3.3, FUND1.2	Grants for the acquisition, improvement, or protection of aquatic lands for public purposes. Aquatic lands are all tidelands, shore lands, harbor areas, and the beds of navigable waters.
Washington Recreation and Conservation Office	Salmon Recovery Funding Board		2.1	 LDC3.2, LDC3.3	Awards several grants to protect and restore salmon habitat. The board funds projects that protect existing, high quality habitats for salmon, and that restore degraded habitat to increase overall habitat health and biological productivity. The board also awards grants for feasibility assessments to determine future projects and for other salmon related activities.
Washington Recreation and Conservation Office	Washington Wildlife and Recreation Program		15.2	 LDC3.2	Provides funding for a broad range of land protection and outdoor recreation, including park acquisition and development, habitat conservation, farmland and forestland preservation, and construction of outdoor recreation facilities.

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Washington Sea Grant	Competitive Research: Healthy Coastal Ecosystems		8.2	 EST1.5	Wide-ranging research projects on healthy coastal ecosystems.
Washington Sea Grant	Coastal Hazards Resilience Program		8.2	 EST1.5	Research, reports, and trainings on coastal hazards, including winter storms, flooding, erosion, tsunamis, and sea level rise.
Washington Sea Grant	King Tides	Department of Ecology	8.2	 EST1.5, SA1.5	King Tides projects all over the world have been helping people understand their current flooding and storm risks, and imagining what climate change impacts will look like in their own communities – the places where they live, work, and play. Using smartphones and social media, participants are invited to capture and share images of "King Tides", the highest high tides of the year. This massive documentary project makes climate change less political and more personal by helping people visualize the coast of the future.
Washington Sea Grant	Shoreline and Coastal Planners Group	Department of Ecology	8.2	 EST1.5, SA1.5	An educational group of coastal planners working for the federal, state, local, and tribal governments, non-profits, conservation districts and private consultants. The group meets several times a year, providing an opportunity for shoreline planning professionals to meet, create new partnerships, and coordinate a network for technical assistance.
Washington Sea Grant	Small Oil Spills program		9.5, 10.4, 20.1	 SHELL1.2, CHIN2.5, CHIN6.2, TIF1.1	Educates vessel owners and marina owners, helping them improve their operations, reducing spills due to targeted causes; promotes spill reporting through the "Spills Aren't Slick" campaign; provides signs and educational brochures; incorporates oil spill prevention into classes and workshops for commercial fishermen; and actively distributes spill cleanup kits at marinas, boat shows and boating venues.

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Washington Sea Grant	Pumpout Washington	Washington State Parks and Recreation Commission	9.5, 10.4	SHELL1.2, CHIN2.5, TIF1.1	Educates boaters about the importance of proper sewage disposal, informs them about where to find pumpout stations, helps marina operators secure grants to install more stations, and advises on the deployment of mobile pumpout services on heavily used waters.
Washington Sea Grant	Technical Assistance and Homeowner Support to Improve Local Water Quality		10.5, 19.1	TIF1.1, SHELL1.9	Helps citizens understand their impacts on the marine environment, enlisting them in activities and best practices that promote environmental stewardship. This work includes teaching homeowners about low-impact residential practices such as sustainable landscaping, natural yard care, septic system maintenance, and rain gardens.
Washington Sea Grant	Septic Sense: Septic Socials and Septic System Landscaping		13.1	CHIN2.5, SHELL1.6	Provides a variety of services and suggestions for managing septic systems, including workshops and educational materials on the basics proper septic system operation and maintenance.
Washington Sea Grant	State of the Oyster Study		13.1	CHIN2.5, SHELL1.6	Citizen science monitoring program that trains waterfront property owners to test the safety of their shellfish before consumption. Four times a year, residents gather clams and oysters at low tide and test them for Vibrio parahaemolyticus and bacterial indicators of fecal contamination. Sea Grant helps participants interpret the test results and, if necessary, works closely with them to identify and remedy sources of contamination.
Washington Sea Grant	Crab Team: Green Crab Monitoring Program	Washington Department of Fish and Wildlife	15.3		Volunteer-based early detection and monitoring program to improve our understanding of native salt marsh and pocket estuary organisms, and how they could be affected by green crabs.

