



STATE OF THE SOUND

STATUTORY REPORT

NOVEMBER 1, 2021

The Revised Code of Washington requires that the Partnership must produce a State of the Sound report by November 1 of each odd-numbered year. The report must, at a minimum, include the following (RCW 90.71.370, 3a–f):

- a) An assessment of progress by state and nonstate entities in implementing the action agenda, including accomplishments in the use of state funds for action agenda implementation;
- b) A description of actions by implementing entities that are inconsistent with the action agenda and steps taken to remedy the inconsistency;
- c) The comments by the panel on progress in implementing the plan, as well as findings arising from the assessment and monitoring program;
- d) A review of citizen concerns provided to the partnership and the disposition of those concerns;
- e) A review of the expenditures of funds to state agencies for the implementation of programs affecting the protection and recovery of Puget Sound, and an assessment of whether the use of the funds is consistent with the action agenda; and
- f) An identification of all funds provided to the partnership, and recommendations as to how future state expenditures for all entities, including the partnership, could better match the priorities of the action agenda.

The following content is largely a response to the questions posed in statute. Italicized text at the beginning of a section, or sub-section indicates where a statutory question is directly addressed.

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(A) ACTION AGENDA AND SCIENCE WORK PLAN PROGRESS AND ACCOMPLISHMENTS

The Partnership's enabling legislation requires that the agency make "an assessment of progress by state and non-state entities in implementing the Action Agenda, including accomplishments in the use of state funds for Action Agenda implementation."

Assessment of progress implementing Action Agenda Near Term Actions (NTAs)

Half of NTAs in the 2016 Action Agenda were at least partially implemented

Since 2016, Near Term Action managers have provided an update on the implementation status of their actions twice per year, in November and April/May. These regular updates are valuable for the following reasons:

- They support local and regional communication about progress toward Puget Sound recovery and enable us to continue to demonstrate where further attention is still needed.
- They allow learning to be shared and inform discussions with Partnership boards, committees, and partners about exploring solutions to funding and other challenges.
- They allow the Partnership to provide regular updates on progress in the Action Agenda Tracker and the State of the Sound Report.
- The information provided in the updates informs the Partnership's evaluation and accountability responsibilities and helps address the requirements of state and federal funders to monitor the progress of recovery efforts.

As planned, in the summer and fall of 2020 the Partnership collected final reports on Near Term Actions in the 2016-2018 Action Agenda. Only 76 (21 percent) of the 362 Near Term Actions originally proposed have been fully implemented, with a further 113 (31 percent) partially implemented. Of the 113 partially implemented NTAs, 62 remained active and underway at the time of reporting. Of the remainder of the NTAs, 89 were abandoned and not implemented (25 percent), and 84 NTAs (23 percent) were replaced by similar or identical Near Term Actions in the 2018-2022 Action Agenda (table 1).

Of the 76 fully implemented Near Term Actions, 57 were funded wholly or in part by the federal EPA Puget Sound Geographic Program/ National Estuary Program (NEP).

Table 1: Status of all 2016-2018 Action Agenda Near Term Actions (as of September 2020)

Near Term Action Status Categories	# of NTAs	% of Total NTAs
Fully Implemented (all tasks completed as planned)	76	21
Partially Implemented (not all tasks completed, but significant progress made) (still active at time of final report)	113 (62)	31 (17)
Replaced by similar or identical Near Term Action in the 2018-2022 Action Agenda	84	23
Not Implemented (little or no progress made)	89	25
Total	362	100

2016-2018 Action Agenda Near Term Actions were managed by a range of organization types, but there is no clear pattern around action completion across these organization types. This suggests that Near Term Action implementation was a common challenge across all sectors.

By far the most cited reason for an NTA not to have been implemented was lack of adequate funding and resources (table 2). This finding does not represent a change from previous Action Agendas, where lack of funding has been persistently the most identified barrier to NTA implementation. Reassessment or re-scoping of an NTA was the second most common reason for non-implementation.

Table 2: Near Term Actions reporting a barrier to implementation (as of September 2020)

Near Term Action Barrier to Implementation	# of NTAs Reporting Barrier	% by Barrier Type
1a. Inadequate resources: Funding not fully secured	140	77
1b. Inadequate resources: Lack of staff resources	6	3
1c. Inadequate resources: Actual costs exceed estimates	1	1
1d. Inadequate resources: Inadequate staff/contractor expertise	1	1
2a. Lack of social, political, or management support: Opposition to implementing action	4	2

Near Term Action Barrier to Implementation	# of NTAs Reporting Barrier	% by Barrier Type
2b. Lack of social, political, or management support: Withdrawal of partner support for action	3	2
2c. Lack of social, political, or management support: Change in support by decision-makers	4	2
3. Regulatory barriers	3	2
4. Re-scoping required for other reasons	19	10
Total	181	100

2018-2022 Action Agenda NTAs—most remain in planning stages

The Leadership Council approved the 2018-2022 Action Agenda in late 2018. The process for soliciting and ranking Near Term Actions changed significantly from the process used for the 2016-2018 Action Agenda. The new process led to the adoption of a tiered list of 631 proposed Near Term Actions, significantly more than the 362 Near Term Actions in the previous Action Agenda. For details, visit [the Action Agenda Tracker](#).

Near Term Action managers were introduced to the new Action Agenda Tracker reporting system in spring 2019. Near Term Action managers are expected to provide periodic status updates on their actions every six months. Updates completed to date show that most are still in the planning/design stage, with only 20 percent of actions underway and just three percent completed (table 3). The proportion of NTAs by stage for the 284 tier four (highest priority) Near Term Actions is almost identical to the proportion of NTAs by stage for all 631 Near Term Actions.

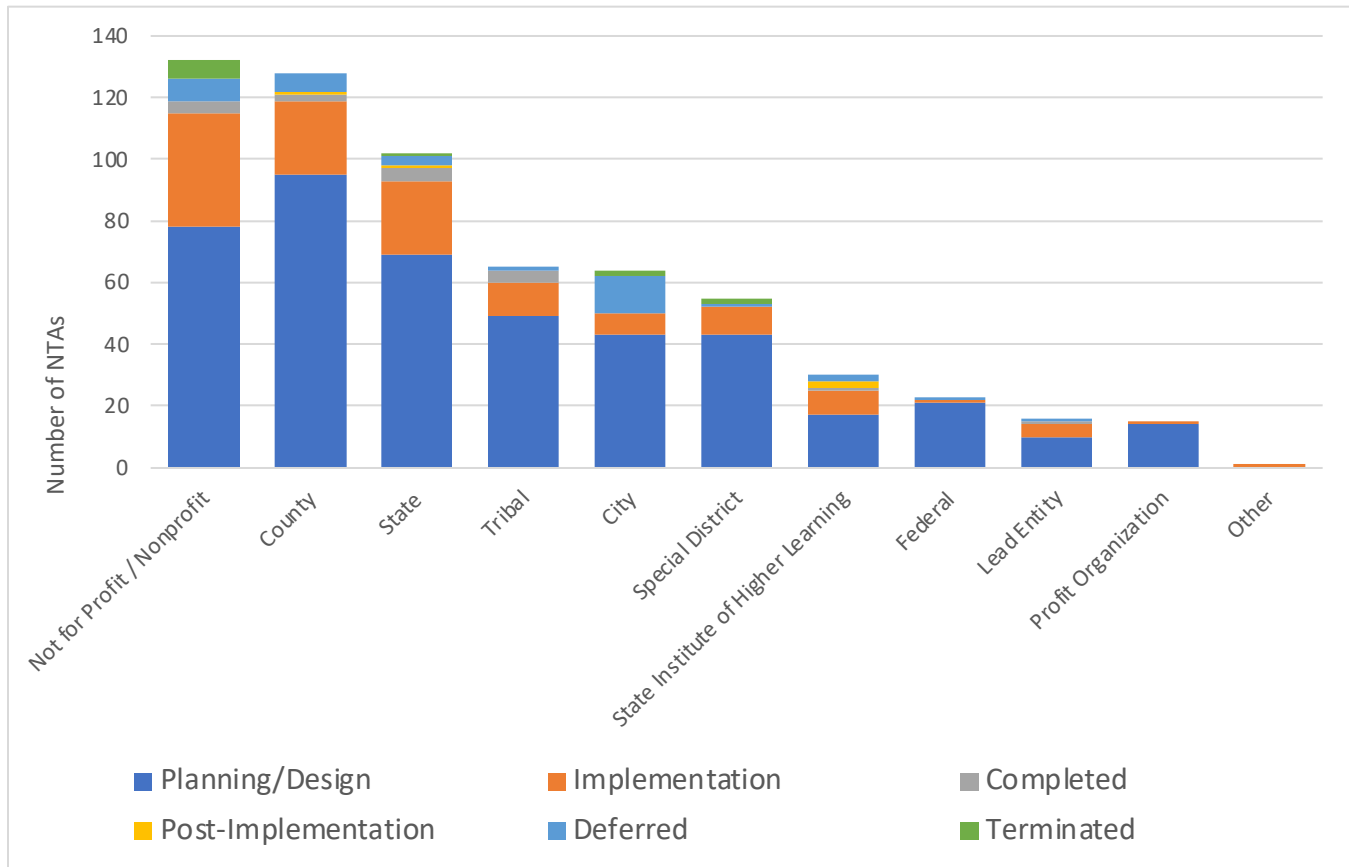
Table 3: 2018-2022 Action Agenda Near Term Actions, by stage of implementation (as of May 2021)

NTA Stage	# of NTAs	% of all NTAs
Planning/Design	439	70
Implementation	127	20
Deferred	34	5
Completed	16	3
Terminated	11	2
Total	631	100

Around 90 percent of Near Term Action owners reporting a barrier to implementing their action cited a lack of funding and resources. This percentage is very consistent with previous Action Agendas.

There is a significantly higher proportion of Near Term Actions related to shellfish Regional Priorities and the Shellfish Vital Sign in the implementation stage, compared to Near Term Actions primarily associated with other Vital Signs. This is likely explained by the unique focus afforded to shellfish-related Near Term Actions by the Puget Sound Geographic Program/National Estuary Program funded Shellfish Strategic Initiative, led by the Department of Health.

The chart below also demonstrates that some organization types, such as the not for profit sector, have been able to move a higher proportion of NTAs into the implementation stage.

Figure 1: Distribution of 2018-2022 Action Agenda NTAs by stage and organization type, July 2021

Accomplishments: State agencies advance implementation of the 2018-2022 Action Agenda

State agencies have made outstanding contributions to Puget Sound recovery by implementing the 2018-2022 Action Agenda and making strategic investments in improving the effectiveness of their programs and funding key on-the-ground projects. These investments support local implementation of the Action Agenda while leveraging other public and private sector funding and resources.

State agency contributions to advancing Healthy Water Quality and Healthy Human Population

State agency programs play a foundational role in advancing healthy water quality and a healthy human population in the Puget Sound region. Examples of this foundational role include:

- regulatory programs for stormwater and wastewater management;
- financial and technical assistance programs to help local jurisdictions and businesses effectively manage and prevent contaminants from entering waterways through spills, solid waste, and urban runoff;
- programs that support removal and clean-up of key sources of contaminants, such as derelict vessels, creosote-treated structures, and legacy contamination from past industrial activities; and
- programs that support landowners' management of agricultural runoff through application of Best Management Practices (BMPs), particularly activities to protect shellfish growing areas.

The following are a selection of highlights from our sister agencies:

ACCOMPLISHMENT: Ecology seeks to expand impact of the Local Source Control Partnership Program by increasing number of local source partners.

The **Local Source Control Partnership**, administered by **Department of Ecology**, prevents pollution in Washington waterways by partnering with local governments and deploying pollution prevention specialists to educate small businesses on stormwater management best practices and regulation. The program is one of several key state programs that provide critical technical assistance services to ensure proper stormwater management practices and prevention of hazardous spills into Puget Sound waterways. For the 2018-2022 Action Agenda, the Department of Ecology identified a need to grow the reach of the program and increase the volume of annual site visits and number of local source control partners. Ecology identified a need to add five local source control specialist positions to increase the program's capacity – this effort is on track, though not fully funded. To date, the program has added one new jurisdiction to its service area ([see more](#)).

ACCOMPLISHMENT: Accelerating creosote piling removal through public engagement tool

The **Creosote Removal Program**, administered by **Department of Natural Resources (DNR)**, plays a critical role in removing creosote-treated structures, pilings, and debris from Puget Sound waters. Creosote comprises more than 300 chemicals, including polycyclic aromatic hydrocarbons (PAHs); creosote-treated materials leach PAHs and other toxic chemicals into marine and estuarine waters of Puget Sound. To improve the agency's ability to identify creosote pilings and other debris in need of removal, DNR partnered with the Northwest Straits Commission and the Snohomish County Marine Resources Committee to launch a statewide version of the MyCoast app, a public portal to crowdsource data on marine debris and shoreline change. Information collected through the application is used to visualize the impact of nearshore hazards and to enhance awareness among decision-makers and stakeholders ([see more](#)).

ACCOMPLISHMENT: Enhancing pollution identification and correction (PIC) activities in Samish Basin by accelerating TMDL studies

The **Department of Health (DOH) Water Quality Restoration Program** promotes healthy shellfish beds by providing technical support to jurisdictions to set up Shellfish Protection Districts and implement pollution identification and correction (PIC) programs, which are highly effective tools for investigating and tracking down sources of bacterial pollution and accelerating restoration of shellfish beds. In the 2018-2022 Action Agenda, the Department of Health partnered with Skagit County to enhance the existing PIC program in Samish basin. Enhancements include accelerating implementation of Total Maximum Daily Load (TMDL) studies that support the use of chemical tracers sampling, storm sampling, source identification investigation, and outreach to private property owners whose properties may be generating bacterial pollution. This effort is set to be completed in 2022 ([see more](#)).

ACCOMPLISHMENT: Expanding the benefits of agricultural Best Management Practices (BMPs) to support shellfish growing areas through outreach, incentives, and effectiveness monitoring

The **Washington State Conservation Commission (WSCC) Shellfish program** supports projects in targeted shellfish growing area watersheds intended to improve water quality impacted by agricultural activities, septic systems, non-point runoff, and other activities. In the 2018-2022 Action Agenda, WSCC is working with Clallam, Mason, and San Juan Islands Conservation Districts (PSCD) to accelerate implementation of agricultural BMPs to address fecal coliform pollution from farms. Specifically, investments are expanding regionally coordinated education and outreach to increase awareness of livestock's potential impacts on water quality, incentivizing increased adoption and implementation of agricultural BMPs, and increasing annual monitoring of installed practices ([see more](#)).

ACCOMPLISHMENT: Assessing and improving nutrient management in North Puget Sound

The **Washington State Department of Agriculture (WSDA)** works closely with the Department of Ecology to require all licensed cow dairies to develop and implement nutrient management plans and participate in a program of regular inspections and compliance. The **Dairy Nutrient Management Program (DNMP)** is intended to protect water quality from livestock nutrient discharges and help maintain a healthy agricultural business climate. In the 2018-2022 Action Agenda, the program identified a need to enhance its abilities to 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. WSDA has been successful in securing funding for these efforts and was recently awarded ongoing funding in the 2021-2023 state biennial budget ([see more](#)).

State agency contributions to Protecting and Restoring Habitat, Abundant Water Quantity and Thriving Species and Food Web

State agency programs play a critical role in protecting and restoring habitat across Puget Sound. Key activities include:

- supporting growth management and protection of critical areas;
- promoting protection of habitat through easements and acquisitions;
- improving habitat connectivity and restoring habitat-forming and sustaining processes through funding restoration projects; and
- supporting habitat protection and restoration progress through research, mapping, and monitoring efforts.

The following are a selection of highlights from state agencies:

ACCOMPLISHMENT: Supporting local jurisdictions to assess and improve their efforts to protect critical habitat

The **Department of Commerce's Growth Management Services** program helps local governments implement and abide by the Growth Management Act (GMA), including mandates to contain most growth within urban growth areas (UGA). This helps to protect areas outside of UGAs from the results of intense development. In the 2018-2022 Action Agenda, Commerce proposed an action to better support local governments to determine whether the goals of critical areas for protection in Puget Sound are being met, and if the goals are not being met, how to improve the process. Many jurisdictions are interested in adaptively managing their programs under GMA and the Shoreline Management Act but lack resources. To address this need, the Departments of Commerce, Ecology, and Fish and Wildlife are providing technical assistance and resources to cities and counties to develop or enhance monitoring and adaptive management of critical areas permit implementation and effectiveness. State resources include training workshops and technical tools for tracking permit effectiveness, such as modeling and mapping ([see more](#)).

