



2017-2019 BIENNIAL REPORT

The *Oregon Plan* for Salmon and Watersheds



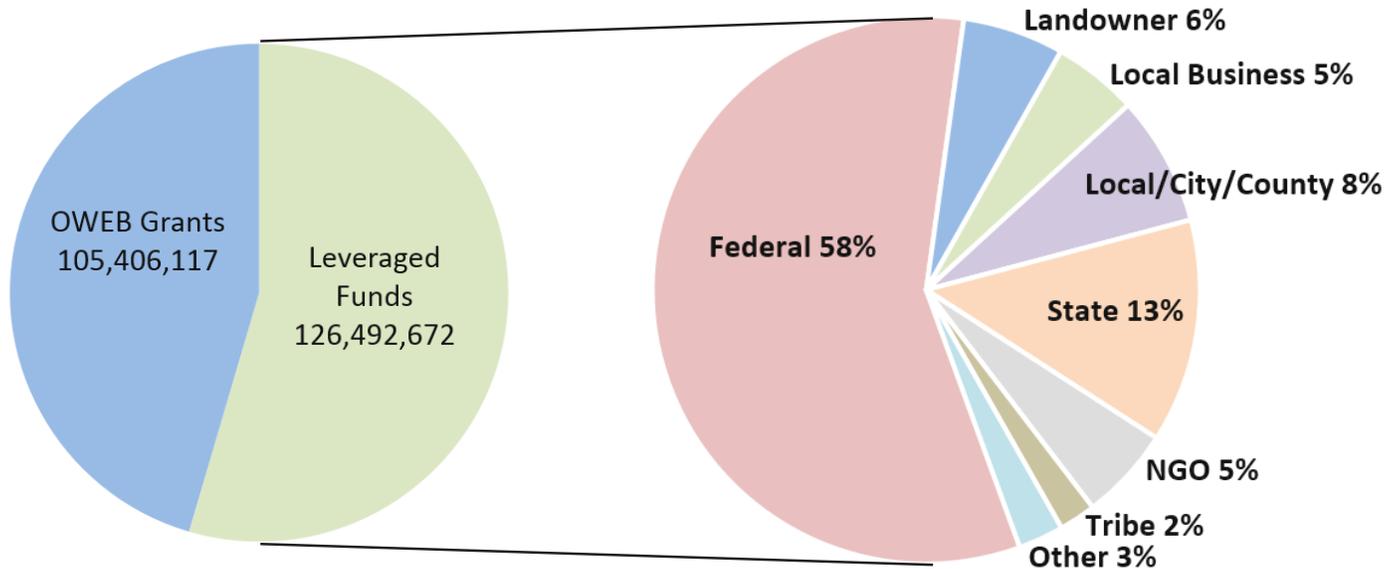
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Investments and Accomplishments

The Oregon Watershed Enhancement Board (OWEB) invested over \$105 million for watershed enhancement projects in Oregon during the 2017-2019 biennium. This total includes funding from the Oregon Lottery, Pacific Coastal Salmon Recovery Fund, salmon license plate revenues, and other sources. These dollars leverage significant funding that is provided by other agencies and partner organizations, increasing the impact of OWEB funding throughout the state (Figure 1). Partners under the Oregon Plan for Salmon and Watersheds (Oregon Plan) are as important and diverse as the actions they undertake to benefit salmon and watersheds. These partners include landowners, non-profit organizations, local businesses, tribes, and all levels of government, each contributing to collaborative investments designed to support priority conservation actions across the state.

Figure 1. Grants awarded by OWEB and the amount of leveraged funds contributed by grant



participants. Data are provided from the OWEB Grant Management System from 7/1/17 through 6/30/19. OWEB has specific requirements for matching funds. Leveraged funds further grant objectives and are necessary to achieve the project’s proposed outcomes, but may include funds that are additional to what the grantee is claiming for OWEB’s required matching funds.¹

Every two years, Oregon Plan agencies provide information included in this Biennial Report. The actions funded by OWEB are required to be reported to the Oregon Watershed Restoration Inventory (OWRI), a restoration database maintained by OWEB for several reasons: 1) to document how public funds are spent, 2) to quantify restoration and conservation results to inform future planning, management and conservation efforts, and 3) to recognize the contributions made by various partners. Some organizations, such as private timber companies and small woodland owners, also report to OWRI to document additional actions—above and beyond those required by regulations—that they have taken to enhance the state’s watersheds. Additionally, federal agencies such as the U.S. Forest Service (USFS) and the Bureau of Land Management (BLM) periodically provide summary information to OWEB to provide a more comprehensive picture of restoration work across the state.