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Washington Sea Grant	Bivalves for Clean Water		19.1	SHELL1.9	Educates marine shoreline owners and recreational shellfish harvesters about coastal pollution, ecosystem health, water quality and resource management issues challenging Puget Sound and Hood Canal. This multifaceted approach lets participants choose activities that fit their individual learning styles and interests. Activities offered include workshops, field trips, shellfish-enhancement activities, citizen monitoring, beach walks and assessments, site visits, publications and one-on-one technical assistance.
Washington Sea Grant	Shellfish Aquaculture Technical Assistance		19.3	SHELL1.13	Reports, information, and training to improve shellfish aquaculture practices
Washington Sea Grant	Competitive Research: Sustainable Fisheries and Aquaculture		19.3	SHELL1.13	Wide-ranging research projects on sustainable fisheries and aquaculture.
Washington Sea Grant	Geoduck Aquaculture Research Program		19.3	SHELL1.13	Geoduck clam aquaculture is economically promising in Puget Sound but scientifically, socially, and politically challenging. This research program will consider the potential impacts of farming practices on nearshore ecosystems and analyze geoducks aquaculture's policy and social dimensions, informing the development of frameworks for resolving conflicts between stakeholders.
Washington State Conservation Commission	Conservation Reserve Enhancement Program (CREP)	U.S. Department of Agriculture, Farm Services Agency	6.1	BIBI3.1	CREP is a critical component of salmon recovery and restoration effort, providing support for on-the-ground implementation of best management practices that will address some of the negative inputs to water quality and salmon habitat that can occur as a result of agriculture.

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Washington State Conservation Commission	Farmland preservation	Puget Sound Conservation Districts (12)	3.2	BIBI3.1	Address the rapid loss of working farm and forest lands in Washington by 1) supporting and sponsoring agricultural conservation easements, 2) assisting localities as they develop and implement measures to retain agricultural lands, 3) providing resources to assist with the transition of farmland and related business from one generation to the next, and 4) providing data and analysis on trends impacting farms in Washington.
Washington State Conservation Commission	Nutrient Management Plans, technical assistance	Puget Sound Conservation Districts (12), Washington Department of Agriculture	11.1	BIBI3.1, SHELL1.4	Provide technical assistance to agricultural landowners to develop nutrient management plans, which document practices and strategies adopted to address management of nutrients from working lands.
Washington State Conservation Commission	Puget Sound Conservation Districts	Puget Sound Conservation Districts (12)	11.1	BIBI3.1, SHELL1.4	12 of the state's 45 Conservation Districts are located in the Puget Sound area of the state. The State Conservation Commission provides guidance and funding to Puget Sound Conservation Districts to work with local communities and landowners to protect and care for natural resources. Districts offer a range of voluntary services including assistance with: erosion control, habitat restoration, manure management, wildfire prevention/ mitigation, stormwater management, forest plans, irrigation efficiency, noxious weed control, fish barrier removals, livestock stream crossings, and more.
Washington State Conservation Commission	Shellfish Funding	Puget Sound Conservation Districts (12)	11.1, 11.2	CHIN2.4, CHIN 2.5, SHELL1.4, SHELL1.5, BIBI3.1	The Shellfish Program provides funding in an area-targeted approach to implement projects intended to improve water quality impacted by agricultural activities, septic systems, non-point run-off and other activities.

AGENCY / ORGANIZATION	PROGRAM NAME	PARTNER AGENCIES / ORGANIZATIONS	LINKED 2016 ACTION AGENDA SUB-STRATEGY	LINKED 2018 REGIONAL PRIORITY APPROACH	PROGRAM DESCRIPTION
Washington State Conservation Commission	Voluntary Stewardship Program (VSP)	Non-GMA counties, Conservation Districts, Washington Department of Ecology, Washington Department of Fish and Wildlife, Washington Department of Commerce, Washington Department of Agriculture	3.1, 11.1	 LDC3.1, BIBI3.1, SHELL1.4	The VSP is a result of a negotiated process to address issues involving impacts to critical areas from agricultural activities as part of the Growth Management Act. Funds assist counties to develop and implement work plans. A total of 27 counties state-wide participate, four of which abut Puget Sound: Skagit, San Juan, Thurston and Mason.
Washington State Parks	Clean Vessel Program		9.5	 SHELL1.2	Washington State Parks makes grants to both public and private sector boating facility operators for the construction, renovation, operation, and maintenance of pump-out and dump stations for use by recreational boaters. The program also provides boater education to promote public awareness about boat sewage and its proper disposal.