ACCOMPLISHMENT: Washington state agencies work together to advance vital habitat protection and restoration projects for people and salmon

State agencies provide local implementers with critical funds and other assistance to protect and restore our ecosystem. The following state agency programs are major contributors to Puget Sound habitat and salmon conservation efforts proposed in the 2018-2022 Action Agenda:

- The Department of Ecology's [Floodplains by Design \(FbD\) program](#) increases the resiliency of our floodplains through collaborative floodplain planning with regional leaders and groups. FbD protects and restores habitat along our river corridors while also reducing flood risk for people and infrastructure.
 - 2018-2022 Action Agenda: [Actions - 9; Investments - \\$25.3 million](#)
- The [Puget Sound Acquisition and Restoration \(PSAR\) program](#) helps to implement the most important habitat protection and restoration projects for Puget Sound and is co-managed by the Puget Sound Partnership and the Recreation and Conservation Office.
 - 2018-2022 Action Agenda: [Actions - 54; Investments - \\$42.5 million](#)
- The [Estuary and Salmon Restoration Program \(ESRP\)](#) provides funding and technical assistance to organizations working to restore shoreline and nearshore habitats critical to salmon and other species in Puget Sound. ESRP is co-managed by the Department of Fish and Wildlife and the Recreation and Conservation Office.
 - 2018-2022 Action Agenda: [Actions - 16; Investments - \\$7.3 million](#)
- The Recreation and Conservation Office manages the distribution of state and federally funded grants to protect and restore salmon habitat and assist related activities statewide. The [Salmon Recovery Funding Board \(SRFB\)](#), composed of five citizens appointed by the Governor, and five state agency directors, oversees and approves the awards.
 - 2018-2022 Action Agenda: Projects - 43; Investments - \$13.2 million ([State/Federal](#))
- The [Brian Abbott Fish Barrier Removal Board \(FBRB\)](#) identifies and removes impediments to salmon and steelhead migration. This grant program is administered jointly by the Department of Fish and Wildlife and the Recreation and Conservation Office.
 - 2018-2022 Action Agenda: [Actions - 3; Investments - \\$4.4 million](#)
- The [Streamflow Restoration Program](#) provides grants to support state and local agencies, tribal governments, and non-profit organizations in implementing local plans and projects to improve streamflow and aquatic resources. This grant program is administered by the Department of Ecology.
 - 2018-2022 Action Agenda: [Actions - 9; Investments - \\$13.4 million](#)

Local implementers often combine funding from these key programs for related aspects and phases of their recovery projects. This combination of state funding is often pivotal in meeting project goals. This is the case for floodplain restoration in the Lower Dungeness River, where a project proposed in the 2018-2022 Action Agenda is restoring 0.8 miles of lower Dungeness River to 110 acres of its historic floodplain. Here FbD and PSAR have combined to restore ecosystem processes for listed Chinook and other salmon species, while providing flood protection for the local community ([see more](#)).

Another example is the 2.4 miles of dike removal on Leque Island near Stanwood, which restored tidal processes to 250 acres of historic estuary. The full restoration of Leque Island, as proposed in the 2018-2022 Action Agenda, would not have been possible without combined funding of over \$3 million from the ESRP and PSAR ([see more](#)).

State habitat protection and restoration investments also help harness significant investment from federal and local governments, tribes, special districts, non-governmental organizations, and the private sector. The 2018-2022 Action Agenda has many examples of state funding leveraging additional investments, including some of the following projects:

- Floodplains by Design and Whatcom County Flood Control Zone district working to acquire and protect properties in the Nooksack Watershed (WRIA 1) key to future habitat restoration, while reducing flood risk to people and expensive long-term repairs ([see more](#)).
- Removing the City of Snohomish Diversion Dam (Pilchuck River Dam) to restore natural processes and unimpeded fish access to over 37 miles of high-quality priority habitat for Endangered Species Act-listed fish species. Dam removal was made possible with a PSAR grant, federal funding from NOAA and the SRFB, as well as funding from the Tulalip Tribes and the Paul G. Allen Family Foundation ([see more](#)).
- Restoring forested floodplain function and connectivity to 80 acres of floodplain and 2,600 linear feet of side channel on South Prairie Creek in the Puyallup watershed. PSAR and SRFB funds were combined with funding from Puyallup Tribal Fisheries and Pierce County to improve productivity of aquatic habitat to support Puyallup River Chinook, steelhead, and coho ([see more](#)).

ACCOMPLISHMENT: Providing accessible tools to help local governments protect riparian habitat

To protect species and habitats, the Department of Fish and Wildlife's **Ecosystem Support** program offers conservation technical assistance to local governments and individuals. This support includes land use analysis and assistance to local governments working on protecting ecologically important areas under the Growth Management Act. Department of Fish and Wildlife identified a need, in the 2018-2022 Action Agenda, to provide supporting tools to local governments to help them in their riparian management planning. To address this need, the agency and partners created a new website that provides comprehensive and accessible information to support land owners and local governments in determining the widths of riparian management zones – “buffers” – to inform critical area ordinances that protect riparian areas ([see more](#)).

Accomplishments: Federal agencies implement the 2018-2022 Action Agenda and the Federal Task Force Action Plan

The federal government plays a significant role in implementing the Action Agenda by helping to shape priorities and either directly funding or passing through funding to state and local implementers. As well as helping to directly implement and fund Action Agenda activities, nine federal agencies and cabinet departments signed a Memorandum of Understanding (MOU) in September 2016 creating the Puget Sound Federal Task Force (PSFTF). The signatories developed a five-year Action Plan (FY2017-2021) to provide a shared federal vision of a healthy and sustainable Puget Sound ecosystem by leveraging federal agencies and resources across diverse programs on a targeted suite of priorities. The Puget Sound Action Agenda, salmon recovery priorities, and tribal habitat priorities plans are foundations for developing the Federal Task Force Action Plan.

Below is a summary of programs and accomplishments from a selection of federal agencies with the largest impact on funding and implementing the Action Agenda.

ACCOMPLISHMENT: Puget Sound Geographic Program/National Estuary Program funds the largest number of Action Agenda projects

Three Strategic Initiative Leads (SILs) manage and grant Puget Sound Geographic Program/National Estuary Program funding to directly fund priority actions in the 2018-2022 Action Agenda. The SILs are led by state agencies, covering Habitat (Departments of Fish and Wildlife and Natural Resources), Stormwater (Department of Ecology, in partnership with the Washington Stormwater Center at Washington State University and the Department of Commerce) and Shellfish (Department of Health in partnership with the Departments of Ecology and Agriculture). The SILs have so far funded by far the highest number of 2018-2022 Action Agenda Near Term Actions compared to other funders. Examples of successful Puget Sound Geographic Program/National Estuary Program SIL Action Agenda projects are numerous; here is a selection of just three accomplishments:

- The **Habitat SIL** funded Washington State University Extension to expand a model community oil spill assessment and response program to three additional Puget Sound communities, including northern Olympic Peninsula and Island County. The program connects established volunteer groups with oil spill response agencies with the objective to decrease first response and assessment time and standardize and align citizen science monitoring protocols ([see more](#)).
- The **Stormwater SIL** funded the University of Washington Tacoma to identify and quantify a suite of chemical indicators that represent novel and emerging toxicants in stormwater that affect salmon. The research is evaluating the occurrence of the emerging toxicants in watersheds and assessing the performance of treatment systems for their removal ([see more](#)). This work builds on Stormwater SIL funded research, also led by UW Tacoma, that in 2020 led to the successful identification of a preservative in tires that when mixed with ozone creates a toxic chemical (GPPD-quinone) that causes high levels of pre-spawn mortality in Coho salmon.
- The **Shellfish SIL** funded Jefferson County to develop a cost-share program that assists low-income residents with repair, replacement, decommissioning, or abatement of failing onsite septic systems. One of the key criteria for the cost-share program is whether the failing septic system is located within 200 feet of the marine shoreline or a stream that drains into prohibited, threatened, or concerned shellfish growing area ([see more](#)).
 - 2018-2022 Action Agenda: [Projects - 144; Investments - \\$34.8 million](#)

ACCOMPLISHMENT: Federal agencies provide essential support for coastal ecosystem restoration and salmon recovery in Washington

- The **Pacific Coastal Salmon Recovery Fund (PCSRF)**, administered by NOAA, is the primary source of funds that allow Puget Sound regional and local salmon recovery organizations to engage with their federal, state, tribal, and local partners to pursue essential salmon recovery actions. This work includes managing the local grant processes that identify and prioritize salmon recovery projects. Distribution of PCSRF grants for salmon recovery projects is overseen by the Salmon Recovery Funding Board.

These federal grants provided funding for at least 14 projects in the 2018-2022 Action Agenda at a total cost of \$2.5 million. PCSRF-funded projects in the 2018-2022 Action Agenda include an effort led by the Hood Canal Coordinating Council and Long Live the Kings to determine water quality impacts related to the Hood Canal Bridge by studying the bridge's effects on water circulation and resulting food web impacts. As a result of the assessment, experts are developing short-term strategies to aid fish passage and deter predators from foraging near the bridge. Long-term options considered may include fundamental changes to the bridge's design ([see more](#)).

- The **NOAA Coastal Resilience Grants program**, jointly administered by NOAA's National Ocean Service and NOAA Fisheries, implements projects that build resilient U.S. coastal communities and ecosystems. The program funded two projects in the 2018-2022 Action Agenda at a combined cost of \$2.8 million, including Leque Island Estuary Restoration ([see more](#)).
- The Coastal Wetlands Planning, Protection, and Restoration Act established the U.S Fish and Wildlife Service **National Coastal Wetlands Conservation Grant Program (NCWCGP)** to acquire, restore, and enhance wetlands in coastal states through competitive matching grants to state agencies. The primary goal of the NCWCGP is the long-term conservation of coastal wetland ecosystems. Although only state agencies are eligible applicants, the Department of Ecology partners with tribes, cities, counties, land trusts, and other state and federal agencies to pursue conservation projects in Washington. The NCWCGP successfully funded seven projects in the 2018-2022 Action Agenda at a total cost of \$7.8 million. Successful Action Agenda projects include a Capitol Land Trust-led project to protect approximately 45 acres of wetland and shoreline property at Mud Bay in the Deschutes watershed, Thurston County. The primary goal is to protect juvenile and adult salmon, including coho, Chinook, steelhead, chum, and coastal cutthroat ([see more](#)).

Accomplishments: Local implementation of actions is fundamental to a successful Action Agenda

Although state and federal funding is vital to successfully implementing the Action Agenda, most often it is local governments, tribes, non-governmental organizations, and the private sector that propose and manage Puget Sound recovery activities on the ground. Local funding also contributes over a quarter of all funding for 2018-2022 Action Agenda Near Term Actions – funding, or partially funding over 90 projects at a cost of \$88 million, as of May 2021 – often as match funding for state or federal grants. Included below is a selection of just three of scores of examples of successful local implementation of Action Agenda projects:

ACCOMPLISHMENT: Local partners fund and implement the Action Agenda

- **Kitsap County and the Suquamish Tribe** funded and completed a study to assess the feasibility of restoring the natural water cycle in the vicinity of the Kingston Wastewater Treatment Plant by significantly reducing the discharge of treated wastewater into Puget Sound. In addition to reducing nutrients in the Sound and supporting the Grover Creek fisheries, a project objective was to reduce groundwater withdrawals. The scope of work included 1) field studies for the evaluation of water balance, water quality, and soil and groundwater testing to design infiltration rates 2) public outreach for education, coordination, and regulatory issues associated with the beneficial use of recycled water 3) preliminary engineering to determine infrastructure components, project costs, permitting requirements, and environmental impacts ([see more](#)).
- **Defenders of Wildlife**, a wildlife conservation organization, has assembled funding from seven different private and local funding sources to pursue their **Orcas Love Raingardens** initiative. This project seeks to make the connection between raingardens and orca conservation through a pilot program to install and maintain raingardens at schools and parks in Tacoma, integrate raingardens into curriculum, and engage the public using orca narrative ([see more](#)).
- **King County** is implementing revegetation goals identified in Water Resource Inventory Area (WRIA) 9's **Re-Green the Green** Riparian Revegetation Strategy. The project will restore 30 acres of shade-producing riparian forest along the Green/Duwamish River critical for restoring healthy habitat conditions, including cool water, for ESA-listed Chinook salmon. To achieve the project's goal, King County provided its own funding, as well as from the King County Flood Control District, WRIA 9, Rose Foundation, and other local jurisdictions, in addition to state grants from the Puget Sound Acquisition and Restoration (PSAR) program and the Salmon Recovery Funding Board (SRFB). Since 2018, partners have revegetated a total of 22.7 acres in the Lower Green and Duwamish River. ([see more](#)).

Accomplishments: Science projects implement priorities in the Science Work Plan

The Partnership's Science and Evaluation team funds and manages projects that advance scientific priorities outlined in the Science Work Plan. Some of these projects also help to implement specific Near Term Actions identified in the Action Agenda.

Within the last two years the Science and Evaluation team has funded a total of 30 different science projects through a combination of state and federal funding amounting to \$2.8 million (see table 4, and the [full list of projects](#)). The projects cover a variety of science-related activities, encompassing work to:

1. collect, monitor, and analyze data for specific Puget Sound Vital Sign indicators
2. support Puget Sound Ecosystem Monitoring Program (PSEMP) priorities, and
3. advance scientific research that will inform and improve efforts to better understand and enhance the resilience of the Puget Sound ecosystem.

Table 4: Funded science projects, June 2019 to May 2021

Source of Funding	Funding Amount (\$000's)
State	2,555
Federal (EPA)	235
Total	2,790

For the first time, the Legislature included funds for scientific research (number 3 above) in the Partnership's 2019-2021 operating budget. This new and ongoing funding enables the Partnership to invest in top priority investigations through a process overseen by the Science Panel. In the last two years, the Partnership prioritized three main areas for scientific research:

- Determining the primary factors affecting the survival of juvenile salmon and steelhead in the Salish Sea;
- Studying the implementation and effectiveness of Chinook salmon recovery efforts; and
- Studying the effectiveness of actions to restore shellfish beds.

Most of the 2019-2021 scientific research investments (\$1.05 million) were directed toward multiple projects that contribute to the Salish Sea marine survival initiative. These Salish Sea marine survival projects also address a number of Near Term Actions in the Action Agenda.

Scientific research projects highlights: Salish Sea Marine Survival

- **Synthesis of marine survival research findings:** Long Live the Kings is using scientific research funds to 1) synthesize the results of the Salish Sea Marine Survival Project, 2) develop recommendations for management and recovery actions regionally, 3) make managers and the public aware of results and needed actions, and 4) test actions that address marine survival limiting factors (see the 2018-2022 Action Agenda [Near Term Action](#) for more information about this project).
- **Atlantis modeling:** Long Live the Kings and partners developed an ecosystem model, built on the Atlantis modeling framework, to evaluate the effect of multiple pressures on early marine survival of juvenile salmon in Puget Sound. The model is a first step to begin to rank past drivers of salmon declines and to identify management actions that are likely to produce improvements in salmon survival (see [final report](#) and related 2018-2022 Action Agenda [Near Term Action](#)).
- **Measuring the effectiveness of acoustic deterrents on pinnipeds:** Oceans Initiative is testing the effect of an acoustic startle device (ASD) on pinnipeds and their predation on salmonids at the Ballard Locks in Seattle. Preliminary results suggest that the device may reduce the number of seals in the immediate vicinity of the ASD; displace the seals away from the fish ladder; and reduce salmon predation rate by seals (see [preliminary report](#) and related 2018-2022 Action Agenda [Near Term Action](#)).

Beginning in 2021, the Partnership solicited proposals for scientific research projects for the 2021-2023 biennial funding round. The [Puget Sound Science Work Plan for 2020-2024](#) (SWP) defines the subject areas around which proposals are invited. The Partnership and the Science Panel are committed to advancing the following principles in these awards:

- Integrating biophysical and social sciences.
- Advancing management-relevant science through collaborations among scientists and with managers or decision-makers or explicitly engaging managers or decision-makers in discussions about putting research findings to use.
- Advancing justice, equity, diversity, and inclusion.