¹ Data for OWEB grant amounts, leveraged funding, and participants are derived from the OWEB Grant Management System from 7/1/2017 through 6/30/2019. OWEB has specific requirements for matching funds. “Leveraged funds” further grant objectives and are necessary to achieve the project’s proposed outcomes, but also include funds that are above and beyond what the grantee is claiming for OWEB’s required matching funds.

Watershed Metric	OWRI	BLM	USFS	Total
Riparian Miles (e.g., Streamside Plantings)	291.34	36.14	189.0	516.48
Instream Habitat Miles (e.g., Wood Placement)	89.16	56.01	114.5	259.67
Miles of Fish Habitat Made Accessible (due to stream crossing improvements)	86.00	35.50	198.0	319.50
Stream Crossings Improved for Fish Passage	62	22	62	146
Push-Up Dams Retired to Improve Fish Passage	4	-	-	4
Fish Screens Installed on Water Diversions	37	-	-	37
Upland Acres (e.g., Juniper Thinning, Seeding)	71,196.09	3,049.00	-	74,245.09
Wetland Acres (e.g., Wetland Habitat Created)	1,325.07	-	1,244	2,569.07
Miles of Road Closure and Decommissioning	11.00	5.34	47.2	63.54
Miles of Road Improvements (e.g., Erosion Control)	67.00	7.8	59.3	134.1
Miles of Riparian Invasive Treatments	291.21	-	-	291.21

Table 1. Metrics for watershed restoration activities completed and reported from 1/1/2017 to 12/31/2018 as reported by state and voluntary sources (OWEB), and federal agencies (Bureau of Land Management [BLM] and U.S. Forest Service [USFS]).²

Additional Information Available Online

Several online resources provide additional information about the Oregon Plan for Salmon and Watersheds accomplishments throughout the 2017-19 biennium.

During the 2017-2019 biennium, OWEB initiated a new grant offering, *Telling the Restoration Story*, to identify areas where agency investments have yielded quantifiable restoration outcomes and describe the factors that contribute to success. In 2019, the first year of the offering, seven projects were identified, encompassing a variety of restoration actions throughout the geography of the state. Each project is producing a suite of outreach products. For more information see [Telling the Restoration Story](https://geo.maps.arcgis.com/apps/webappviewer/index.html?id=7bc381f4422944778431a65f2b9b7fd6) (geo.maps.arcgis.com/apps/webappviewer/index.html?id=7bc381f4422944778431a65f2b9b7fd6).

Information about investments in Oregon Plan basins is available through online mapping tools and can be customized into reports for local areas. [Oregon Explorer](https://oregonexplorer.info) (oregonexplorer.info) provides access to these statewide datasets and mapping tools. The [OWEB Investment Tracking Tool](https://oregonexplorer.info/content/oweb-investment-tracking-tool) (oregonexplorer.info/content/oweb-investment-tracking-tool) provides information about where OWEB funds are invested across the state. This tool shows grants in progress as well as completed projects. Information about OWEB primary grant types is available for each Oregon Plan reporting basin, and can be shown for each subbasin, watershed council, or Soil and Water Conservation District (SWCD) boundary. Through the [Oregon Watershed Restoration Tool](https://oregonexplorer.info/OE_HtmlViewer/Index.html?viewer=owrt) (tools.oregonexplorer.info/OE_HtmlViewer/Index.html?viewer=owrt), restoration information can be filtered for each of the Oregon Plan basins, sub-basins, or watershed councils. Data can be shown by restoration activity type on the mapping tool by county, legislative districts, or watershed council or SWCD area. The tool offers the ability to create custom reports that list the restoration data (e.g., stream miles treated; upland acres treated) and graph the data for specific areas and timeframes of interest. For these online tools, information is uploaded each calendar year, and is current as of OWRI's most recent calls for data.

² All OWEB watershed metrics are from data reported to the Oregon Watershed Restoration Inventory (OWRI). These metrics include both OWEB and non-OWEB funded projects. Data are reported to OWEB after project completion, resulting in a time lag between when OWEB commits funds and when project outcomes are reported. This results in a difference between projects funded by OWEB in a given biennium and the project results that are reported to OWRI during a similar time period.

Coordinated Actions around the State

Collaboration is the heart of the Oregon Plan, and coordinated efforts continued throughout the 2017-2019 biennium. The Oregon Water Vision launched an ambitious approach to address crucial water challenges facing the state over the next 100 years. In addition, state agencies and partners continue work on several important initiatives, for example: updating Oregon's climate change adaptation framework; implementing the Greater Sage-Grouse Action Plan; addressing challenges with tide gates along the coast; and planning for the removal of four dams on the Klamath River to benefit native fish and water quality. Efforts to identify efficiencies in water related monitoring and reporting continued through interagency teams such as the STREAM Team and the Conservation Effectiveness Partnership. Strategic investments in local partnerships working to achieve ecological outcomes continued through the Oregon Water Resources Department's (OWRD) Place Based Planning program and OWEB's Focused Investment Partnerships.