AGENCY / ORGANIZATION	PROGRAM NAME	PARTNER AGENCIES / ORGANIZATIONS	LINKED 2016 ACTION AGENDA SUB-STRATEGY	LINKED 2018 REGIONAL PRIORITY APPROACH	PROGRAM DESCRIPTION
Washington State University Extension	Washington Stormwater Center	University of Washington	10.5	 CHIN2.6, BIBI2.1, TIF2.1	A central resource in Washington for improving stormwater management through integrated NPDES education, permit technical assistance, stormwater management and new technology research, development, and evaluation. The Center helps communities navigate complexities and challenges to realize the rewards of stormwater management; provides assistance, information resources, and training on stormwater management; and provides a gateway to research, information and new, innovative, and emerging technologies.
Washington State University Extension	Low-Impact Development Program		10.2	 CHIN2.6, TIF2.1	Low Impact Development (LID) research and training program for government, businesses, and professionals. LID techniques mimic nature and can reduce flooding and filter pollution from stormwater. Techniques include pervious paving, rain water harvesting and storage, green roofs and rain gardens.
Western Washington Agricultural Association	Skagit Tidegate Initiative	Washington Department of Fish and Wildlife, NOAA Fisheries; Skagit county Special Purpose Districts	5.4	 FP3.3	A collaborative, multi-stakeholder process convened by Western Washington Agricultural Association for the purpose of identifying pathways and protocols for federal, state and local permitting of tidegate and floodgate repair and replacement activities within the Skagit and Samish River deltas.

STRATEGIES AND SUB-STRATEGIES

FOR PUGET SOUND RECOVERY

Over the past decade, the Partnership, its recovery partners, and the Management Conference have identified and refined strategies needed to achieve Puget Sound recovery targets. These strategies and sub-strategies are approaches to address pressures on the Puget Sound ecosystem. The strategies and sub-strategies were originally developed to define the full range of approaches required to meet the six recovery goals. As such, the Partnership used these strategies and sub-strategies as the basis for soliciting Near Term Actions for the *Implementation Plan*. In addition, over the past ten years, many local and regional plans—including LIO ecosystem recovery plans and Implementation Strategies—have considered or incorporated these strategies and sub-strategies. More recently, however, the recovery community has moved toward the development and use of Implementation Strategies as our principal framework for prioritization and for soliciting Near Term Actions needed for inclusion in the *Implementation Plan*.

The approaches outlined in the original set of strategies and sub-strategies are included in this Appendix. These approaches are still relevant, and are considered to constitute the full body of work needed to recover Puget Sound. However, the Implementation Strategies, Regional Priorities, and Regional Priority approaches are more targeted and strategic plans and actions for accelerating progress toward specific Vital Sign targets. In general, strong correlation exists between the comprehensive list of existing strategies and sub-strategies and the Regional Priorities and Regional Priority approaches being identified through the Implementation Strategy development process. The Partnership is working to determine the relationship between the two and how the two should guide recovery efforts into the future.