The apparent successful proposals for 2021-2023 Collaborative Puget Sound Scientific Research include the following:

Integrated Socio-Ecological Systems Award

Human Well-being and Environmental Effects of Green Infrastructure

- Project lead: The Nature Conservancy
- Proposed budget: \$641,805

Targeted Research Awards

Sea Lion Abundance Puget Sound

- Project Lead: Smultea Sciences
- Proposed budget: \$25,100

Using bioenergetics to plan effective restoration projects for Chinook salmon

- Project lead: The Nature Conservancy
- Proposed budget: \$159,890

Modeling Cumulative Effects to Guide Southern Resident Killer Whale Recovery

- Project lead: Oceans Initiative
- Proposed budget: \$119,951

Prioritization of Contaminants of Emerging Concern

- Project lead: Western Washington University
- Proposed budget: \$145,278

Qualitative Social Science through the Skagit Story

- Project lead: Sara Jo Breslow LLC
- Proposed budget: \$99,960

(B) ALIGNING ACTIONS WITH THE ACTION AGENDA

The Partnership's enabling legislation requires that the agency provide "a description of actions by implementing entities that are inconsistent with the Action Agenda and steps taken to remedy the inconsistency."

Boards addressing inconsistencies

The section below provides examples of barriers addressed by the Leadership Council, Ecosystem Coordination Board, Science Panel, and Salmon Recovery Council between October 2019 to May 2021.

Leadership Council – Local Forum

The Partnership's Boards are committed to engaging local decision makers – including elected officials who don't regularly participate in the Management Conference – for structured conversations that elevate the stature of local priorities and identify ways in which the Management Conference can help address barriers. To that end, the Leadership Council hosted its first-ever virtual "Local Forum" with the Strait Ecosystem Recovery Network – Local Integrating Organization (Strait ERN – LIO) during the first portion of their September 2020 meeting. Local leaders from the Strait ERN – LIO raised several issues for discussion, including:

- Funding instability for local On-site Sewage (OSS) programs
- Connections between land and shoreline use and salmon and orca recovery
- The role of rural economies in confronting climate change
- Data gaps for oil spill prevention, preparedness, and response
- Permitting barriers for large-scale restoration projects

On the oil spill topic, Partnership staff and representatives from the Strait ERN – LIO noted that the Port Angeles Ports and Waterways Safety Assessment (PAWSA) had still not been published by the Coast Guard, despite three years of elapsed time since a workshop was held to generate its content. The Strait ERN – LIO identified the prompt release of the Port Angeles PAWSA as a key objective in addressing data gaps for oil spill prevention and preparedness issues in their region. During the Local Forum, the Leadership Council convened additional representatives of organizations with relevant roles, including the Puget Sound Harbor Safety Committee, the Pacific Coast Marine Advisory Review Panel (PACMAR), and the United States Coast Guard to discuss the importance of the PAWSA and what barriers precluded its release. Following the meeting, the Leadership Council sent a [letter](#) to Coast Guard Sector Puget Sound Commander Capt. Patrick Hilbert reiterating the request to publish the draft PAWSA along with a proposal for process that would ensure future PAWSAs would be successful. The Coast Guard is currently awaiting final review from tribal nations consulted during the initial PAWSA workshop and anticipates releasing the draft soon.

On the large-scale restoration project permitting topic, the Leadership Council worked to respond to the issue on both the state and federal levels. Streamlining state permitting for restoration projects became one of the [Leadership Council-adopted legislative priorities](#) for the Partnership. As one of the Leadership Council's legislative priorities, individual members worked to ensure the passing of [HB 1382](#): "Streamlining the environmental permitting process for salmon recovery projects." To address permitting barriers at the federal level, the Leadership Council hosted Colonel Xander Bullock, Seattle District Commander for the United States Army Corps of Engineers, at its December 2020 meeting to discuss opportunities and challenges for permit streamlining. Following that meeting, members of the Strait ERN – LIO were invited to participate in a work group with other regional stakeholders to pursue additional commitments for streamlining from the Corps. The Leadership Council also sent a follow-up [letter](#) to Colonel Bullock, urging the Corps to continue to use creative problem-solving to accelerate the permitting of restoration projects.

Ecosystem Coordination Board – Supporting local governments to participate in protection and recovery of Puget Sound

In 2019, the Ecosystem Coordination Board convened a subcommittee to understand and address key challenges and barriers that local jurisdictions face in land use planning under the Growth Management Act to protect ecologically important lands. Subcommittee members included representatives from counties, cities, tribes, federal and state government, and non-governmental organizations. The subcommittee started out by hearing from county and city representatives about the key challenges local governments face in participating in protection and recovery of Puget Sound. The subcommittee identified the following as the top barriers for local governments:

- Updates are needed for the Growth Management Act to address protection and restoration in rural areas;
- Technical information is not provided when it is needed during comprehensive plan updates and coordination among information providers could be improved;
- Ecosystem services are not monetized;
- In rural areas, the cost of infrastructure (water and sewer) is a barrier to creating urban growth areas.

In January 2020, the subcommittee chose to focus on exploring tools, policies, and funding mechanisms to address these challenges and support counties and cities to participate in protection and recovery of Puget Sound.

In spring 2020, the Partnership and Ecosystem Coordination Board worked with Northern Economics to identify examples of incentives, specifically payments for ecosystem services programs, and innovative financing mechanisms intended to promote conservation in the U.S. Northern Economics produced a report that provided a snapshot of existing conservation incentive programs and financing mechanisms for counties and cities to consider when pursuing land conservation in the Puget Sound region.

In 2021, the Ecosystem Coordination Board started a project to identify the barriers that county planning and permit staff face when encouraging private landowners to take actions to protect and restore ecologically important lands on their property. The Partnership contracted with a student consultant team from the University of Washington Evans School of Public Policy and Governance to conduct interviews and surveys of county planning and permit staff in 11 counties in the Puget Sound region to learn about the barriers and tools needed. The students produced a report of their findings and provided recommendations for how the Ecosystem Coordination Board and broader recovery community could better support local land use planning departments to encourage landowners to protect ecologically important lands.

Supporting materials: [NEI report on conservation incentives](#)

Science Panel – Funding for Puget Sound scientific research

A duty of the Science Panel, per Washington state statute [RCW 90.71.280(1)(c)] is to “[d]evelop and provide oversight of a competitive, peer-reviewed process for soliciting, prioritizing and funding research and modeling projects.”

The operating budget enacted for 2019-2021 included a new, ongoing appropriation to the Partnership for Puget Sound scientific research. Funds available for award to research and modeling projects totaled \$1.745 million, roughly one-half of which was spent in each of the 2019-2021 biennium’s state fiscal years. Historically, funding for monitoring falls far short of identified needs and the Panel’s efforts to help secure this ongoing appropriation is particularly notable in this regard.

The 2019-2021 funding for projects was allocated across three areas, all of which are priorities in the Panel’s Science Work Plan: 1) Salish Sea Marine Survival Project, 2) study the implementation and effectiveness of Chinook recovery efforts, 3) study the effectiveness of actions to restore shellfish beds. These topics originated from the 2016-2018 Science Work Plan priority science work actions.

The Science Panel provided oversight for the award of the appropriated funds for 2019-2021, and a subgroup of Panel members advised development of the solicitation, served as evaluators of submittals, and helped recruit other qualified people to serve as evaluators. The Panel also received progress updates on each of the projects at the regular meetings, provided input, and discussed how the research interfaced with current policy decisions.

Supporting material: [October 16 & 17th, 2019 Science Panel briefing memo](#)

Alternative Future Scenarios Analysis

In the *2019 State of the Sound* report, the Science Panel’s comments identified scenario-based analysis to assess and plan for changes in the region. Scenario analysis assesses ecosystem vulnerability to strategically test the best path forward for increasing Puget Sound resilience. Scenario-based analysis provides an opportunity and process for scientists and decision-makers to work together toward solutions and strategically test the alternatives to achieve them. For example, scenarios can be used to explore how business-as-usual policy approaches affect mutually determined indicators of resilience. Scenarios invigorate this dialogue by fostering collaborative conversations about how the actions we take now affect outcomes in the future as well as the characteristics of the future we collectively envision.

In July 2020, the Science Panel hosted a cross-board workshop on the Alternative Future Scenario Analysis that brought together over 35 leaders in the region, including members of the Ecosystem Coordination Board, Salmon Recovery Council, Science Panel, Leadership Council, Partnership Tribal Co-management Council, and Puget Sound Ecosystem Monitoring Program (PSEMP).

The focus of the work session was to discuss—and begin to plan for—the future through the lens of change and uncertainty. Specifically, given all that we’ve achieved, why can’t we be more certain about Puget Sound recovery? The group discussed the primary drivers affecting the likely success of Puget Sound recovery. In discussing ways in which the future is uncertain, the group acknowledged issues of climate change, land use, and population growth. Socio-cultural issues, including past and current policies, emerged as central to understanding how the future might unfold and our ability to achieve Puget Sound resilience.

Since then, the Partnership brought on a team of contractors to support this work. This team will work to develop a problem statement that includes key drivers of change, scale and scope, and a narrative description of each of the multiple scenarios describing how

biophysical and social drivers could unfold. They also will work to develop qualitative models for each scenario and a suite of strategies responsive to the various scenarios. The Science Panel has and will continue to provide guidance throughout this process, by providing technical expertise, cross-system connections, and an example of working at the science-policy interface.

Supporting materials: [April 14 & 15th, 2020 Science Panel briefing memo](#)

Salmon Science Advisory Group white paper

The Salmon Science Advisory Group (SSAG) is an advisory body for the Salmon Recovery Council (SRC) and the Science Panel, available to provide input on key science questions underpinning implementation and adaptive management of the Puget Sound Salmon Recovery Plan. During the May 2019 SRC meeting where members discussed changing the regional funding allocation model, SSAG members maintained that more information on the effectiveness of projects funded under the current allocation formula was needed for an informed conversation on potential changes.

The SSAG produced a white paper “Factors Limiting Progress in Puget Sound Salmon Recovery,” which examines reasons why Pacific salmon in Puget Sound may not be showing signs of improvement in response to habitat restoration programs and concludes with some suggestions that may improve effectiveness of efforts in Puget Sound.

The SSAG presented these findings to the Salmon Recovery Council and the Science Panel, and both discussed how this could inform funding prioritization for salmon recovery and science. The Salmon Recovery Council subsequently hosted a retreat in March 2021, in which they considered options for re-orienting PSAR Large Capital spending priorities in light of the SSAG’s findings that – for a host of reasons often beyond the control of a watershed – we might not be “doing the right projects in the right places.” Those discussions will continue through 2021.

Supporting materials: [January 28th, 2021 Salmon Recovery Council briefing memo](#)

Salmon Recovery Council - Conservation Futures

The Salmon Recovery Council has identified inadequate funding as a primary obstacle to achieving salmon recovery and restoring Puget Sound. In 2020, the SRC’s Funding Subcommittee began an assessment of the Conservation Futures Tax (CFT) program – with the goal of furthering integration of salmon recovery priorities into program objectives. County-by-county and across Puget Sound as a whole, this work has the potential to effectively increase the amount of funding available to salmon recovery efforts by a large margin. Building on some foundational research conducted for the SRC by Environmental Science Associates, the Funding Subcommittee, with the assistance of several SRC members, interviewed CFT program managers to compile an inventory of basic information about each county’s CFT programs. In September 2020, the subcommittee [presented](#) on the initial results of those interviews and discussed factors that should be considered in pilot selection.

The subcommittee then cross-checked those results with a set of pilot-selection criteria to generate its recommendations. The subcommittee made a recommendation to start working with the CFT programs in Kitsap and Snohomish counties to pilot enhancements and promote integration with salmon recovery priorities. The subcommittee has secured contractor support to conduct these pilots, and is actively working with Kitsap County as of fall 2021. Meanwhile, Thurston County proactively responded to outreach from the SRC Funding Subcommittee by revising their CFT-project-scoring criteria to include additional points for projects that would advance watershed recovery plans.

Supporting materials: [November 19th, 2020 Salmon Recovery Council Funding Subcommittee briefing memo](#)

(C) COMMENTS FROM THE SCIENCE PANEL

The Partnership's enabling legislation directs the Science Panel to offer comments on progress in implementing the Action Agenda, as well as findings arising from the assessment and monitoring program.

Synopsis

Our world has changed significantly since the 2019 State of the Sound report. A global pandemic, the continued impact of climate change, and a heightened focus on social justice has shifted how the region must approach Puget Sound recovery. In particular, we need a heightened emphasis on the human dimensions of the recovery project. The pace of climate change and its associated impacts has elevated the need for a resilient ecosystem and increases the scale and scope of required actions and protections. We must act decisively and quickly to achieve our mutual interests in creating a Puget Sound that sustains a healthy economy, ecology and environment for all. The recent major shift in national leadership brings new opportunities to realize this goal.

In this statement, the Puget Sound Partnership's Science Panel highlights some important successes and achievements on the ecological side, while emphasizing the need for more focused efforts to address human wellbeing and an equity of outcomes. A key overall theme of this report is that creative thinking and bold actions are urgently required to make the transformative gains we seek in the Puget Sound socioeconomic system. While the road ahead remains challenging, we must redouble our commitment to forge a future Puget Sound that embodies the scientific principles, ecological relations and human values that provide the foundation for resilience, sustainability and equity.

Changing Context for Recovery — Lessons from the Pandemic and Social Justice Movement

The birth of the Puget Sound Partnership in 2008 included the establishment of the Science Panel, a group charged with ensuring the recovery of Puget Sound is aided and informed by the best available science. Few on the initial Panel could have anticipated that 13 years later we would be grappling with an extended global pandemic and a series of dramatic events that has catapulted social justice issues to the forefront of public consciousness. Social justice issues in ecosystem recovery and tribal treaty rights have been recognized with respect to salmon conservation and recovery, but recent events have heightened their importance in the overall recovery effort.

We have all been humbled by the scale and complexity of the pandemic. Getting through it has been a challenge with both social and biophysical dimensions woven into a very complex problem, much like the situation we face with Puget Sound recovery. Our pandemic experience has provided several lessons that can help shape how we can adapt our approach to the recovery of Puget Sound.

First, experimental, long term scientific research has been critical to tackling the pandemic. Without mRNA and other biomedical technologies the fight would have been more extended and the impacts on human health more devastating. This underscores that we must keep the march of science going, as creative research and innovation provide game-changing knowledge and solutions in ways we sometimes cannot readily anticipate. This last year, we marveled at the rigorous science that allowed for the identification of 6PPD, a chemical used in tire manufacturing, that was rapidly lethal to Coho salmon once it entered the waters in which they live. In this case sustained scientific research over the long term provided a potential game-changer in the fight to save Coho, and provided a concrete basis for action. While many factors affect their overall survival, this kind of breakthrough research – like the recovery effort overall – requires consistent and sustained support.

Second, it also quickly became clear that the pandemic was not going to be defeated unless we significantly changed many of our basic behaviors. Donning masks, staying home, and physical distancing all required sacrifices and changes in the way we thought about our everyday actions and the privileges fundamental to our quality of life. How successful were we at changing our behavior? What factors encouraged us to accept the tradeoffs required? What circumstances hindered our collective will to act? We saw that our behaviors can change quite quickly with proper motivation. This is encouraging in relation to Puget Sound recovery, which will require local and large-scale buy-in, it is encouraging that over 75% of Puget Sound residents “agree” or “strongly agree” that Puget Sound plays role in their identity, pride, and attachment. But we also realized how difficult it can be to sustain those changes. Changing behaviors and sustaining those changes are foundational to Puget Sound recovery and building resilience, and we must work to understand how we can engage all residents of Puget Sound to take on the challenges ahead.

Third, it also has been difficult, and remains a challenge, to equitably distribute vaccines. The structure of vaccine distribution has illuminated the inequities that exist in our society and among nations around the world, adding to widespread calls for solutions that promote equity rather than further entrench inequities. Similar issues arise in Puget Sound recovery. Getting to where we need to be will involve some important tradeoffs, and the cost of those tradeoffs must be borne equitably, not by those who are already under-represented and disempowered in our society. The road to recovery needs to be an equitable one.

Moving Forward

When we look back on the pandemic and the social justice movement of the last couple years, these will have inevitably shaped how we move forward, setting us on a different track in the recovery effort than we had anticipated. The jarring social experiment of having to dramatically reduce the numbers of commuters, change the way we consume resources, and alter how we engage others will play out in some predictable and some unexpected ways. The impact of these shifts in our practices can and should be measured over the coming years to better understand how our behaviors affect the health of our environment.