Inter-Agency Initiatives that Describe or Address Monitoring and Information Needs

Water: In 2018, Oregon initiated a collaboration to steward the state's water resources under a changing climate and shifting demographics. Working towards a long-term, [100-year vision](http://www.oregonwatervision.org) (www.oregonwatervision.org), the initiative formally kicked off in 2019, engaging Oregonians with an interest in the state's water future to help frame the 100-Year vision and begin to identify key information gaps and ways to address them. The Water Vision builds on the [Integrated Water Resources Strategy](http://www.oregon.gov/owrd/wrdpublications1/2017_IWRS_Final.pdf) (IWRS) (www.oregon.gov/owrd/wrdpublications1/2017_IWRS_Final.pdf), an inter-agency framework to manage Oregon's water needs and supplies under increasing challenges. Updated in 2017, the IWRS includes specific recommendations for improved water resources data collection and monitoring methods and investing in healthy ecosystems.

Place-based planning: Locally-driven, place-based planning builds an ongoing collaboration to assess current and future water needs and design innovative solutions to best meet those needs. Across Oregon, four local partnerships are continuing to make progress towards developing integrated water resource plans, funded through OWRD and other partners. Each of these partnerships is highlighted in the Oregon Plan Reporting Basins section of this report. In 2019, the Oregon Legislature authorized additional funding for these planning groups and to conduct an evaluation, and passed legislation extending the sunset on the program to 2023. For a series of updates and the status of each locally-driven planning effort, see OWRD's [Place-Based Integrated Water Resources Planning](http://www.oregon.gov/OWRD/programs/Planning/PlaceBasedPlanning/Pages/default.aspx) (www.oregon.gov/OWRD/programs/Planning/PlaceBasedPlanning/Pages/default.aspx).

Focused Investment Partnerships (FIPs): A [FIP](http://www.oregon.gov/oweb/grants/Pages/fips.aspx) (www.oregon.gov/oweb/grants/Pages/fips.aspx) is an OWEB investment that identifies an ecological priority of significance to the state; uses focused monitoring and a Strategic Action Plan to achieve clear and measurable ecological outcomes; and is implemented by a high-performing partnership. For information about how FIPs are using an adaptive management approach and working under a common ecological monitoring framework, navigate to page 376 of [the October 2017 Board meeting report](http://www.oregon.gov/oweb/Documents/2017-Oct-Board-Meeting-eBook.pdf) (www.oregon.gov/oweb/Documents/2017-Oct-Board-Meeting-eBook.pdf). In the 2017-2019 biennium, the first six implementation FIPs reached the halfway milestone for their anticipated six years of funding, continuing their efforts to use prioritized monitoring to track restoration outcomes over time. Additionally, the OWEB Board approved five new implementation FIPs in the 2017-2019 biennium. Each of these eleven implementation FIPs are highlighted in the Oregon Plan Reporting Basins section of this report.

Strategic Enterprise Approach to Monitoring (STREAM) Team: This partnership of seven natural resource agencies collaborates regularly on technical issues related to water monitoring and information needs. In spring of 2018 the team sponsored a [monitoring summit in the Mid and North Coast of Oregon](http://www.oregonstate.edu/main/presentations-webinars/oregon-mid-and-north-coast-water-monitoring-summit) (inr.oregonstate.edu/main/presentations-webinars/oregon-mid-and-north-coast-water-monitoring-summit) to bring together nearly 100 scientists and stakeholders to share the latest water science in the region, identify priority issues where additional information is needed and to present some of the latest data tools and systems for sharing and evaluating environmental data. In 2019, STREAM Team is discussing the value of sharing continuous temperature datasets among agencies.

Conservation Effectiveness Partnership (CEP): [CEP](http://www.oregon.gov/oweb/resources/Pages/CEP.aspx) (www.oregon.gov/oweb/resources/Pages/CEP.aspx) is a collaborative effort among the Oregon Departments of Agriculture (ODA) and Environmental Quality (DEQ), the Natural Resource Conservation Service, and OWEB, with the recent addition of the Oregon Department of Fish and Wildlife (ODFW). CEP aims to describe the effectiveness of cumulative conservation and restoration actions in achieving natural resource outcomes through collaborative monitoring, evaluation and reporting. In the 2017-2019 biennium, the group completed an update describing the outcomes of no- or minimum-till practices in Wasco County's Fifteenmile Creek; streamflow restoration benefitting native fish in Deschutes County's Whychus River; and irrigation improvements leading to water quality outcomes in Malheur County's Willow Creek.