TABLE APPENDIX-1. STRATEGIES AND SUB-STRATEGIES

ECOSYSTEM STRATEGIES	
1[a]	**Focus land development away from ecologically important and sensitive areas**
1.1	Identify and prioritize areas for protection, restoration, and suitability for (low-impact) development
1.2	Support local governments to adopt and implement plans, regulations, and policies consistent with protection and recovery targets, and incorporate climate change forecasts
1.3	Improve, strengthen, and streamline implementation and enforcement of laws, plans, regulations, and permits consistent with protection and recovery targets
1.4	Ensure full, effective compensatory mitigation for impacts that cannot be avoided
2	**Protect and restore upland, freshwater, and riparian ecosystems**
2.1	Protect and conserve ecologically important lands at risk of conversion
2.2	Implement and maintain priority freshwater and terrestrial restoration projects
2.3	Implement restoration projects in urban and developed areas, while accommodating growth, density, and infill development
3	**Protect and steward ecologically sensitive rural and resource lands**
3.1	Use integrated market-based programs, incentives, and ecosystem markets to steward and conserve private forest and agricultural lands
3.2	Retain economically viable working forests and farms
4	**Encourage compact regional growth patterns and create dense, attractive, mixed-use, and transit-oriented communities**
4.1	Integrate growth, infrastructure, transportation, and conservation planning at subregional levels and across jurisdictions
4.2	Provide infrastructure and incentives to accommodate new and redevelopment in urban growth areas
4.3	Enhance and expand the benefits of living in compact communities
5	**Protect and restore floodplain function**
5.1	Improve data and information to accelerate floodplain protection, restoration, and flood hazard management
5.2	Align policies, regulations, planning, and agency coordination to support multi-benefit floodplain management, incorporating climate change forecasts
5.3	Protect and maintain intact and functional floodplains
5.4	Implement and maintain priority floodplain restoration projects
6	**Protect and recover salmon**
6.1	Implement high-priority projects identified in each salmon recovery watershed's four-year work plan
6.2	Implement high-priority salmon recovery actions identified in other parts of the Action Agenda and the *Biennial Science Work Plan*
6.3	Implement harvest, hatchery, and adaptive management elements of salmon recovery
6.4	Protect and recover steelhead and other imperiled salmonid species
6.5	Maintain and enhance the community infrastructure that supports salmon recovery

7	Protect and conserve freshwater resources to increase and sustain water availability for instream flows
7.1	Update Puget Sound instream flow rules to encourage conservation
7.2	Decrease the amount of water withdrawn or diverted and per capita water use
7.3	Implement effective management programs for groundwater
8	**Focus development away from ecologically important and sensitive nearshore areas and estuaries**
8.1	Use complete, accurate, and recent information in shoreline planning and decision-making at the site-specific and regional levels
8.2	Support local governments to adopt and implement plans, regulations, and policies that protect the marine nearshore and estuaries, and incorporate climate change forecasts
8.3	Improve, strengthen, and streamline implementation and enforcement of laws, regulations, and permits that protect the marine and nearshore ecosystems and estuaries
9	**Prevent, reduce, and control the sources of contaminants entering Puget Sound**
9.1	Implement and strengthen authorities and programs to prevent toxic chemicals from entering the Puget Sound ecosystem
9.2	Promote the development and use of safer alternatives to toxic chemicals
9.3	Adopt and implement plans and control strategies to reduce pollutant releases into Puget Sound from air emissions
9.4	Provide education and technical assistance to prevent and reduce releases of pollution
9.5	Control wastewater and other sources of pollution, such as oil and toxics from boats and vessels
9.6	Increase compliance with and enforcement of environmental laws, regulations, and permits
10	**Use a comprehensive approach to manage urban stormwater runoff at the site and landscape scales**
10.1	Manage urban runoff at the basin and watershed scale
10.2	Prevent problems from new development at the site and subdivision scale
10.3	Fix problems caused by existing development
10.4	Control sources of pollutants
10.5	Provide focused stormwater-related education, training, and assistance
11	**Prevent, reduce, and control agricultural runoff**
11.1	Target voluntary and incentive-based programs that help working farms contribute to Puget Sound recovery
11.2	Ensure compliance with regulatory programs designed to reduce, control or eliminate pollution from working farms
12	**Prevent, reduce, and control surface runoff from forest lands**
12.1	Achieve water quality standards on state and privately owned working forests through implementation of the *Forest and Fish Report*
12.2	Maintain forest roads and implement road abandonment plans for working forest lands subject to the forest practices rules on schedule, and ensure federal forest managers meet or exceed state standards for road maintenance and abandonment on federal lands
13	**Prevent, reduce, and/or eliminate pollution from decentralized wastewater treatment systems**
13.1	Effectively manage and control pollution from small onsite sewage systems
13.2	Effectively manage and control pollution from large onsite sewage systems
13.3	Improve and expand funding for on-site sewage systems and local on-site sewage system programs.