This offers a broader lesson for the way we approach Puget Sound recovery. Our current state is shaped by past events and how we move forward will be shaped by unanticipated future events. But we are always moving forward. Puget Sound recovery does not mean returning to a Sound that existed in 1950, in 1850, or 10,000 years ago. With our presence, actions and decisions we have fundamentally changed the ecology of Puget Sound, and we need to move forward towards a healthy and sustainable ecosystem from where we find ourselves now, guided by history but not attempting to recreate the past.

Going forward to a new Puget Sound provides the opportunity to actively craft what that Puget Sound will be like, to define processes, set targets, and ultimately establish what we truly value in our ecosystem and quality of life. What do we want a future Puget Sound to look like, and how does that vision connect with what the ecosystem and its human inhabitants need to be sustainable, healthy and resilient? In short, we can and will define where we want to go. Though we will need to make tradeoffs, we need not think of recovery as jettisoning the things we most value regarding our quality of life. This is a simple point, but when not properly recognized it opens the recovery process up to unwarranted critique. The road to recovery is a complex path, but a path we can choose ourselves.

Reflecting on our Successes

We have a lot of urgent work yet to do, and much of the messaging in this State of the Sound report underscores this reality. Yet we can draw motivation from an array of successes across the recovery effort so far. The dashboard of Puget Sound Vital Signs developed to measure the health of Puget Sound provides a critical mechanism to understand how we are doing and where we are going. Complex problems are difficult to tackle unless we have focused and meaningful yardsticks. These Vital Signs also allow us to decide where our immediate priorities lie, properly invest in those, and know when we are making progress. The very existence of a vetted set of vital signs and indicators that illuminate our progress (and lack of it) means we are a very long way from where we were at the start of the recovery effort. Our continuous efforts to refine these tools will be critical to our success.

Beyond the Vital Signs framework, we can also point to the work being done across the recovery effort. The Salish Sea Marine Survival (SSMS) project illustrates the kind of success we can achieve when we take a multifaceted, creative approach to a thorny problem. The SSMS project has investigated a diversity of ecosystem factors that affect salmon survival, many of which are represented in our Vital Signs. Thinking systemically across Vital Signs is key to generating substantial change in the directions we seek. Likewise, with targeted efforts on individual elements, we lay the groundwork for greater systemic level change.

The Need for Bold Ideas and Transformative Actions

Despite some impressive gains in several areas of the recovery project, we have yet to see the truly transformative changes in the Puget Sound ecosystem that many had anticipated, or at least hoped, would materialize by now. We have had much success improving specific dimensions of the ecosystem and stemming losses in many others, but at the system level we have not seen the needle move as much.

This is true particularly of salmon recovery, which has been a focus of ecosystem recovery from the outset. Science Panel members Robert Bilby and Ken Currens, along with a team of co-authors, succinctly captured the concerns by posing five key questions that we should reflect upon when considering why we have yet to see dramatic and widespread salmon recovery:

Are we doing enough?

Are we doing the right things in the right places and at the right times?

Are any gains being offset by increasing impacts?

Have we waited long enough to see results?

Are the factors that are keeping salmon numbers down outside of our control, that is, are determined outside of Puget Sound?

Similar questions were raised about the broader recovery process in the 2019 Science Panel comments. The challenge of salmon recovery represents an important, focused example of the critical reflection we must undertake across the board. As the Science Panel point out, the answers to these five questions may not be mutually exclusive. For example, climate change globally creates conditions that may impede recovery efforts locally. Expanding populations within the Sound make recovery efforts prone to a shifting baseline of social and ecological conditions. This adds an urgency to act. If we can respond quickly to current known and near-term future conditions, we are likely to achieve greater success at less cost than in the future.

Changing future baselines also mean we must go forward adaptively and with a clear view of the variety of possible futures we might face as a result of decisions and actions we take now. One key tool will be utilizing alternative future scenarios to think more clearly and concretely about possible futures. What will Puget Sound look like down the road under current projections for climate change and population growth if we maintain our current approach? What effects will specific changes in our behavior have under a variety of climate and population scenarios? What level of certainty do we have that our current actions will bring about the expected outcomes in the future? Advances in modeling future scenarios allow us to make such projections and assess uncertainties in both a formal and qualitative way, a project that the Puget Sound Partnership is now undertaking. We anticipate that this effort will provide valuable insights on potential future conditions to complement our reflections on the observed impacts of past actions.

The Role of the Social Sciences

To be transformative we conceptualize ecosystem recovery as a human and ecological process. An appropriately rich and contextualized approach to future scenarios will explicitly incorporate people as a component of the systems we model, and consider human values in the recovery process and outcomes. A critical component of ecosystem recovery is ensuring human wellbeing in all its dimensions, since we all will ultimately have to face the impacts, bear the consequences, and experience the benefits of ecosystem conditions we establish in the future. This shift requires involving social sciences in a more embedded and significant way than we have in the past.

How do we do this? First, the Science Panel has recognized Social Sciences are key to conceptualizing what human wellbeing means. Dimensions of human wellbeing are captured in our human wellbeing Vital Signs, which form the basis for measuring wellbeing in diverse and important ways. In our recent Science Workplan we have called for prioritizing research that connects ecological and social dimensions of recovery. The Social Sciences Advisory Committee and this Science Panel have worked to ensure actions and outcomes that promote human wellbeing are an integral component of our 2022-2026 Action Agenda.

These efforts are making significant strides in bringing human wellbeing into the recovery process, but we can go further. The future we chart will involve tradeoffs, which will bring benefits as well as costs. A social sciences perspective is key to ensuring that the outcomes of the recovery effort are beneficial overall for human wellbeing, but as importantly that the benefits and costs of Puget Sound recovery are equitably distributed.

Human health is one area in which the social sciences can help conceptualize human wellbeing in its broadest sense. Wellbeing is a complex concept that involves physical, social and mental health components. The connections between a healthy ecosystem and human wellbeing are similarly varied and complex, and include economic prosperity and equity/justice dimensions. For example, recent data shows lower income and disadvantaged groups across Washington State are subject to generally unhealthier environmental conditions and as a result have worse health outcomes coupled with reduced access to health care. While these conditions include toxin loads, poor air quality and other exposures, they also include less access to local foods, green spaces, and outdoor recreational opportunities, which directly impact mental health outcomes. Working to create and effect a recovery that is sensitive to these inequities in exposures and outcomes will be critical to promoting wellbeing for all.

Puget Sound recovery requires acting collectively on a large scale over an extended period of time towards ends that may not be realized immediately or even quickly. A second element of incorporating the Social Sciences involves drawing on its theory of collective action to illuminate how we can motivate people to work together for long term goals. Part of any successful strategy for Puget Sound recovery will be achieving buy-in from a broad coalition of residents, actors, businesses, stakeholders and politicians. This goes beyond both the politics of “getting things done in the legislature” and having social scientists figure out how to “sell” an ecological solution to people — *it gets to the very core of understanding what motivates individuals and groups to act in not only their short term but also long-term interests, and at both local and broader scales.*

Incorporating Diverse Ways of Knowing

We must fuel transformative thinking. For this, we can look outside traditional academic disciplines to deepen the pool of knowledge and understandings that we bring to the recovery effort. The physical and social sciences will have a critical and central role in how we construct the knowledge we need to move forward, but similarly powerful knowledge can come from elsewhere. *It bears emphasizing that in such pressing circumstances we should be open to any and all productive perspectives.*

Key amongst these different ways of knowing is the knowledge held by Indigenous peoples — the original and long-stranding inhabitants of Puget Sound. Native American Tribes hold at least 14,000 years of time-vetted observations and cumulative knowledge about Puget Sound ecosystems. They have effectively practiced ecosystem-based management over that time, and have traditional knowledge of many dimensions of our ecosystem. Indigenous peoples also bring a relational perspective to the table, one which emphasizes the connections between elements of the ecosystem and the place of people within it. This parallels the complex systems view of ecology adopted by many physical and social scientists, but with a stronger emphasis on the obligations to act in the world to maintain and foster positive relations among its many actors, both human and non-human.

Incorporating a diversity of perspectives should also draw upon the varied experiences and identities of the people who now call Puget Sound home. We all hold and can bring understandings, observations and practices that are usefully mobilized in shaping the recovery process. Those who have lived off the land and sea for decades are well-attuned to the impacts of adding millions of new residents to the Sound over the last century. Our collective experience concerning these changes represent a long-term observing network that broadens our knowledge pool and deepens the baselines for measuring current and future change.

Seeking a diversity of perspectives is also a call for broadening our view of what constitutes knowledge, and to more widely source ideas concerning how we might move forward with ecosystem recovery and ensuring human wellbeing. Knowledge systems parallel to traditional science must be part of our collective approach in an enriched strategy of “knowledge co-production”. To meaningfully engage a diversity of peoples and stakeholders — a key to promoting the collective action we require — we must expand our tent by creating an inclusive and diverse recovery effort.

The Path to Resilience

We are not going back to a past Puget Sound. We are moving forward into a future that we define, either willfully or not. What then is our endgame? While targets setting is important for specific Vital Signs and the indicators they subsume, our overarching goal resides not in a singular outcome or set of quantitative benchmarks for success. Rather, *our focus is rightly on establishing resilience in the Puget Sound ecosystem.*

What is resilience? In its most general sense, the term describes a system that can absorb shocks and perturbations without initiating a collapse or requiring structural re-organization of that system. The origin of the concept lies in ecology, where it was developed to describe and analyze how ecological systems can persist and accommodate change without losing their fundamental properties. Resilience can also describe primarily social as well as ecological systems. Indeed, anthropologists, geographers, organizational studies specialists, and a variety of other social scientists have worked to understand how social systems can be resilient across time and space.

For Puget Sound, resilience will need to be realized within a coupled natural-human system – a ‘socioecological’ system. Puget Sound is a complex system that involves both natural and human components and their interlinkages. These linkages are substantial and dynamic. This argues for taking a systems approach to resilience that can appropriately capture those linkages and their feedback mechanisms to support and implement recovery strategies.

The concept of resilience provides a general guideline for the kind of ecosystem we want to bring about and maintain. But the specific attributes of such a system and the way we can bring it about must be clearly identified. What does resilience mean in terms of actions we might take on the ground? How can we make this concept more concrete so as to better guide near term actions and long-term strategies? One way forward is to cast resilience in terms of three specific components: diversity, connectivity, and flexibility. To create resilience we can work in systematic ways to promote these three components in our recovery actions. For every initiative or project we undertake we should ask whether it adds significantly to one or more of these elements.

Resilience can also be described as a strategy rather than an attribute of a system, encouraging us to adopt adaptive rather than rigid tactics. This involves collecting relevant data to evaluate whether actions and approaches will be successful under a variety of future possibilities and changing climate and population baselines. Resilient designs should be part of our interventions in ecosystems — will they be successful under a broad range of future states? Or will they only be successful under a narrow set of possible futures? In even more concrete terms, resilience should also be part of our infrastructure solutions; that is, infrastructure must be designed to be successful under a variety of potential future circumstances and socioecological parameters.

Resilience can thus be a strategy, a process, and an outcome that connects the health of our ecosystem to the quality of life. The ultimate endgame is then to bring Puget Sound to a place where it is sustainable, and where that sustainability is resilient in the face of both external and internal forces of change. Adjustments must always be made, and adaptive management will be essential at many different scales of action. We may not always be successful, but with resilient systems it is possible to fail safely and in the process learn critical lessons from which we move forward.

And such a system must be equitable, since it is for the human residents of Puget Sound that sustainability has meaning, rather than being solely a matter of survival. If we see diversity, connectivity and flexibility as elements to be promoted across socioecological systems, we will be pursuing a focused yet sufficiently flexible approach to guide our recovery efforts.

The Science Panel has recently released its Science Plan – a document that lays out priority actions and pressing initiatives we feel represent the next steps in the recovery journey we are on. This document can be found [here](#).

(D) WHAT CONCERNS DO CITIZENS EXPRESS, AND HOW ARE THEY BEING ADDRESSED?

The Partnership's enabling legislation directs the agency to offer "a review of citizen concerns provided to the Partnership and the disposition of those concerns."

Concern	Venue in which the concern appeared	Disposition of concerns
The Partnership should recognize the existence, strength, and contributions of existing networks as it develops further engagement plans and develops the Inclusive Knowledge Network.	Direct written feedback on the Science Work Plan.	Revised the language of the Science Work Plan and vision for the Inclusive Knowledge Networks.
Connect climate change, environmental justice, and COVID.	Direct written feedback on the Science Work Plan, guidance on scenarios.	Revised the introduction of the Science Work Plan. More work is being done by other programs, including cross-system metrics in the scenario work.
Include connections to human health and human outcomes.	Direct written feedback on the Science Work Plan.	Revised the Science Work Plan to ensure we focused on these connections. We relied on social scientists to ensure priority science work actions addressed this need for integration.
Incorporate tribal ecological knowledge and represent economically and socially marginalized people.	Direct written feedback on the Science Work Plan.	Revised the emphasis and language of the Inclusive Knowledge Network described in the Science Work Plan.
Consider steps towards transformative change, change the political conversation.	Direct written feedback on the Science Work Plan and guidance on the scenario initiative.	Considered in the selection of priority science work actions in the Science Work Plan; using the scenario work to facilitate hard conversations.
Articulate the need for ongoing data, monitoring, etc.	Direct written feedback on the Science Work Plan.	Incorporated as an objective in the Science Work Plan.
Misaligned timelines/insufficient time for planning.	Feedback received during Water Resource Inventory Area 1 salmon chapter update process.	Partnership staff pursued and obtained extensions for watersheds doing chapter updates.
Responses from different groups (Near Term Action owners, Local Integrating Organization members, Strategic Initiatives, etc.) reveals a broad lack of trust or perceived value in the work of others.	Action Agenda After Action Review - https://pspwa.box.com/s/71kh95t3vx5ltu8931nntdOjdvpqk41k	Fostering co-development in 2022-2026 Action Agenda update to increase trust and collaboration between different partners.
Near Term Actions are generally viewed as opportunistic and disconnected projects. And important work for recovery is not captured.	Action Agenda After Action Review - https://pspwa.box.com/s/71kh95t3vx5ltu8931nntdOjdvpqk41k	We are not doing a solicitation for projects for the 2022-2026 Action Agenda. Instead our goal is to capture the commitments and work of the boards, Strategic Initiative Leads, Local Integrating Organizations, the Partnership, and more. This work has not been captured or tracked by previous Action Agendas. The Action Agenda will also include policy recommendations and example actions to support project implementation.
Fiscal notes for legislation of the type that created the Partnership misrepresent by orders of magnitude the extent of the fiscal obligation the state will incur.	Proposed House Committee Amendment to E2SSB 5141 sponsored by Representative Mary Dye for consideration by the House Environment and Energy Committee. See Section 1 (6). (https://app.leg.wa.gov/committeeschedules/Home/Document/233972#toolbar=0&navpanes=0)	Although it doesn't really address the expressed concern, the State of the Sound identifies funding gaps between what is needed and what is provided to implement the Action Agenda.