Tide Gates: A primary limiting factor for Oregon coastal coho population growth is access to winter rearing habitat within estuaries. Tide gates have historically been used on the Oregon coast to convert coastal wetlands into agricultural fields by controlling the flow of brackish estuarine waters. Tide gates can affect the ability of coho to access estuarine habitat that is crucial to their life cycle. Efforts to address issues with replacing tide gates with fish-friendly alternatives are being coordinated through the [Oregon Tide Gate Partnership](http://oregontidegates.org) (oregontidegates.org), including state and federal agencies, conservation organizations, industry groups and local communities. In the 2017-2019 biennium, work was initiated towards (1) a tide gate inventory; (2) a decision tool to identify priority project sites and potential funding eligible for projects; and (3) a collection of engineering and regulatory resources about tide gates along the Oregon coast.

Sage Grouse: The Sage-Grouse Conservation Partnership ([SageCon](http://sagecon.orsolutions.org/osproject/sagecon), orsolutions.org/osproject/sagecon) brings together landowners, agencies and interest groups to identify and address threats to sagebrush habitats and the species that rely on them. In the 2017-2019 biennium, in addition to completing over 27,000 acres of conservation actions with landowners in eastern Oregon, the SageCon partners updated the [Oregon Greater Sage-Grouse Action Plan](http://oregonexplorer.info/content/oregon-sage-grouse-action-plan?topic=203&ptopic=179) (oregonexplorer.info/content/oregon-sage-grouse-action-plan?topic=203&ptopic=179), rolled up conservation actions in critical sage-grouse habitat, and developed technical tools helping to both prioritize conservation work and streamline reporting on completed actions.