14	**Prevent, reduce, and/or eliminate pollution from centralized wastewater systems**
14.1	Reduce the concentrations of contaminant sources of pollution conveyed to wastewater treatment plants through education and appropriate regulations, including improving pretreatment requirements
14.2	Reduce pollution loading by preventing and reducing combined sewer overflows
14.3	Implement priority upgrades of municipal and industrial wastewater facilities in urban and urbanizing areas and address outfalls
14.4	Ensure all centralized wastewater treatment plants meet discharge permit limits through compliance monitoring, technical assistance, and enforcement, where needed
14.5	Promote appropriate reclaimed water projects to reduce pollutant loading to Puget Sound
15	**Protect and restore the native diversity and abundance of Puget Sound species, and prevent and respond to the introduction of terrestrial and aquatic invasive species**
15.1	Implement species recovery plans in a coordinated way
15.2	Create a more integrated planning approach to protect and enhance biodiversity in the Puget Sound ecosystem
15.3	Prevent, and rapidly respond to, the introduction and spread of terrestrial and aquatic invasive species
15.4	Answer key invasive species research questions and fill information gaps
16	**Protect and restore nearshore and estuary ecosystems**
16.1	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
16.2	Implement prioritized nearshore and estuary restoration projects and accelerate projects on public lands
16.3	Remove armoring, and use soft armoring replacement or landward setbacks when armoring fails, needs repair, is non-protective, and during redevelopment
16.4	Implement a coordinated strategy to achieve the 2020 eelgrass recovery target
17	**Protect and restore marine ecosystems**
17.1	Protect intact marine ecosystems particularly in sensitive areas and for sensitive species
17.2	Implement and maintain priority marine restoration projects
18	**Protect and steward working waterfronts and improve public access to Puget Sound**
18.1	Use, coordinate, expand and promote financial incentives and programs for best practices at ports and in the marine industry that are protective of ecosystem health
18.2	Increase access to and knowledge of publicly owned Puget Sound shorelines and the marine ecosystem
19	**Ensure abundant, healthy shellfish for ecosystem health and for commercial, subsistence, and recreational harvest consistent with ecosystem protection**
19.1	Improve water quality to prevent downgrade and achieve upgrades of important current tribal, commercial and recreational shellfish harvesting areas
19.2	Restore and enhance native shellfish populations
19.3	Ensure environmentally responsible shellfish aquaculture based on sound science
19.4	Enhance the public's connection to shellfish and increase recreational harvest opportunities
19.5	Answer key shellfish safety research questions and fill information gaps

20	**Effectively prevent, plan for, and respond to oil spills**
20.1	Prevent and reduce the risk of oil spills
20.2	Strengthen and integrate spill response readiness of the state, tribes and local governments
20.3	Respond to spills and seek restoration using the best available science and technology
21	**Address and clean up cumulative water pollution impacts in Puget Sound**
21.1	Complete total maximum daily load studies and other necessary water cleanup plans for Puget Sound to set pollution discharge limits and determine responses to water quality impairments
21.2	Clean up contaminated sites within and near Puget Sound
21.3	Protect and restore water quality at swimming beaches and recreational areas
21.4	Develop and implement local and tribal pollution identification and correction programs
INSTITUTIONAL STRATEGIES	
22	Provide the leadership framework to guide the Puget Sound recovery effort and set action and funding priorities
22.1	Provide backbone support for the recovery effort and Management Conference
22.2	Maintain and update the Action Agenda as the shared recovery plan
23	**Support and build strategic, collaborative partnerships**
23.1	Advance the coordination of local recovery actions through Local Integrating Organizations
23.2	Build and maintain collaborative partnerships with tribes to identify and advance recovery actions
24	**Implement performance management**
24.1	Work collaboratively to track and report on implementation performance
24.2	Work collaboratively to report on recovery progress
25	**Coordinate and advance science and monitoring**
25.1	Oversee strategic planning for Puget Sound recovery science
25.2	Implement a coordinated, integrated ecosystem monitoring program