Concern	Venue in which the concern appeared	Disposition of concerns
The Partnership maintains vital sign indicators to track its progress on its action agenda goals, including the goal it has had since 2007 to achieve a healthy human population supported by a healthy Puget Sound. Not one 2020 target has been met. For most progress indicators, there is no data, or the progress status is "not improving."	Proposed House Committee Amendment to E2SSB 5141 sponsored by Representative Mary Dye for consideration by the House Environment and Energy Committee. See Section 1 (8). (https://app.leg.wa.gov/committeeschedules/Home/Document/233972#toolbar=0&navpanes=0)	The problem is addressed or planned to be addressed in the Action Agenda and the efforts to obtain the funding needed to implement it.
Human wellbeing goals and indicators (air quality, drinking water, locally harvestable foods, outdoor activity, and nature-based work) do not have 2020 targets.	Proposed House Committee Amendment to E2SSB 5141 sponsored by Representative Mary Dye for consideration by the House Environment and Energy Committee. See Section 1 (8). (https://app.leg.wa.gov/committeeschedules/Home/Document/233972#toolbar=0&navpanes=0)	This problem is being addressed through the Partnership's current target-setting effort.
There are too many Puget Sound Ecosystem Monitoring Program (PSEMP) work groups with overlapping interests. The proliferation of Vital Signs and work groups diverts focus from the most critical issues of accommodating the increasing human population while conserving natural processes and resources.	E-mails to PSEMP coordinator.	
Planning processes and funding mechanisms do not support larger, complex, multi-benefit projects.	Salmon Recovery lean Study, SRFB 2019 Large Project Barriers, Watershed Barriers to Recovery for Salmon Recovery Council	Integrated Floodplain Management, Floodplains for the Future, and Floodplains by Design are working to address this. Similarly, the Align program manager group is working to better coordinate their funds to support large projects.
Protection is not as high of a priority as restoration.	San Juan Lead Entity and LIO discussions.	We fund protection projects every year through Salmon Recovery Funding Board and the Puget Sound Acquisition and Restoration fund. Protection actions also are high priorities in the Chinook Implementation Strategy, Puget Sound Salmon Recovery Plan, Action Agenda, and Orca Task Force reports.
Permitting requirements are onerous and delay projects.	Salmon Recovery Funding Board 2019 Large Project Barriers, Project Implementation Challenges and Opportunities prepared for the Washington Salmon Coalition, Watershed Barriers to Recovery for Salmon Recovery Council.	There are several current efforts to streamline permitting processes for restoration projects - notably, the permitting streamlining bill that passed in the state legislature (HB 1382) and the U.S. Army Corps of Engineers permitting streamlining effort that was presented at a Salmon Recovery Council meeting this year.
Regulations intended to benefit restoration/protection actually impede recovery progress (ex. Sediment release, ag buffers, wetland changes, re-mapping studies).	2019 Continuous Improvement Claims List.	Unknown.

Concern	Venue in which the concern appeared	Disposition of concerns
Existing regulations are not enforced.	2019 Continuous Improvement Claims List, Watershed Barriers to Salmon Recovery for Salmon Recovery Council, San Juan Lead Entity and Local Integrating Organization meetings, Island County Local Integrating Organization meetings.	<ul style="list-style-type: none"> Todd Hass, special assistant to the director at the Puget Sound Partnership and lead for the vessels group on the Southern Resident Killer Whale Task Force, along with others on the task force, worked with the Washington State Department of Fish and Wildlife to improve the enforcement of new and existing regulations regarding vessels around Southern Resident orcas. The 2022-2026 Action Agenda includes strategies focused on enforcement and compliance with regulations. The Action Agenda will also include specific actions to implement those strategies. There are a number of Near Term Actions included in the 2018-2022 Action Agenda that address monitoring and enforcing compliance with laws, policies and regulations, and standards and codes at all levels (https://actionagenda.pugetsoundinfo.wa.gov/Classification/Detail/2082).
With all due respects to the hard work conducted, why is it that this program has completely failed consistently over the past many decades since Chinook/Steelhead/etc. were listed under ESA? Even when listed, there were still fish available; now they are nearly extinct. Can't continually blame weather, hatcheries, etc.	Puget Sound Partnership's Facebook page.	The Salish Sea Marine Survival Project addresses this question and lists factors that affect the survival of juvenile salmon.
We need better data driven ecological benchmark thresholds combined with an economic system based on ecosystem services provided by eelgrass and kelp in the Puget Sound/Salish Sea	Puget Sound Partnership's Facebook page.	New Vital Sign indicators will include metrics for kelp beds.
There is too much planning and process and not enough action or progress being made. PSP should be doing something about this.	Comments made during Implementation Strategy development, or on feedback to Implementation Strategy documents, or from sentiments shared as comments during public meetings.	Persistent, consistent messaging that our system for generating action ideas is derived from having good plans. Since the Partnership doesn't execute any of the actions, people can be confused about the Partnership's role in the "facilitating action" process.
Partnership should better involve the LIO's in Ecosystem Coordination Board meetings	Ecosystem Coordination Board meeting - Public Comment - August 15 2019.	<p>The Partnership responded to the Local Integrating Organization's (LIO) objectives and proposal to increase their engagement with the Action Agenda and Management Conference.</p> <p>The Leadership Council and Ecosystem Coordination Board (ECB) both now have protocols to host local forums with the LIOs twice each year. The ECB also approved adding three ex-officio seats on the ECB for the LIOs that do not have a 1:1 representation with the Action Area rep.</p>
We need to change the Action Agenda to a prioritized list of actions and solicit proposals from partners on how best to implement them	Ecosystem Coordination Board meeting - Public Comment - August 15 2019.	The next Action Agenda will include a list of the top actions needed to achieve the strategies and outcomes for recovery.

Concern	Venue in which the concern appeared	Disposition of concerns
It is important to identify early on how the Ecosystem Coordination Board will engage and address land use as it relates to salmon recovery and environmental protection overall.	Ecosystem Coordination Board meeting - Public Comment - February 27, 2020.	The Ecosystem Coordination Board's Land Use Subcommittee made significant progress over the past year to identify their goals and focus of work.
The Leadership Council had not focused in 2019 on the Boards Shared Priority of Building relationships with private sector partners and aligning our goals with their goals. The Council should keep this item on its 2020 work plan and to coordinate with other boards to make progress.	Leadership Council meeting Public Comment - February 5, 2020.	This topic stayed on the boards' shared priorities in 2020 and 2021, and the Ecosystem Coordination Board is exploring how they can build partnerships with businesses in their networks to take on a pilot project from the Water 100 list of solutions for climate resilience and clean water.
Important partners are missing from the partnership, including education and DEI/overburdened communities.	Action Agenda Coordination Group and Ecosystem Coordination Board.	The 2022-2026 Action Agenda will include institutional strategies related to building strategic partnerships, and agency strategic planning has focused on including diversity, equity, and inclusion principles in our work. The Action Agenda will include a strategy to expand partnerships between K-12 education and restoration communities at state and local levels to increase participation by youth, families, teachers, and communities in Puget Sound recovery actions.
The Vital Signs and indicators and Action Agenda need to all work together to support salmon recovery with specific, clearly measurable goals.	Leadership Council meeting General Public Comment - June 10, 2020.	The Partnership developed a target-setting strategy in early 2021 that will establish targets for some of the Vital Signs and outcomes in the 2022 Action Agenda.
One of the many impacts of COVID-19 is that critical monitoring data is not being collected this year, which leaves open the possibility of gaps in long-term data sets. Particularly during a season where herring spawning has been prolific, this is an unfortunate situation to be in.	Leadership Council General Public Comment, August 7, 2020.	We agree.

(E) REVIEW OF PUGET SOUND RECOVERY FUNDING

The Partnership's enabling legislation requires the agency to conduct a "review of the expenditures of funds to state agencies for the implementation of programs affecting the protection and recovery of Puget Sound, and an assessment of whether the use of the funds is consistent with the Action Agenda."

STATE AND FEDERAL FUNDING FOR PUGET SOUND RECOVERY

One of the Puget Sound Partnership's key responsibilities as a backbone organization is to mobilize funding, which means that we evaluate the funding need for recovery work, advocate for state and federal appropriations, and support our partners when they seek funding.

The following information focuses on state funding. However, the Partnership also recognizes the very significant local and private investments which—though more difficult to quantify—are unquestionably critical to Puget Sound recovery. This report provides more information about non-state and federal investments in Action Agenda implementation – where information is available – in later sections of this report.

Ranking state budget requests according to Action Agenda and Science Work Plan priorities

Every two years the Partnership provides the Governor, the Office of Financial Management, and legislative fiscal committees with a ranked list of state agency budget proposals that stand to affect Puget Sound recovery. This ranked list helps the Governor decide what should be funded and in what amounts. The ranking process objectively assesses the extent to which a funding proposal is consistent with priorities in the Action Agenda and Science Work Plan.

For the 2021-23 biennium the Partnership ranked 103 different state agency budget requests with benefits to Puget Sound amounting to nearly \$2.2 billion in proposed funding needs – with the Puget Sound portion of this amount estimated to be \$1.56 billion. In response to the budget requests the legislature enacted an estimated \$1.3 billion for Puget Sound recovery in May 2021, with the capital and transportation budgets each taking up around 49 percent of the total appropriated funds. Operating funds accounted for 1.5 percent of the appropriated Puget Sound budget for the 2021-2023 biennium. The estimated Puget Sound budget for the 2021-2023 biennium is almost double the amount from the prior 2019-2021 biennium. This significant increase is in large part attributable to a big increase in state investments in fish barrier removal, though there was also an 18 percent increase in the capital budget between the 2019-2021 and 2021-2023 biennia (see table 5).

¹Eight of the budget requests ranked by the Partnership were operating budget reduction proposals, however, none of the reductions were enacted.

²The transportation budget included a total of \$726 million for fish passage barrier removal, including \$195 million in federal funds. Note that it is planned to supplant \$400 million in state funds with \$400 million in federal funds from the Coronavirus State Fiscal Recovery Account. The \$400 million in state funds are provisionally available should the federal funding not materialize.

³Appropriated operating funding amounts represent requests for new funding or changes to existing funding. Most operating funds are carried forward to the succeeding biennium without the need for a budget request.

Table 5: Comparison of enacted Puget Sound recovery budgets, based on agency budget requests ranked by the Partnership, for 2019-2021 and 2021-2023 biennia.

BUDGET TYPE	2019-2021 STATEWIDE BIENNIAL BUDGET (\$ millions)	2019-2021 ESTIMATED PUGET SOUND BIENNIAL BUDGET (\$ millions)	2021-2023 STATEWIDE BIENNIAL BUDGET (\$ millions)	2021-2023 ESTIMATED PUGET SOUND BIENNIAL BUDGET (\$ millions)
Capital	833,827	562,329	1,042,196	661,468
Operating	40,957	24,930	41,427	19,827
Transportation	328,521*	84,527	767,844	662,363
TOTAL	1,203,305	671,786	1,851,467	1,343,658**

*Governor Inslee also directed the Washington Department of Transportation to move an additional \$175 million – left over from other projects—to removing fish culverts, for a total of \$275 million for the 2019-21 biennium. The additional \$175 million is not included in this total.

**The Partnership has identified at least another \$23.5 million in 2021-2023 operating budgets closely related to Puget Sound recovery that are not included in this total. This includes budget requests not submitted to the Partnership for ranking and budget operating provisos not submitted as agency budget requests.

Table 6, below, shows a historical comparison of state budget investments for a selection of major Puget Sound protection and recovery-related programs, including amounts appropriated by the legislature for the 2021-23 biennium.

Table 6: Historical comparison of major Puget Sound state capital budget investments, ranked by the Partnership¹

PROGRAM	AGENCY	BIENNIAL BUDGET (\$ millions)				
		2013-2015	2015-2017	2017-2019	2019-2021 (estimated Puget Sound portion)	2021-2023 (estimated Puget Sound portion)
Floodplains by Design (FbD)	ECY	50	35.6	35.4	50.4 (45.4)	50.9 (47.9)
Puget Sound Acquisition and Restoration (PSAR)	PSP/RCO	70	37	40	49.5 (49.5)	52.8 (52.8)
Estuary and Salmon Restoration Program (ESRP)	WDFW/RCO	10	8	8	10 (10)	15.7 (15.7)
Centennial Clean Water Fund (CCWF)	ECY	50	20	35	30 (18)	40 (24)
Stormwater Financial Assistance Program (SFAP)	ECY	100	53 (-30) ³	55.1	44 (26.4)	75 (45)
Salmon Recovery Funding Board (SRFB)	RCO	15	16.5	19.7	25 (11.1)	30 (12.1)
<i>Salmon Recovery Funding Board (SRFB) – Federal²</i>	<i>RCO</i>	<i>60⁴</i>	<i>50⁴</i>	<i>50⁴</i>	<i>50⁴ (22.2)</i>	<i>50⁴ (20.2)</i>
Brian Abbott Fish Passage Barrier Removal Board (FBRB)	WDFW/RCO	---	---	19.7	26.5 (11.8)	26.8 (10.8)
Water Pollution Control Revolving Program	ECY	200	153	150	148 (88.8)	225 (135)
<i>Water Pollution Control Revolving Program – Federal</i>	<i>ECY</i>	<i>50</i>	<i>50</i>	<i>50</i>	<i>56 (33.6)</i>	<i>75 (45)</i>
Streamflow Restoration Program	ECY	---	---	---	40 (26.8)	40 (24)
Washington Wildlife and Recreation Program (WWRP)	RCO	65	55.3	80	85 (48)	100 (47.8)

¹Mostly statewide programs administered by state agencies, with benefits to Puget Sound

²NOAA Pacific Coastal Salmon Recovery Fund (PCSRF)

³The 2015-2017 appropriation for the SFAP was cut by \$30 million in 2016 due to a shortfall in Model Toxics Control Act (MTCA) revenue. The 2015-17 funding cut was restored in the 2017-19 biennium.

⁴Amounts represent expenditure authority appropriations. The following amounts are actual statewide allocations by biennium: **2013-15**: \$32.8 million; **2015-17**: \$30.5 million; **2017-19**: \$30.6 million; **2019-21**: \$30.4 million

Funding for state agency ongoing programs

Ongoing programs are continuing efforts that provide regulatory oversight, technical support, implementation resources, financial resources, or other guidance. State, federal, local, tribal, and non-governmental ongoing programs are the critical foundation for Puget Sound recovery. They form the base of activities upon which Puget Sound recovery priorities and actions are built and dependent. The Partnership maintains an inventory of ongoing programs, which was included in the 2016-2018 and 2018-2022 Action Agendas. Many of the programs are essential to Puget Sound recovery and continued investment in them is a priority of the Puget Sound Partnership.

See the [Ongoing Program Portal](#) for more information about Puget Sound recovery ongoing programs, including budget information.

In May 2019, the Partnership and several Washington State agencies collaborated for the first time to gather and report financial information about Puget Sound recovery ongoing programs administered by state agencies. This resulted in the assembly of budget information for the 2015-17 and 2017-19 biennia on most of the inventoried state agency programs in the 2018-2022 Action Agenda. Agencies agreed, back in 2019, to update this information every two years and to report ongoing program budgets prior to the end of each fiscal biennium. As a result, agencies reported ongoing program budget information for the 2019-21 state biennium in May 2021. In addition, some agencies updated budget information from the two prior biennia, in cases where those agencies were not able to complete the reporting in May 2019.

Now with three biennia of budget information, these ongoing program reports allow the Partnership and partners to better identify and understand investment needs and trends for Puget Sound recovery. The following narrative and figures contain information on the allocation of state budgets to Puget Sound recovery as compared to other activities and geographies; the kinds of programs with the largest budgets; short-term trends in budgets; and more. The narrative does not assess or support conclusions about the effectiveness of any individual investment.

⁴Examples include programs related to implementation of the Growth Management Act at both the state and local levels, salmon recovery programs, and Washington Department of Ecology clean water programs.

⁵The Puget Sound Partnership maintains an inventory of ongoing programs, though the list should not be considered comprehensive and the Partnership is committed to improving this inventory. Refer to Puget Sound Info, a collaborative platform for sharing information about Puget Sound recovery, to see the ongoing program web portal for the most recently published inventory of programs, including financial information.

⁶Due to the short time series of data available, long-term trends are not included.

Estimated Puget Sound recovery ongoing program budgets (2015-17, 2017-19 and 2019-21 biennia)

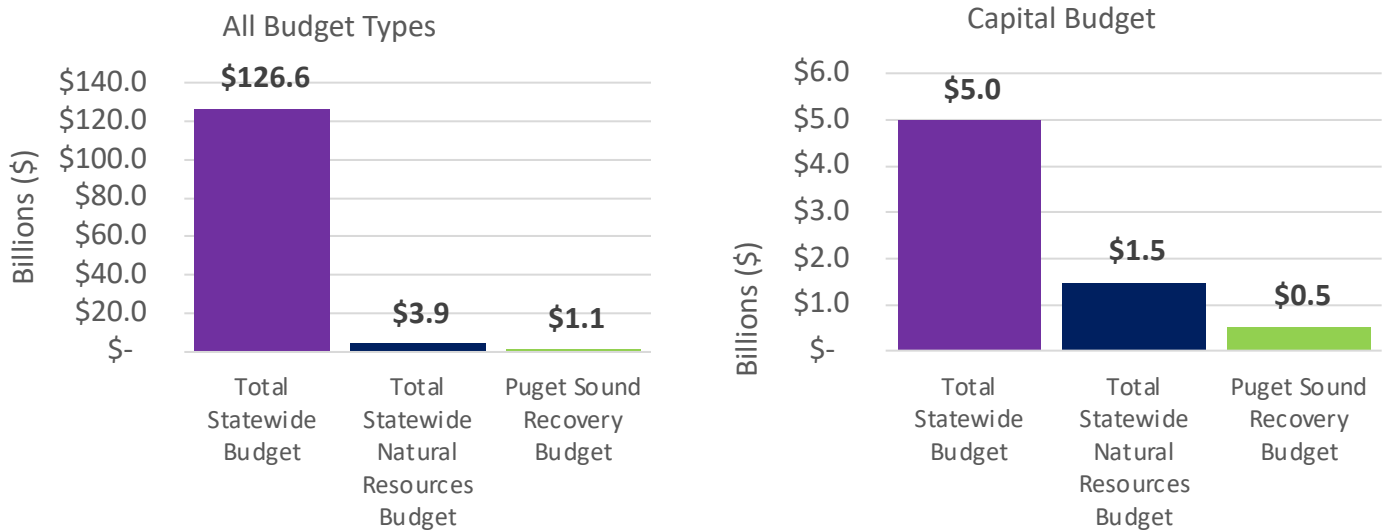
The total estimated budgeted amounts for all state agency programs that provided information is provided in table 7, below.