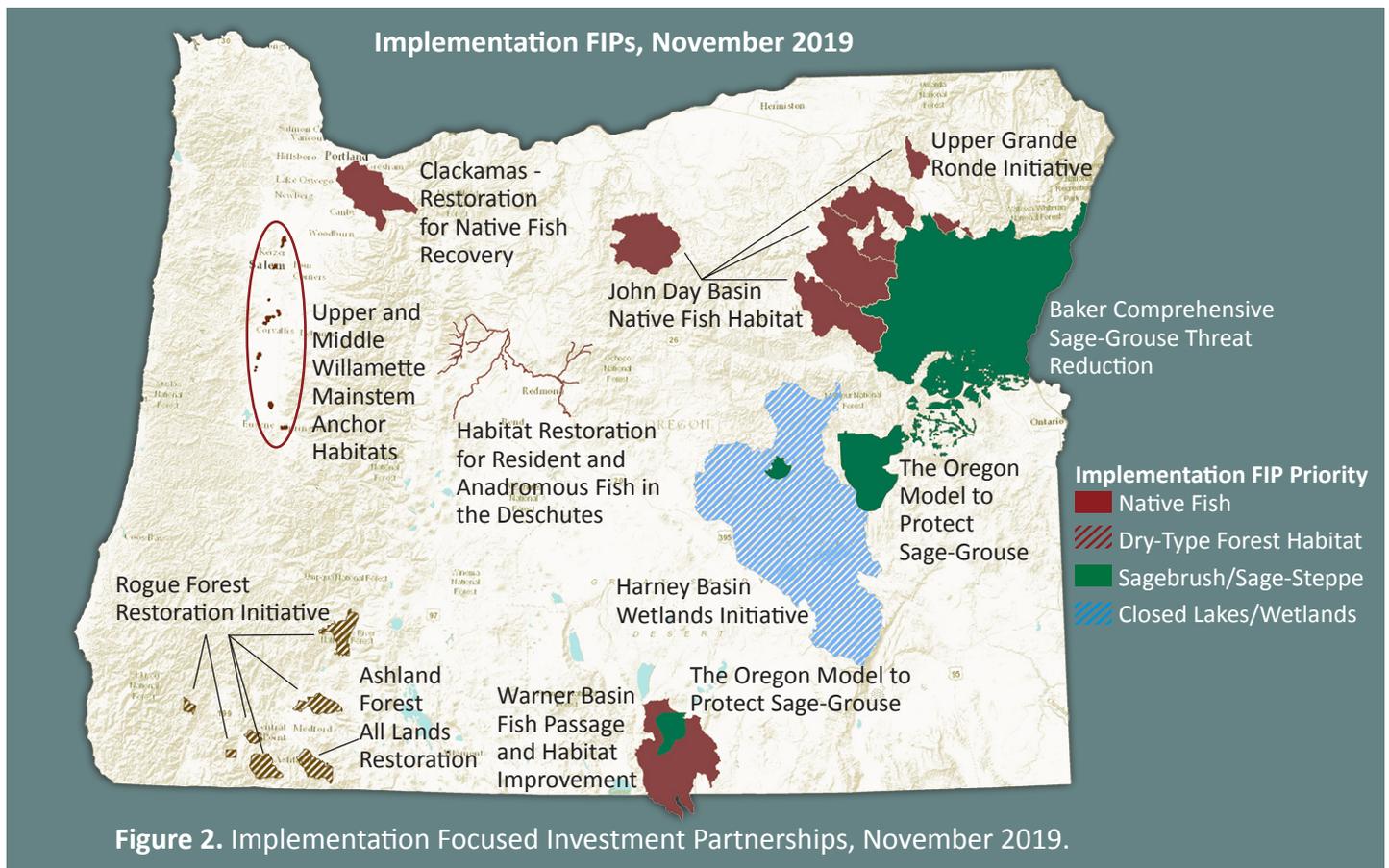


Figure 2. Implementation Focused Investment Partnerships, November 2019.

Climate Change: Along with a general trend towards warming temperatures, climate change brings high variability in natural events such as floods, droughts and fire. The [Oregon Climate Change Adaptation Framework](http://www.adaptationclearinghouse.org/resources/the-oregon-climate-change-adaptation-framework.html) (www.adaptationclearinghouse.org/resources/the-oregon-climate-change-adaptation-framework.html) identifies key risks and recommendations for agency and stakeholder actions to address this emerging challenge to the state's natural resources and local communities. In the 2017-2019 biennium, agencies initiated an update to the framework, which will be completed in summer of 2020.

Strategic Implementation Areas (SIAs): In the 2017-2019 biennium, Oregon Department of Agriculture continued to identify Strategic Implementation Areas (SIAs) using a collaborative, data-driven approach. Implementation of SIAs includes three components: (1) work towards watershed uplift; (2) monitoring; and (3) efforts to achieve compliance with water quality regulations. In the 2017-2019 biennium, ODA partnered with OWEB to administer grants for 17 SIAs, and to coordinate guidance for SIA monitoring along with ODFW and DEQ.

Water Monitoring

Statewide streamflow monitoring – OWRD works with the U.S. Geological Survey, U.S. Bureau of Reclamation, and others to operate a statewide network of gauging stations that is essential for the management of Oregon's water resources. In addition to gauges run by partners, OWRD operates more than 250 gauges. [Monitoring streamflow](https://apps.wrd.state.or.us/apps/sw/hydro_near_real_time) (apps.wrd.state.or.us/apps/sw/hydro_near_real_time) is essential for regulation and distribution of water rights, including those for instream uses, according to priority date. OWRD also requires water use measurement where needed in order to ensure compliance with water rights and to distribute and manage water.

Statewide ambient water quality monitoring – The Oregon Department of Environmental Quality (DEQ) maintains a network of [ambient water quality monitoring](http://www.oregon.gov/deq/wq/Pages/WQdata.aspx) (www.oregon.gov/deq/wq/Pages/WQdata.aspx) stations throughout the state. Testing occurs for water quality variables such as pH, chlorophyll a, temperature, excess nutrients and other toxic pollutants. The [Oregon Water Quality Index](http://www.oregon.gov/deq/wq/Pages/WQI.aspx) (www.oregon.gov/deq/wq/Pages/WQI.aspx) provides information on trends in some of these variables over time throughout the state.

Oregon DEQ Toxics Monitoring – DEQ's laboratory collects water samples from across Oregon. Sites include coastal estuaries, large rivers, and small streams. The program analyzes samples for over 500 chemicals, including metals, pesticides, consumer products, industrial chemicals, and flame retardants. Beginning in fall of 2019, the [toxics monitoring program](http://www.oregon.gov/deq/wq/Pages/WQ-Monitoring-Statewide.aspx) (www.oregon.gov/deq/wq/Pages/WQ-Monitoring-Statewide.aspx) is moving from risk identification toward a trending network of sites based on data previously assessed by this program and other spatial considerations.

Temperature Monitoring – DEQ continued its partnership with ODFW conducting long-term continuous temperature monitoring along Oregon coastal streams.

While DEQ leads water quality monitoring in Oregon, key responsibilities are shared among other natural resource agencies. The Oregon Department of Agriculture (ODA) occasionally collects information about water quality to support the Agricultural Water Quality Management Program, and the Oregon Department of Forestry (ODF) conducts research and monitoring to verify that forest management practices maintain water quality.