26	**Cultivate broad-scale stewardship practices and behaviors among Puget Sound residents that benefit Puget Sound**
26.1	Prioritize targeted stewardship issues, actions, and audiences based on problem severity, problem frequency, availability of and confidence in science (natural and social) behind the problem, and ability to influence change
26.2	Develop and promote science-based targeted communications and behavior change strategies across the region
26.3	Enable and encourage residents to take informed stewardship actions addressing infiltration, pollution reduction, habitat improvement, forest cover, soil development, critical areas, reductions in shoreline armoring, and specific actions identified in other sub-strategies
26.4	Improve effectiveness of local and regional awareness building and behavior-change programs through vetted messages, proven strategies and outcome-based evaluation. Guide partners in use of formative research and diffusion of priority best management practices
26.5	Enhance resources to sustain and expand effective behavior change and volunteer programs that support Action Agenda priorities and that have demonstrated, measurable outcomes
26.6	Create a repository of market, social, and audience research to support stewardship work. Include research and data from local, state, and federal governments, nonprofit, and private sector sources. Synthesize and disseminate to partners
26.7	Review practices and issues that require solutions beyond the Puget Sound region such as automotive, manufacturing and distribution of toxins, and pharmaceutical waste management. Develop strategies and partnerships outside the Puget Sound region to address issues
27	**Build issue awareness and understanding to increase public support and engagement in recovery actions**
27.1	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
27.2	Incorporate and expand Puget Sound-related content in diverse delivery settings (e.g., recreation, education institutions, local government, neighborhood and community groups, nonprofit organizations, and businesses). Connect residents with public engagement and volunteer programs
27.3	Incorporate Puget Sound place-based content into K-12 curricula throughout the Puget Sound region. Connect schools with technical assistance, inquiry-based learning opportunities, and community resources. Implement student service projects connected to ecosystem recovery. Link schools to organizations with structured volunteer opportunities
27.4	Foster a long-term sense of place among Puget Sound residents. Encourage direct experiences with Puget Sound's aquatic and terrestrial resources through recreation, informal learning, and public access sites
27.5	Build awareness of stewardship-building efforts among elected officials, executive staff, funders, resource managers, and others with resource allocation ability. Emphasize program roles, needs, relationship with other Action Agenda strategies and program outcomes

28	**Build social and institutional infrastructure that supports stewardship behaviors and removes barriers**
28.1	Apply appropriate social science to Puget Sound recovery to increase clarity and effectiveness of targeted actions, audiences, opportunities, strategies, and evaluation metrics
28.2	Build capacity among partner organizations to advance priority stewardship actions. Provide technical support and training to advance program effectiveness, evaluation, and support of Action Agenda priorities
28.3	Maintain centralized capacity to sustain and enhance the regional Puget Sound Starts Here campaign
28.4	Provide public information conduits connecting individuals to local activities, resources and decision-making processes—including cost-share programs, technical assistance, volunteer experiences and ways to engage in civic structures and processes
28.5	Enhance strategic networks and tools that support stewardship partners and outcomes; including ECO-Net, STORM, The Northwest Straits Initiative and Marine Resource Committees, tribes, municipalities not covered by stormwater permits, public agencies, funders, universities, nongovernmental organizations, and others.
28.6	Work regionally and locally to remove implementation barriers (e.g., physical, economic, regulatory, enforcement, policy), and enable and incentivize adoption of stewardship actions
29	**Funding Strategy**
29.1	Maintain and enhance federal funding for implementation of Action Agenda priorities
29.2	Focus federal agency budgets and national programs on Action Agenda priorities
29.3	Maintain, enhance, and focus state funding for implementation of Action Agenda priorities
29.4	Maintain and enhance local funding for implementation of Action Agenda priorities
29.5	Develop opportunities for private sector and philanthropic funding for implementation of Action Agenda priorities
29.6	Develop and implement market-based mechanisms for implementation of priorities in the Action Agenda

NOTES

[a] The order and numbering of the strategies and sub-strategies in Table 4-1 are for organizational purposes and do not represent priority or rank.