Table 7: Estimated state agency budgets for Puget Sound recovery programs (operating, capital, and transportation), 2015-17, 2017-19 and 2019-21

Biennia	Total of Inventoried Program Budgets (statewide, including Puget Sound) (\$000's)	Estimated Amount Budgeted for Puget Sound Recovery (\$000's)
2015-17	1,246,420	788,479
2017-19	1,549,691	933,928
2019-21	1,736,006	1,088,473
Total 2015-21	4,532,117	2,810,880

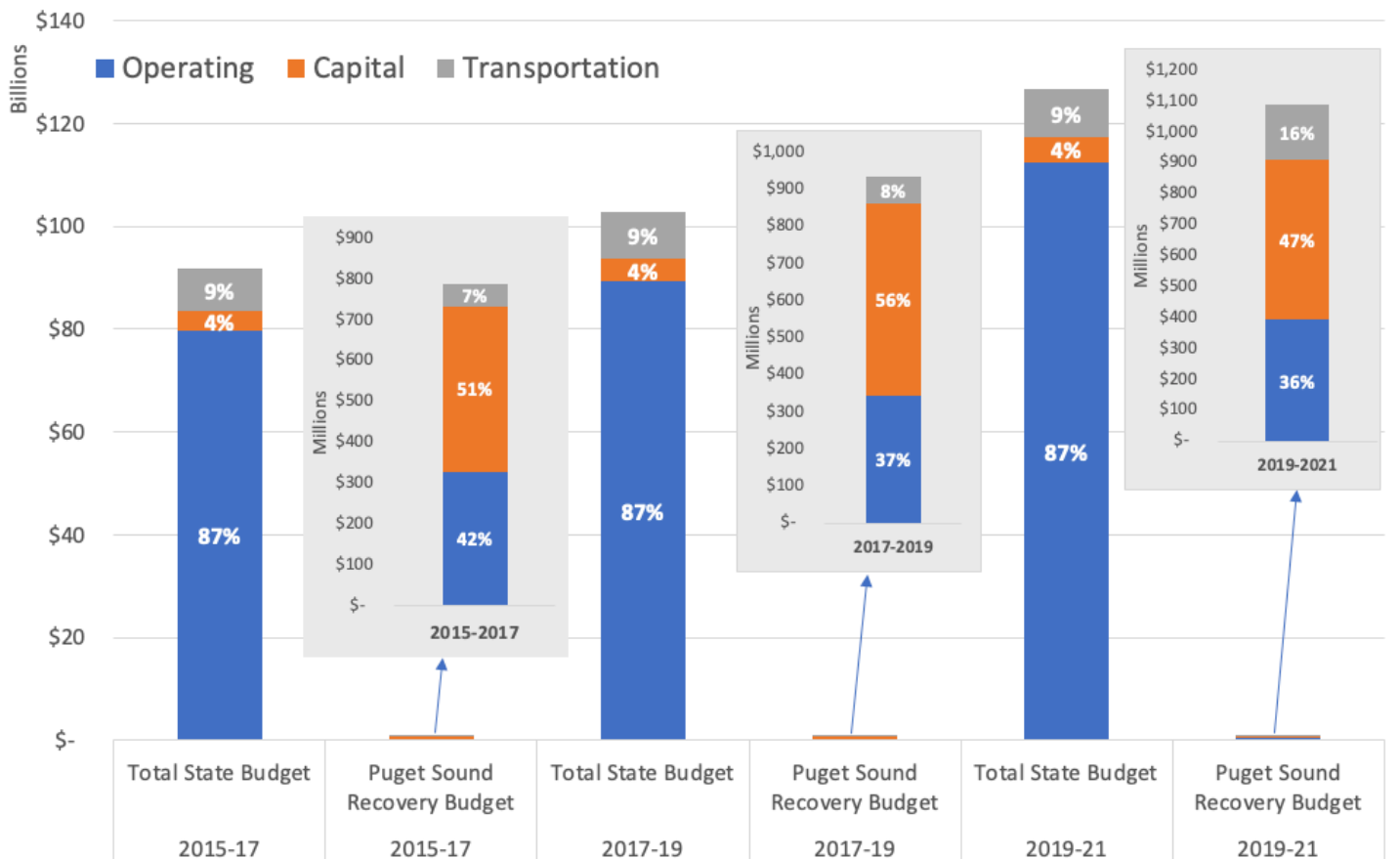
The estimated Puget Sound budgets for inventoried state agency programs in the 2019-21 biennium of around \$1.1 billion was only 0.9 percent of the entire 2019-21 statewide biennial budget of \$127 billion and around 28 percent of the total statewide natural resources budget (\$3.9 billion) ⁷(operating, transportation and new capital appropriations). Specifically, for new capital appropriations, the estimated Puget Sound budget represented around 10 percent of the total statewide capital budget and around 35 percent of the total statewide natural resources capital budget in the 2019-21 biennium (see figure 2, below).

Figure 2: Comparison between total statewide budget and natural resource budgets, and the Puget Sound recovery budget, 2019-21 biennium (all budget types; and capital budget only)



⁷The statewide natural resources budget includes the Departments of Ecology, Natural Resources, Fish and Wildlife, Agriculture, as well as the State Parks and Recreation Commission, State Conservation Commission, Recreation and Conservation Office, and a few smaller agencies. This amount does not include certain important Puget Sound recovery-related activities undertaken by the Departments of Health, Commerce, and Transportation that are included in the Partnership's inventory of ongoing programs.

Figure 3: Comparison between total statewide budget and Puget Sound recovery budget, 2015-17, 2017-19 and 2019-21 biennia (operating, capital and transportation)



Trends in Puget Sound recovery program budgets

The information that the Partnership and state agencies have gathered to date is limited to only three biennia and therefore does not reveal long-term trends in budgeting for Puget Sound recovery over time. Yet some short-term trends are apparent in the data. For example, figure 3 (above) shows that the estimated amount budgeted by state agencies for Puget Sound recovery between the 2015-17 and 2019-21 biennia rose by 38 percent overall.

As figure 3 shows, the highest proportion of Puget Sound-related program funding comes from the state's capital budget. A 15 percent increase in the operating budget and a 150 percent increase in the transportation budget led to an overall 17 percent increase in funding for inventoried programs from the 2017-19 to the 2019-21 biennium. The sharp rise in the transportation budget is due to increases in the Washington State Department of Transportation's (WSDOT) Fish Barrier Correction program. In May 2017, the United States Court of Appeals for the Ninth Circuit affirmed that the state must accelerate work to remove, replace, and repair fish passage blocking culverts. In June 2018, the Supreme Court of the United States issued a 4-4 per curiam decision, affirming the lower court's decision. The state increased funding for fish barrier removal projects in Puget Sound from \$54 million in the 2015-17 biennium to \$178 million in the 2019-21 biennium.

Largest programs by size of budget

Table 8 below shows the top twelve largest Puget Sound state ongoing programs by size of budget. Many of the programs with the largest budgets are grant making or financial assistance programs that pass funding to local and private groups for environmental protection and Puget Sound recovery actions. For example, the Department of Ecology's "Water Quality-Provide Financial Assistance"—the largest inventoried program—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.

Though large capital programs tend to contribute the largest investments toward Puget Sound recovery, some large (e.g. Fishery and Hatchery Science and Management; Water Quality—Control Stormwater/Wastewater Pollution), and many smaller programs funded from the operating budget make a major contribution. Many of the smaller programs, funded from the operating budget, provide the critical administration and service functions necessary to implement recovery activities.

Table 8: Twelve largest state agency ongoing programs in Puget Sound, by size of budget (operating, capital, and transportation), 2015-17, 2017-19 and 2019-21 biennia

Ongoing Program	Estimated Amount Budgeted for Puget Sound Recovery (\$ millions)		
	Biennium	Amount	Budget Type
Water Quality—Provide Financial Assistance (Department of Ecology)		\$585	Cap., Op.
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.	2015-17	\$176	
	2017-19	\$220	
	2019-21	\$189	
Fish Barrier Correction (Department of Transportation)*		\$303	Trans.
State highways cross streams and rivers in thousands of places in Washington State, which can impede fish migration. This program improves fish passage and reconnects streams to help keep waterways healthy.	2015-17	\$54	
	2017-19	\$71	
	2019-21	\$178	
Fishery and Hatchery Science and Management (Department of Fish and Wildlife)		\$159	Op.
Spans hatchery production, fisheries and shellfish science and monitoring and derelict gear removal.	2015-17	\$44	
	2017-19	\$49	
	2019-21	\$66	

Ongoing Program		Estimated Amount Budgeted for Puget Sound Recovery (\$ millions)	
Puget Sound Acquisition and Restoration (Puget Sound Partnership and Recreation and Conservation Office)		\$127	Cap.
PSAR supports projects that recover salmon and protect and recover salmon habitat in Puget Sound and is co-managed by the Puget Sound Partnership and the Recreation and Conservation Office. Local entities identify and propose PSAR projects and the Salmon Recovery Funding Board prioritizes them for funding.	2015-17	\$37	
	2017-19	\$40	
	2019-21	\$50	
Washington Wildlife and Recreation Program (Recreation and Conservation Office)		\$124	Cap.
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.	2015-17	\$28	
	2017-19	\$45	
	2019-21	\$51	
Toxic Cleanup Program—Remedial Action Grant Program (Department of Ecology)		\$119	Cap.
Grant program that supports the cleanup of some of the most dangerous contamination and important habitat around Puget Sound.	2015-17	\$51	
	2017-19	\$2	
	2019-21	\$66	
Water Quality—Control Stormwater/Wastewater Pollution (Department of Ecology)		\$110	Op.
Implements a municipal stormwater program and permitting system working with local governments and other stakeholders. Ecology also regulates point source discharges of pollutants to surface and ground waters through a wastewater permit program.	2015-17	\$39	
	2017-19	\$38	
	2019-21	\$32	
Shorelands—Floodplains by Design (Department of Ecology)		\$92	Cap.
Grant program for large-scale multi-benefit floodplain restoration projects that improve habitat, prevent flood hazards and protect farmland.	2015-17	\$33	
	2017-19	\$25	
	2019-21	\$34	
Salmon Recovery Funding Board (Recreation and Conservation Office)		\$89	Cap.
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 project feasibility assessments and other salmon related activities.	2015-17	\$30	
	2017-19	\$30	
	2019-21	\$30	
Air—Reducing Toxic Diesel Emissions (Department of Ecology)		\$86	Cap.
Helps to reduce toxic diesel emissions, 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. Puget Sound received a one-time amount of around \$85 million in the 17-19 biennium from Volkswagen to settle violations of the state and federal Clean Air Acts.	2015-17	\$0.6	
	2017-19	\$85	
	2019-21	\$0.6	
Forest Practices Program including the Habitat Conservation Plan (Department of Natural Resources)		\$72	Op.
Protects aquatic and riparian-dependent species habitat on state and private forestlands. Projects completed under this effort include fish passage barrier removal.	2015-17	\$25	
	2017-19	\$26	
	2019-21	\$22	

Ongoing Program		Estimated Amount Budgeted for Puget Sound Recovery (\$ millions)	
Salmonid Life Histories and Survival Research (Department of Fish and Wildlife)		\$55	Op.
Uses applied science to improve our understanding of the life cycle of salmonids and other species in our waters. This includes studies like forage fish and toxics-focused biological observation systems.	2015-17	\$24	
	2017-19	\$15	
	2019-21	\$16	

*Addresses the 9th U.S. Circuit Court of Appeals ruling to accelerate work to remove, replace, and repair blocking culverts on state roads.

Origin of funding for state agency Puget Sound recovery programs

Table 9 shows that federal pass through and funds from private/local sources significantly augment funding for state agency Puget Sound recovery programs. From the 2015-17 to the 2019-21 biennium state funding accounted for 76% of total ongoing program funding, with federal and private/local at 20% and 4% respectively. Over the same period state funding for Puget Sound ongoing programs increased by 50 percent, compared to federal and private/local funding which remained largely static. The significant increase in Private/Local funding in the 2017-19 biennium was due to the Volkswagen settlement mentioned in the section above.

State agencies provided information about the source of federal and private/local budgets for state agency Puget Sound recovery programs between the 2015-17 and 2019-21 biennium. Though agencies did not identify the source of around 18 percent of their non-state budgets, the information provided shows that the funds came from a wide variety of federal agencies, local and tribal governments, non-profit groups and private companies. Over 60 percent of federal funding came from the US Environmental Protection Agency, with other significant contributions coming from NOAA (18 percent), US Department of Transportation (11 percent) and US Fish and Wildlife Service (7 percent).

Table 9: State agency Puget Sound recovery program budgets, by funding authority

Funding Authority	Estimated Amount Budgeted for Puget Sound Recovery (\$ millions)	Share (%)
State	\$2,127	76%
2015-17	\$587	
2017-19	\$660	
2019-21	\$880	
Federal	\$567	20%
2015-17	\$186	
2017-19	\$192	
2019-21	\$190	
Private/Local	\$116	4%
2015-17	\$16	
2017-19	\$82	
2019-21	\$18	
Total	\$2,811	100%

How did state agencies estimate Puget Sound recovery program budgets?

Most of the 115 ongoing programs for which budget information was gathered are implemented statewide with a portion of their work in the Puget Sound region. Thirty-one of the programs are dedicated exclusively to the Puget Sound region, 12 of which are housed within the Puget Sound Partnership. A variety of methods were used to calculate or estimate the portion of inventoried budgets that was dedicated to the Puget Sound region (see text box). Approximately 16 percent of the estimated budgets that were inventoried for the 2015-17, 2017-19 and 2019-21 biennia—or \$454 million—went to programs exclusively dedicated to Puget Sound.

A note on methods (for estimating budgets)

Most statewide programs lack precise methods to calculate the proportion of program budgets that can be assumed to contribute to

Puget Sound recovery. Several methods were used to estimate the amount of budgeted funds for Puget Sound for the three biennia included in our dataset.

1. For the 31 programs that are dedicated exclusively to Puget Sound, the total budgeted amount is reported.
2. For the 84 statewide programs, each program used a specific methodology, or combination of methodologies, to estimate the Puget Sound specific portion of the budget:
 - Forty-three percent of the Puget Sound budget was estimated using an assumption that since the Puget Sound population makes up roughly 60 percent of the statewide population, approximately 60 percent of the program budget was spent in the Puget Sound region.
 - The remaining 57 percent of the Puget Sound budget was estimated using specific information from the program, including:
 - Known funding for projects/activities in Puget Sound (39 percent)
 - Average staff effort in Puget Sound (14 percent)
 - A combination of the number of sites/site visits, or awarded contracts/staff in Puget Sound (4 percent)

Major federal funding sources for Puget Sound recovery

The federal government plays a significant role in implementing the Action Agenda by helping to shape priorities and either directly funding or passing through funding to state and local implementers. As well as helping to directly implement and fund Action Agenda activities, nine federal agencies and cabinet departments signed a Memorandum of Understanding (MOU) in September 2016 creating the [Puget Sound Federal Task Force](#) (PSFTF). The signatories developed a five-year Action Plan (FY2017-2021) to provide a shared federal vision of a healthy and sustainable Puget Sound ecosystem by leveraging federal agencies and resources across diverse programs on a targeted suite of priorities. The Puget Sound Action Agenda, salmon recovery priorities, and tribal habitat priorities plans were foundations for developing the Federal Task Force Action Plan.