Throughout Oregon, local organizations with strong community ties – [watershed councils](http://www.oregon.gov/oweb/resources/Pages/Watershed-Councils.aspx) (www.oregon.gov/oweb/resources/Pages/Watershed-Councils.aspx), SWCDs, and others – gather on-the-ground information about water quality, stream flow, and other indicators of watershed condition. These local organizations regularly share information about their monitoring results with state agencies and the public.

Fish Population and Habitat Monitoring

ODFW continues to conduct extensive fish and habitat monitoring. This monitoring is described and called for in numerous conservation and recovery plans that the Department has developed with extensive external input. These plans describe specific, measurable criteria for conservation and recovery, and provide a common framework for all partners to coordinate, monitor and track their progress on conservation and recovery efforts.

Throughout the 2017-2019 biennium, ODFW continued to lead long-standing Oregon Plan monitoring programs. The [Aquatic Inventories Project](http://odfw.forestry.oregonstate.edu/freshwater/inventory/index.htm) (odfw.forestry.oregonstate.edu/freshwater/inventory/index.htm) collects data on stream habitat and juvenile salmonids using a rigorous quantitative stream survey methodology. The [Oregon Adult Salmonid Inventory and Sampling Project](http://odfw.forestry.oregonstate.edu/spawn/index.htm) (odfw.forestry.oregonstate.edu/spawn/index.htm) coordinates and conducts salmon and steelhead spawning ground surveys, as well as implements research to improve inventory methods. [The Salmonid Life Cycle Monitoring Project](https://nrimp.dfw.state.or.us/crl/default.aspx?pn=SLCMP) (https://nrimp.dfw.state.or.us/crl/default.aspx?pn=SLCMP) operates traps in order to estimate abundance and survival of adult and juvenile salmonids, as well as effects of habitat modification on populations. ODFW is actively working to add environmental DNA (eDNA) capability as a tool for monitoring across the state. eDNA has the potential to simplify monitoring by analyzing water samples for fish (and other aquatic organisms) DNA that has been shed into the water, in order to provide information on fish distribution. To develop this capability, ODFW is assessing techniques and collaborating with Oregon State University (OSU) and others on the Oregon Biodiversity Genome Project to build a genomic library, against which water samples will be assessed to determine presence.

Status and trend monitoring results are available through reports for specific projects as well as through the [Salmon and Steelhead Recovery Tracker](http://www.odfwrecoverytracker.org) (www.odfwrecoverytracker.org) or [StreamNet](http://www.streamnet.org) (www.streamnet.org). Fish distribution information is available from the [Natural Resource Information Management Program](https://nrimp.dfw.state.or.us/nrimp/default.aspx?p=259) (https://nrimp.dfw.state.or.us/nrimp/default.aspx?p=259). The [Oregon Conservation Strategy](http://www.oregonconservationstrategy.org) (www.oregonconservationstrategy.org) and the [Oregon Nearshore Strategy](http://oregonconservationstrategy.org/oregon-nearshore-strategy/) (oregonconservationstrategy.org/oregon-nearshore-strategy/) describe key conservation issues, limiting factors, and priority monitoring needs for fish and wildlife species of conservation concern throughout the state.

Integrated Monitoring Projects with Statewide Relevance

Intensively Monitored Watersheds (IMWs) are watershed-scale monitoring efforts designed to answer questions that typical project-level effectiveness monitoring cannot. IMWs look at an entire suite of restoration actions at a larger watershed scale and attempt to determine how these combined restoration actions affect physical and biological conditions. Located throughout the Pacific Northwest, results from IMWs are beginning to inform ongoing restoration programs as the coordinated effort reaches completion. For an example IMW project within Oregon, see the [Upper Middle Fork John Day River IMW](http://www.oregon.gov/oweb/data-reporting/EM/Pages/IMW.aspx) (www.oregon.gov/oweb/data-reporting/EM/Pages/IMW.aspx).

Oregon Plan Agency Programs

The work done regularly within state natural resource management agencies is crucial to the Oregon Plan. Highlights of programs and recent progress related to the Oregon Plan are described below, with updated links to further information.

Business Oregon

[Business Oregon](http://www.oregon4biz.com) (www.oregon4biz.com) (formerly Oregon Business Development Department) is Oregon's economic development agency, providing resources to emerging and innovative business operations throughout the state. Business Oregon continues to provide financial support for the environmental strategies outlined in the Oregon Plan through the 2017-2019 biennium. Project subjects include brownfield, water, and wastewater management, with several new projects awarded to provide benefits to communities in rural Oregon. Additionally, Business Oregon partners with DEQ and the Oregon Health Authority to implement the Drinking Water Source Protection program. While the program's primary focus is protecting public drinking water quality, many studies and projects implement actions that protect watersheds, such as efforts to reduce sediment deposition and associated water turbidity. Recent coordination efforts with DEQ have resulted in Business Oregon managed grant awards that represent partnerships with watershed councils and federal landowners.