The Federal Task Force Action Plan demonstrates the breadth of federal agency involvement in Puget Sound recovery and the types of activities and investments made by those agencies. Among those investments, in this report we specifically highlight contributions made by the U.S. Environmental Protection Agency and the National Oceanic and Atmospheric Administration (NOAA) for their critical role in supporting implementation of the Action Agenda and salmon recovery efforts.

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) plays a vital role in Puget Sound recovery, overseeing the Puget Sound Geographic Program and National Estuary Program (NEP) and passing through funding to the state government under the Clean Water Act (CWA). EPA has an approval process for Action Agenda revisions, as part of its NEP funding and oversight role. Once EPA approves the Action Agenda, as the “Comprehensive Conservation Management Plan” for Puget Sound recovery, EPA can release significant funds for Action Agenda implementation.

A large portion of Puget Sound Geographic Program/National Estuary Program funding from EPA is administered by a group of state agencies that oversee the distribution of awards to directly implement the Action Agenda. This funding is managed by three Strategic Initiative Leads (SILs) for **Habitat** (Departments of Fish and Wildlife and Natural Resources), **Stormwater** (Department of Ecology, in partnership with the Washington Stormwater Center at Washington State University and the Department of Commerce) and **Shellfish** (Department of Health in partnership with the Departments of Ecology and Agriculture). The SILs use Geographic Program funds to invest in the highest priority activities (Near Term Actions) in the Action Agenda.

In addition to direct funding of the Action Agenda by the three SILs, EPA also currently distributes additional NEP funding and Puget Sound Geographic funding to Action Agenda implementation through several other routes:

- **Federal Agreements** between EPA and another federal agency to fund implementation of recovery activities.
- Support to the **Northwest Indian Fisheries Commission (NWIFC)** for implementation of projects of high tribal priority that are consistent with the Action Agenda.
- Support for the base operations of the Puget Sound Partnership (**base award**), as the lead organization for the Puget Sound NEP.
- Support for Puget Sound Partnership and sub-awardees to fill science gaps necessary to advance Puget Sound recovery through development and adaptive management of implementation strategies (**Implementation Strategies/Science award**).
- **Tribal Capacity** awards to support the institutional capacity of Puget Sound tribes (19 tribes and three tribal consortia), facilitating participation in regional coordination boards and management conferences, as well as for implementing recovery activities consistent with the Action Agenda.

Table 10: EPA Geographic Funds and National Estuary Program, federal fiscal years 2018-2020

Program	Funds received, FFY 2018 (\$)	Funds received, FFY 2019 (\$)	Funds received, FFY 2020 (\$)
Habitat Strategic Initiative Lead: Departments of Fish and Wildlife and Natural Resources	4,900,000	4,859,771	6,480,000
Stormwater Strategic Initiative Lead: Department of Ecology, in partnership with the Washington Stormwater Center at Washington State University and the Department of Commerce	4,200,000	4,200,000	4,850,000
Shellfish Strategic Initiative Lead: Department of Health in partnership with the Departments of Ecology and Agriculture	4,200,000	4,200,000	4,200,000
Northwest Indian Fisheries Commission	4,000,000	4,000,000	4,575,000
Tribal Organizational Capacity	3,697,963	3,700,000	4,250,000
Puget Sound Partnership—including capacity for the Northwest Straits Initiative, Local Integrating Organizations, and Puget Sound Institute	5,386,857	5,554,229	6,664,229
Federal Agreements	946,935	995,000	1,163,800
EPA Staff/Operations	1,039,481	873,875	1,080,884
EPA Programmatic Contracts	91,764	80,125	277,587
TOTAL	28,463,000	28,463,000	33,541,500

U.S. EPA also provides significant funding to the Department of Ecology under the federal Clean Water Act (CWA) critical to the health of the Puget Sound ecosystem. **Clean Water Act Section 319** provides funding to eligible nonpoint source pollution control projects and Washington State is required to provide 40 percent in match funding. Also, under the CWA, the **Clean Water State Revolving Fund (CWSRF)** program is funded through an annual U.S. EPA grant, as well as state matching funds, and principal and interest repayments on past loans. CWSRF provides low-interest loans for wastewater treatment construction projects and eligible nonpoint source pollution control projects. These federal water quality funds are passed through the Department of Ecology's Water Quality Financial Assistance program and the multiple grants and loans it offers to recipients to improve water quality in Puget Sound and statewide.

National Oceanic and Atmospheric Administration (NOAA)

The **Pacific Coastal Salmon Recovery Fund (PCSRF)**, administered by NOAA, is a significant source of funding for developing and implementing critical salmon recovery projects in California, Oregon, Washington, Idaho, Nevada, and Alaska. The fund has been essential to preventing the extinction of 28 listed Pacific salmon and steelhead species on the West Coast and, in many cases, has stabilized the populations and contributed to their course of recovery. The Washington Recreation and Conservation Office (RCO) receives a federal PCSRF allocation via the state capital budget. These funds are distributed to each salmon recovery region based on a formula established by the Salmon Recovery Funding Board (SRFB). The overall PCSRF statewide funding allocation was around \$30 million in the last four state biennia, representing a combined investment of over \$124 million. According to the allocation formula, the Puget Sound region – including Hood Canal – received over \$14 million in PCSRF funding for projects and capacity or administration for fiscal years 2020 and 2021 (2019-2021 biennium).

PCSRF funds Puget Sound regional and local salmon recovery organizations (established by RCW 77.85.090) to engage with their federal, state, tribal, and local partners to pursue the habitat, hatchery, harvest, and hydropower actions essential to achieving salmon recovery. This work includes managing the local grant processes that identify and prioritize salmon recovery projects. Matching dollars for implementing these projects are provided by local governments, tribal governments, businesses, property owners, foundations, and a variety of other sources. Part of the RCO PCSRF allocation goes to the Northwest Indian Fisheries Commission (NWIFC) for hatchery reform, monitoring, and the cooperative genetics program. The NWIFC also has a separate direct PCSRF agreement with NOAA for salmon habitat projects.

Local government expenditures related to Puget Sound ecosystem health and recovery

Local governments in Puget Sound are critical to maintaining and recovering the health of the ecosystem. While we do not have a full picture of all the activities local governments fund with benefits to Puget Sound, Washington State law directs local jurisdictions to report their expenditures to the State Auditor's Office. These expenditure data provide a snapshot of local government spending on a subset of critical services such as wastewater utilities and pollution control and remediation. For example, spending on sewer and reclaimed water utilities in the twelve Puget Sound counties in 2019 was \$1.4 billion alone; see table 11, below.

Table 11: Selected expenditures reported by local governments, related to Puget Sound ecosystem health and recovery in 12 Puget Sound counties (Clallam, Island, Jefferson, King, Kitsap, Mason, Pierce, San Juan, Skagit, Snohomish, Thurston, Whatcom)

Subject of reported expenditure	Expenditures, 2019 (\$ millions)
Utilities: Sewer and Reclaimed Water Utilities	1,366
Utilities: Combined Utilities (including sewer and stormwater)	301
Utilities: Storm Drainage Utilities	350
Utilities: Solid Waste	626
Transportation: Street Cleaning ¹	19.6
Conservation: Soil and Water Conservation	33.5
Conservation: Flood Control	67.5
Conservation: Diking/Drainage	29.1
Conservation: Weed Control	6.8
Conservation: Pollution Control and Remediation ²	27.3
Other Environmental Services ³	69.3

¹ The costs of cleaning the road or street surface by flushing, washing, or sweeping by machine or by hand, and the collection and disposal of sweepings, leaves, rocks, and storm debris, except that associated with snow and ice control.

² Expenditures related to prevention and remediation of an environmental pollution (e.g., removal and cleanup of underground tanks, etc.).

³ Expenditures related to conservation and development, forest and mineral resources, fish, shellfish and game resources, wetlands restoration and maintenance, promotion of recycling, and other energy conservation efforts, etc.

Source: <https://portal.sao.wa.gov/FIT/>

Notes on data:

- Expenditures are provided by local governments to the Washington State Auditor's Office, as directed by state law. The data has not been audited. Missing data and variances may exist due to incomplete reporting or changes in the local governments required to report.
- Data is reported by local governments using the prescribed account codes contained in the Budgeting, Accounting, and Reporting System (BARS) manual (<https://sao.wa.gov/bars-annual-filing/bars-manuals/>). The manual is maintained by the Washington State Auditor's Office with input from the Local Government Advisory Committee.
- Though the vast majority of local government expenditures are funded through local taxes, licenses, permits, fines, and charges for goods and services, a portion of revenues come from federal, state, and other local governments.
- Expenditures selected for inclusion in this table are a small subset of local-government-reported activities with assumed links to the health of the Puget Sound ecosystem. These data are intended to help illustrate the scale of local government investments in Puget Sound ecosystem health-related activities. Therefore, these data should not be interpreted as a comprehensive summary of local government spending on Puget Sound recovery.

2016-2018 ACTION AGENDA – NEAR TERM ACTION FINANCIAL INFORMATION

The Partnership regularly tracks partners' ability to acquire funding for their proposed Near Term Actions. Lack of funding was cited by most Near Term Action owners as the primary reason they were not able to implement their actions.

Among the Near Term Actions in the 2016-2018 Action Agenda (not replaced by 2018-2022 Action Agenda Near Term Actions) only 37 percent were fully funded, with 38 percent partially funded and 25 percent not reporting any funding received. A 48 percent funding shortfall existed in fall 2020, when final updates were reported by Near Term Action owners. This gap was also broadly consistent among the three Strategic Initiatives (habitat, shellfish, and stormwater) and among the different types of activities proposed. Some variability in the Near Term Action Funding gap does exist when considering the primary Near Term Action activity. For example, table 12 shows that there was a considerably smaller funding gap for Near Term Actions focused on 'Formal Education & Technical Capacity Building' (30 percent), compared to 'Recovery Design and Planning' (67 percent).

Table 12: Near Term Actions funding gaps, by activity type (as of September 2020)

Near Term Action Activity Type	Total Estimated Cost (\$000's)	Secured Funding (\$000's)	Funding Gap (\$000's)	% Funding Gap	# of NTAs
1.1 Ecosystem Management & Restoration	100,493	56,698	43,796	44	68
1.2 Species Management & Recovery	92	19	73	79	2
2.1 Behavior Change - Awareness Raising (Education)	2,752	1,529	1,223	44	13
2.2 Behavior Change - Livelihood, Economic & Other Incentives	13,598	7,474	6,124	45	40
2.3 Behavior Change - Law Enforcement & Compliance	5,146	2,227	2,919	57	13
3.1 Ecosystem Protection	7,900	3,230	4,670	59	4
3.2 Recovery Design and Planning	17,292	5,636	11,656	67	37
3.3 Law, Policy, Regulations	1,506	384	1,122	75	8
3.4 Research	17,386	7,948	9,439	54	34
3.5 Monitoring & Evaluation	7,732	3,913	3,819	49	32
3.6 Formal Education & Technical Capacity Building	7,040	4,958	2,083	30	18
3.7 Institutional Infrastructure & Development	1,528	305	1,224	80	9
Total	182,465	94,319	88,146	48	278

One clear finding from reporting is that the state legislature provided the largest proportion of funding for 2016-2018 Action Agenda Near Term Actions. Table 13 shows that 40 percent of all secured funding for Near Term Actions came from state appropriations, with federal Puget Sound Geographic Program/ National Estuary Program funding the second highest at 29 percent, and contributions from local jurisdictions at 21 percent.

Table 13: Origin of funding for 2016-2018 Action Agenda Near Term Actions (as of September 2020)

Funding Origin	Secured Funding (\$ millions)	% of Secured Funding
State	37.6	40
Federal-Puget Sound Geographic Program/ National Estuary Program	27.5	29
Local Jurisdiction	19.4	21
Federal-Other	7.0	7
Other	2.8	3
Total	94.3	100

Over 40 different sources of funding invested in implementing 2016-2018 Action Agenda Near Term Actions. Leading the way in terms of the amounts invested is federal Puget Sound Geographic Program/National Estuary Program funding and funding from the Partnership's Puget Sound Acquisition and Restoration program (PSAR) (see table 14).

Table 14: Origin of funding for 2016-2018 Action Agenda Near Term Actions, 10 largest state and federal funders (programs) (as of September 2020)

Funding Origin	Agency	Secured Funding (\$ millions)	% of Secured Funding
Puget Sound Acquisition and Restoration (PSAR)	Puget Sound Partnership / Recreation and Conservation Office	12.9	14
Puget Sound Geographic Program/National Estuary Program: Habitat Strategic Initiative	U.S. EPA / Department of Fish and Wildlife (lead)	7.1	7
Puget Sound Geographic Program/National Estuary Program: Stormwater Strategic Initiative	U.S. EPA / Department of Ecology (lead)	7.0	7
Puget Sound Geographic Program/National Estuary Program: Shellfish Strategic Initiative	U.S. EPA (Department of Health (Lead)	6.9	7
Floodplains by Design	Department of Ecology	4.9	5
Centennial Clean Water Program	Department of Ecology	3.2	3
National Coastal Wetlands Conservation Program	U.S. EPA / Department of Ecology	3.1	3
Estuary and Salmon Restoration Program (ESRP)	Department of Fish and Wildlife	2.5	3
Model Toxics Control Accounts (MTCA)	Department of Ecology	2.3	2
Stormwater Financial Assistance Program (SFAP)	U.S. EPA / Department of Ecology	2.3	2
Other funders		42.1	45
Total		94.3	100

2018-2022 ACTION AGENDA – NEAR TERM ACTION FINANCIAL INFORMATION

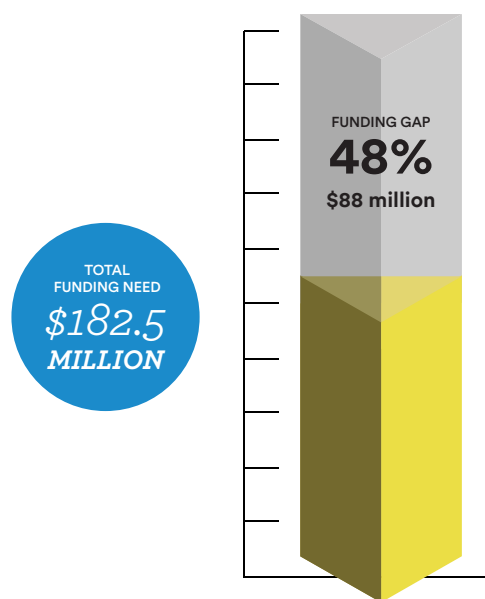
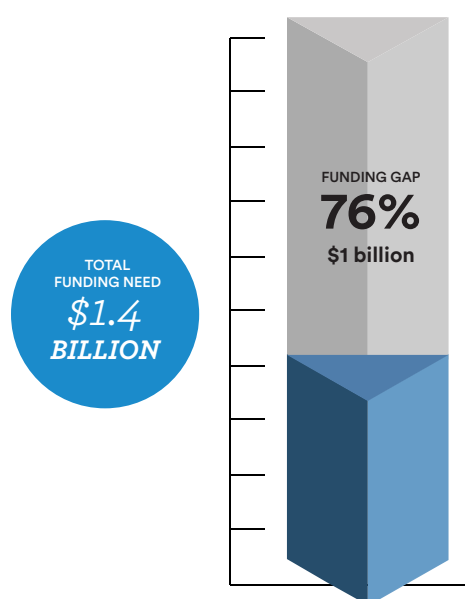
When proposing a 2018-2022 Action Agenda Near Term Action, managers estimated their costs and the amount of funding secured for implementation. In August 2019, the Partnership introduced a new financial reporting system in the [Action Agenda Tracker](#) to better monitor how Near Term Actions (NTAs) are being funded. The section below details the latest NTA funding information from this system.

Table 15 and figure 4 show that the total cost of all 2018-2022 Action Agenda NTAs is about \$1.4 billion, with a current funding gap of 76 percent. The NTAs are intended to be implemented within four years. Though all sectors reported large funding gaps for their Near Term Actions, it is apparent from table 15 that some sectors have notably smaller shortfalls, with Near Term Action funding gaps for academic institutions the lowest at 54 percent.

Another way to look at the costs of the 2018-2022 Action Agenda NTAs is to select only the highest ranked actions (tier four NTAs). For the 284 tier four ranked Near Term Actions, figure 5 below shows that the total cost still reaches \$691 million, with a marginally lower funding gap (69 percent) than for Near Term Actions from all tiers.

Table 15: 2018-2022 Action Agenda Near Term Action costs and funding by owner type (as of May 2021)

Owner Type	# of NTAs	Total Estimated Cost (\$000's)	Secured Funding (\$000's)	Funding Gap (\$000's)	Funding Gap (%)
Lead Entity	16	76,237	4,045	72,192	95
Not for Profit / Nonprofit	132	2,93,490	39,685	253,805	86
Tribal	65	210,492	30,512	179,980	86
Profit Organization	15	5,000	850	4,150	83
Federal	23	15,952	2,721	1,3232	83
County	128	288,573	80,563	208,010	72
State	102	87,326	26,848	60,478	69
City	64	248,240	90,260	157,980	64
Special District	55	143,794	54,595	89,200	62
State Institute of Higher Learning	30	10,200	4,659	5,542	54
Other	1	199	199	0	0
Total	631	1,379,503	334,936	1,044,568	76

Figure 4: Near Term Action funding gap, 2018-2022 Action Agenda, all NTAs (as of May 2021)**Figure 5: Near Term Action funding gap, 2018-2022 Action Agenda, tier four NTAs (as of May 2021)**

As of May 2021, funding secured for 2018-2022 Action Agenda Near Term Actions comes from over 100 different sources. These sources originate from a wide range of sectors, including state, federal and local governments, tribes, non-governmental organizations, and private landowners. Around one third of the 250 Near Term Actions which have so far received full or partial funding have secured that funding from more than one funding source. This indicates the importance for project sponsors to pursue and piece together multiple sources of funding to get projects off the ground.

Table 16: 2018-2022 Action Agenda Near Term Action secured funding, by largest fund sources (May 2021)

Fund	Secured Amount	Organization	Funding Origin	# of NTAs
Puget Sound Acquisition and Restoration (PSAR) grants	\$42,474,561	Puget Sound Partnership / Recreation and Conservation Office	State	54
Seattle Public Utilities	\$38,850,000	City of Seattle	Local	3
Shorelands - Floodplains by Design	\$25,326,410	Washington Department of Ecology	State	9
King County Flood Control District	\$19,516,748	King County Flood Control District	Local	10
U.S. Army Corps of Engineers	\$16,600,000	U.S. Army Corps of Engineers	Federal	2
Water Resources - Streamflow Restoration program grants	\$13,422,072	Washington Department of Ecology	State	9
Puget Sound Geographic Program/National Estuary Program (NEP): Habitat Strategic Initiative Support for NTAs	\$13,126,939	Washington Department of Fish and Wildlife*	Federal-EPA	66
Puget Sound Geographic Program/National Estuary Program (NEP): Stormwater Strategic Initiative Support for NTAs	\$11,956,883	Washington Department of Ecology*	Federal-EPA	55
Snohomish County	\$11,391,970	Snohomish County	Local	4
Salmon Recovery Funding Board (SRFB-State) grants	\$10,612,830	Recreation and Conservation Office	State	29
Puget Sound Geographic Program/National Estuary Program (NEP): Shellfish Strategic Initiative Support for NTAs	\$9,750,869	Washington Department of Health*	Federal-EPA	23

Fund	Secured Amount	Organization	Funding Origin	# of NTAs
National Coastal Wetlands Conservation Grant Program	\$7,814,000	U.S. Fish and Wildlife Service	Federal	7
Estuary and Salmon Restoration Program (ESRP) grants	\$7,322,789	Washington Department of Fish and Wildlife	State	16
King County Cooperative Watershed Management	\$5,186,526	King County Flood Control District	Local	10
Model Toxics Control Operating Account	\$4,800,000	Washington Department of Ecology	State	1
Brian Abbott Fish Barrier Removal Board grants	\$4,361,768	Washington Department of Fish and Wildlife	State	3
Federal Railroad Administration	\$3,500,000	U.S. Department of Transportation	Federal	1
Paul G. Allen Family Foundation	\$3,480,000	Paul G. Allen Family Foundation	Private	2
Washington State Department of Transportation	\$3,143,959	Washington State Department of Transportation	State	4
NOAA Coastal Resilience Grants Program	\$2,785,886	National Oceanic and Atmospheric Administration	Federal	2
City of Bellingham	\$2,653,085	City of Bellingham	Local	5
King County	\$2,590,320	King County	Local	5
Salmon Recovery Funding Board (SRFB-Federal PCSRF) grants	\$2,572,691	Recreation and Conservation Office	Federal-NOAA	14
Water Quality Financial Assistance	\$2,300,945	Washington Department of Ecology	State/Federal	6
<i>Fund Not Identified</i>	<i>\$25,358,452</i>	<i>Unknown</i>	<i>Unknown</i>	<i>14</i>
Other Secured Funds	\$44,035,982			
Total Secured Amount	\$334,935,685			
Additional Funding Needed	\$1,044,567,745			

Figure 6 shows that 44 percent of reported funding for 2018-2022 Action Agenda NTAs come from state government, with the rest of funding coming in roughly equal shares from federal and local sources respectively

Figure 6: 2018-2022 Action Agenda percentage share of reported NTA secured funding amounts, estimated by funding sector of origin (May 2021)

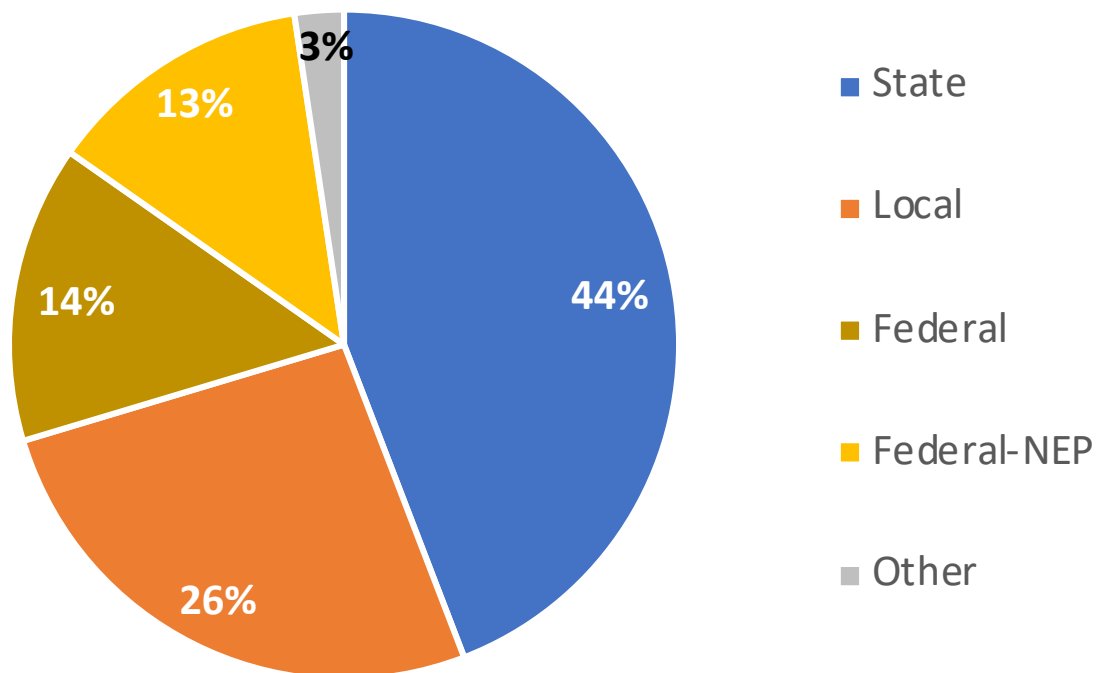


Table 17, below shows relatively little variation is apparent between the funding gaps for the three Near Term Action [activity types](#).

Table 17: 2018-2022 Action Agenda Near Term Action costs and funding, by primary activity type (as of May 2021)

Activity Type	# of NTAs	Total Estimated Cost (\$000's)	Secured Funding (\$000's)	Funding Gap (\$000's)	Funding Gap (%)
1. Ecological Restoration and Management	244	1,068,150	262,047	806,103	75
2. Behavior Change	87	51,105	13,891	37,213	73
3. Enabling Conditions	300	260,249	58,997	201,251	77
Grand Total	631	1,379,503	334,936	1,044,568	76

(F) FUNDING FOR THE PUGET SOUND PARTNERSHIP AND RECOMMENDATIONS FOR FUTURE EXPENDITURES (“FUNDING STRATEGIES”)

The Partnership’s enabling legislation requires the agency to provide “an identification of all funds provided to the Partnership, and recommendations as to how future state expenditures for all entities, including the partnership, could better match the priorities of the action agenda.”

Funding for the Puget Sound Partnership

The Partnership’s operating budget comes from state and federal sources. Our state budget consists of funds from the following accounts: General Fund, Aquatic Lands Enhancement Account, and the Model Toxics Control Operating Account. The agency primarily uses these funds as match to federal grants provided by the EPA. State appropriations have not been made directly to two dedicated accounts established by the state legislature to support Puget Sound recovery (RCW 90.71.110 and RCW 90.71.400). However, the 2019-21 biennial budget includes \$2.222 million from the State General Fund for the Partnership to fund research projects designed to advance scientific understanding of Puget Sound recovery. This appropriation is closely linked to the intent of Puget Sound Scientific Research Account (RCW 90.71.110) and is ongoing.

As shown in figure 7, in the 2019-21 biennium, the Partnership’s operating budget totaled \$11.7 million in state funds and \$12.6 million in federal funds. The Partnership also received \$1.4 million from the NOAA Pacific Coastal Salmon Recovery Fund (PCSRF) to

continue to serve as the regional salmon recovery organization for Puget Sound. The Partnership also received \$250,000 from the Puget Sound Acquisition and Restoration (PSAR) fund through an interagency agreement with the Recreation and Conservation Office (RCO) to co-manage PSAR project prioritization, monitoring, and investments.

For the 2021-23 biennium the state legislature appropriated \$13.8 million in state funds to the Partnership’s operating budget and authorized spending up to \$12.7 million in federal funds – the Partnership anticipates receiving up to \$14.9 million in federal funds – and most of the increase represents pass-through funding to subrecipients. The Partnership will seek increased federal expenditure authority as needed. The Partnership anticipates receiving NOAA PCSRF funds and PSAR program funds in amounts similar to 2019-21.

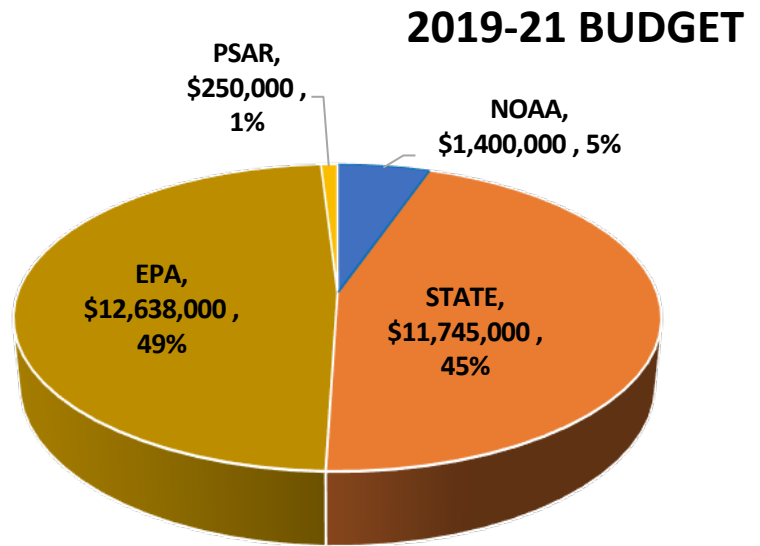


Figure 7. Puget Sound Partnership operating budget for the 2019-2021 biennium.

2021-23 BUDGET

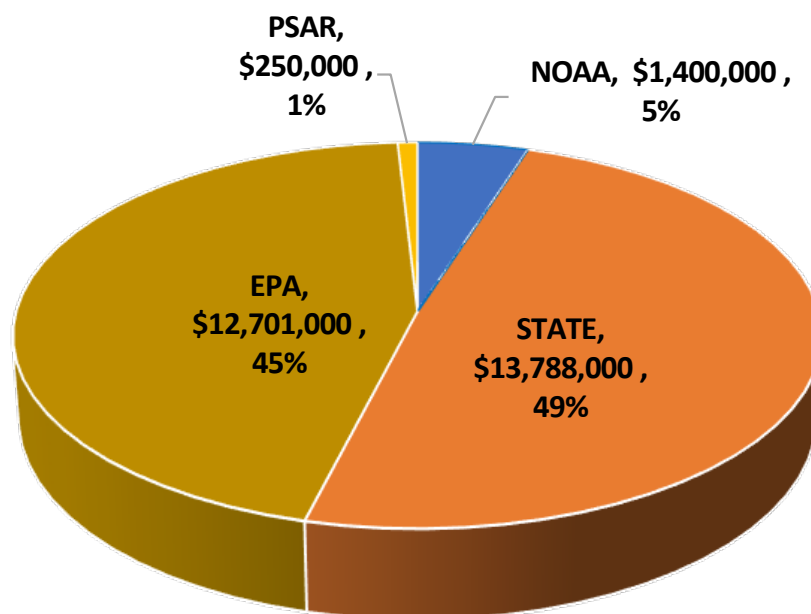


Figure 8. Puget Sound Partnership operating budget for the 2021-2023 biennium

2021-23 BUDGET (aspirational)

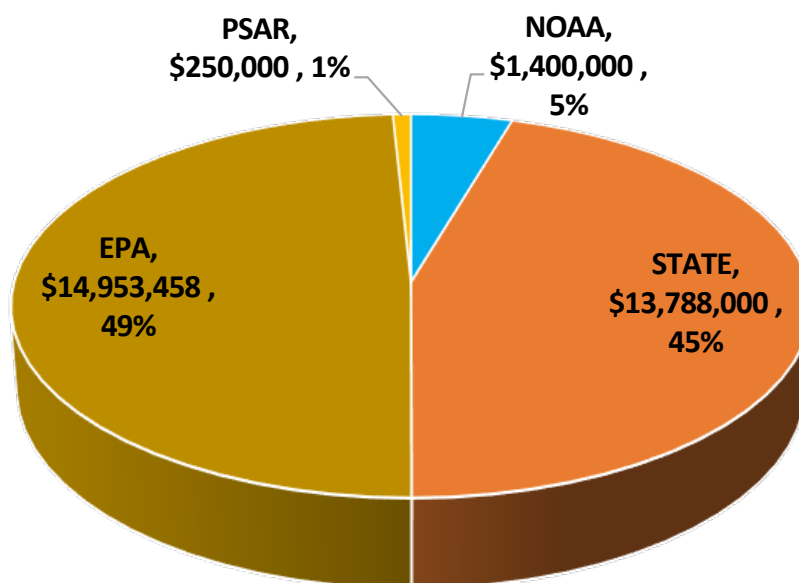


Figure 9. Puget Sound Partnership aspirational operating budget for the 2021-2023 biennium

Funding Strategies

The Partnership recommends the following strategies to improve how future state expenditures could accelerate recovery, improve the effectiveness of investment decisions, and mobilize new and innovative sources of funding.

1. The legislature should fully fund the Puget Sound Budget. State agencies should work with the Partnership to develop and propose a Puget Sound Budget for the 2023 Legislative Session that identifies the resources required to achieve Puget Sound recovery goals.
2. State agencies should work with the Partnership to design the 2022-2026 Action Agenda in a manner that identifies high-leverage and multi-benefit strategies to help guide the high priority items for future Puget Sound budgets and increase the effectiveness of state investments.
3. The Partnership will continue to explore ways to improve the results of current state expenditures, through initiatives such as our accountability program and our effectiveness monitoring program.
4. The Partnership will continue to facilitate partner alignment with a single recovery system, thus focusing and coordinating resources and efforts and amplifying the impact of investments across multiple agencies and partners.
5. The Partnership will also engage more partners in the recovery system and diversify and enhance funding sources to leverage state investments in Puget Sound, including philanthropy, impact investment, private sector commitments, and federal funding.

For these strategies to succeed and be maintained over time, the Partnership needs resources to develop and implement a comprehensive funding strategy—one that sets the course for generating durable, reliable, and multi-sector sources of funding.



www.psp.wa.gov

PO Box 40900, Olympia WA 98504
☎ (360) 725-5444 ✉ info@psp.wa.gov