Oregon Department of Agriculture (ODA)

[ODA](http://www.oregon.gov/oda) (www.oregon.gov/oda) administers voluntary and regulatory natural resource management programs and works closely with stakeholders including Oregon's [Soil and Water Conservation Districts](http://www.oregon.gov/ODA/programs/NaturalResources/SWCD/Pages/SWCD.aspx) (www.oregon.gov/ODA/programs/NaturalResources/SWCD/Pages/SWCD.aspx). ODA supports the Oregon Plan through the agency's Natural Resource Programs, including the Agricultural Water Quality Management Program and programs to support the proper use of pesticides and fertilizers.

Oregon's Agricultural Water Quality Management Program is a key part of the state's strategy for improving the condition of the state's waters. The program works with Oregon's 38,000 farms and ranches, which vary greatly in size, products grown, climate, and ownership. In the 2017-2019 biennium, SIAs were an important area of emphasis for the program.

ODA's Pesticide and Fertilizer Programs includes Oregon's Pesticide Stewardship Partnerships (PSPs). PSPs help local partners identify specific pesticide concerns, encourage improved management practices, and support voluntary ways to reduce pesticide impacts. DEQ assists ODA in coordinating with local partners and helps evaluate pesticide data in support of PSP efforts. ODA works closely with other state natural resource agencies and stakeholders to identify, guide and evaluate PSPs. Throughout the 2017-2019 biennium, eight PSPs continued ongoing efforts (Walla Walla, Wasco, Hood, Clackamas, Yamhill, Pudding, Amazon, and Middle Rogue), and two pilot studies to explore PSPs were initiated (Middle Deschutes and Umpqua).

Oregon Department of Environmental Quality (DEQ)

[DEQ](http://www.oregon.gov/DEQ/pages/index.aspx) (www.oregon.gov/DEQ/pages/index.aspx) is responsible for protecting the states' surface and groundwater to provide for a wide range of uses, including drinking water, recreation, fish habitat, aquatic life, and irrigation. The DEQ develops water quality standards, monitors water quality, and provides other services to control and monitor point and nonpoint source pollution. The DEQ also establishes Total Maximum Daily Loads (TMDLs) on water bodies that do not meet water quality standards. A TMDL identifies the amount of a pollutant that a water body can receive and still meet water quality standards. Throughout the 2017-2019 biennium, DEQ continued to implement TMDLs. During this period, DEQ also developed water quality status and trend reports statewide. Water quality status and trend reports evaluate water quality standards attainment and trends using water quality monitoring data available in public databases. The results are used to support a number of water programs including DEQ's review of Agricultural Water Quality Management Area plans and rules; and for assessment of progress implementing Total Maximum Daily Loads. During the 2017-2019 biennium, DEQ completed a 5-year update to its Integrated Toxics Reduction Strategy, a guiding framework for how DEQ works across programs to reduce toxic chemicals in Oregon's environment. DEQ also co-managed the implementation of the Oregon Pesticide Stewardship Partnership Program (PSP) with ODA.

Oregon Department of Fish and Wildlife (ODFW)

[ODFW](http://www.dfw.state.or.us) (www.dfw.state.or.us) develops conservation, recovery, and management plans for Oregon's native [fish](http://www.dfw.state.or.us/fish/CRP/conservation_recovery_plans.asp) (www.dfw.state.or.us/fish/CRP/conservation_recovery_plans.asp) and [wildlife](http://www.dfw.state.or.us/wildlife/management_plans/index.asp) (www.dfw.state.or.us/wildlife/management_plans/index.asp) species. These plans assess populations and describe management strategies and actions for the species and their habitat. Plans are developed in pursuit of ODFW's mission to protect and enhance Oregon's fish and wildlife and their habitats for use and enjoyment by present and future generations and they support the Oregon Plan. Many different parts of the agency are involved in developing and implementing these plans, and certain plans have specific Implementation Coordinators that guide internal and external plan actions. ODFW also has numerous programs dedicated to watershed protection and improvement, including, among others, the [Wildlife Habitat Program](#), the [Water Quality and Quantity Program](#), the [Fish Passage Program](#), the [Fish Screening Program](#), and the [Western Oregon Stream Restoration Program](#).

Oregon State Police (OSP), Fish and Wildlife Division

The mission of [OSP](#) is to develop, promote, and provide protection to the people, property and natural resources of the state, along with ensuring the state's safety and livability. The purpose of the OSP Fish and Wildlife Division is to assure compliance with laws which protect and enhance the long-term health and

equitable utilization of Oregon's fish and wildlife resources. Recent issues and progress are published monthly in OSP's [Fish and Wildlife newsletter](http://www.oregon.gov/osp/programs/fw/Pages/Newsletter.aspx) (www.oregon.gov/osp/programs/fw/Pages/Newsletter.aspx).

Oregon Department of Forestry (ODF)

[ODF](http://www.oregon.gov/ODF/Pages/index.aspx) (www.oregon.gov/ODF/Pages/index.aspx) manages state-owned forestlands in Oregon and administers the Forest Practices Act) on non-federal forestlands to ensure that water quality and resource protections are maintained during and after commercial forest operations. Under the Federal Forest Health Program, ODF works closely with the USFS and local partners to increase the pace and scale of restoration in Oregon's national forests. ODF also conducts research and monitoring to test the implementation and effectiveness of current forest management practices, and any new rules or policies, to maintain water quality and fish habitat. These efforts continue to support watershed health, jobs and economic development in Oregon's rural communities.

ODF also maintains a landowner assistance program that helps conserve a working landscape across nonindustrial private forestlands. There is no dedicated state funding for this work, but ODF leverages partnerships with federal, state, and local agencies to provide technical and financial assistance to nonindustrial private forest landowners interested in managing their forests for economic, environmental, and social benefits. Primary federal partners include the USFS, Natural Resources Conservation Service (NRCS), and Farm Services Agency. ODF's Stewardship Foresters assist landowners with management planning that enables them to access financial assistance – primarily through the NRCS Environmental Quality Incentives Program – for pre-commercial activities that enhance forest health and water quality. Funds are also used for community wildfire planning, fuels reduction projects, and post-fire restoration. Finally, ODF assists landowners with planning and implementing riparian restoration projects through the [Conservation Reserve Enhancement Program \(CREP\)](http://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-enhancement/index) (www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-enhancement/index).

Oregon Department of Land Conservation and Development (DLCD)

[DLCD](http://www.oregon.gov/LCD/pages/index.aspx) (www.oregon.gov/LCD/pages/index.aspx) oversees Oregon's Statewide Planning Goals. Several of the planning goals incorporate environmental objectives that support salmon and healthy watersheds. These goals and objectives are implemented through local comprehensive plans and development codes. DLCD provides assistance to local governments when they update their plans and codes to accommodate growing or shifting population needs.

DLCD includes the Ocean and Coastal Services Division, which oversees the [Oregon Coastal Management Program \(OCMP\)](http://www.oregon.gov/LCD/OCMP/pages/index.aspx) (www.oregon.gov/LCD/OCMP/pages/index.aspx). OCMP supports implementation of the program, in partnership with other state agencies and coastal jurisdictions, and provides funding and technical assistance on research projects to improve our knowledge of natural resources in the coastal zone.

During the 2017-2019 biennium, DLCD has either led, or participated with other agencies, in several efforts to protect habitat and other resources on which salmon recovery depends. For instance, DLCD has worked to ensure that local land use regulations on rural lands consider the protection and management of soil, air, water, and wildlife resources. While this objective has been included in the Statewide Land Use Goals since the early days of the program, its emphasis becomes more important as Oregon faces increased pressure for rural development. In addition, DLCD leads an on-going effort to update the *Oregon Climate Change Adaptation Framework*. The Framework includes the identification of short- and long-term measures to adapt to the effects of climate changes, including the impacts to watersheds and aquatic habitat. Similarly, natural hazard mitigation planning is another aspect of the land use program that examines how to protect landscape features important to salmon such as floodplains. Risk-reduction actions that promote healthy forests and protect natural floodplains were included in the *Oregon Natural Hazard Mitigation Plan update*, which will be published in 2020. Finally, OCMP has partnered with the Institute of Applied Ecology, ODFW and Department of State Lands (DSL) to complete improved habitat maps for tidally influenced lands in Oregon estuaries south of the Columbia River. These products will support state and local estuarine restoration efforts and will improve planning for the habitat impacts of sea-level rise.

Oregon Department of State Lands (DSL)

[DSL](http://www.oregon.gov/DSL) (www.oregon.gov/DSL) administers the priorities of the State Land Board, focusing on stewardship of lands, wetlands, waterways, unclaimed property, estates, and the Common School Fund. DSL's Aquatic Resource Management (ARM) program regulates removal-fill activities in waters of the state; manages Oregon's aquatic resource planning program and mitigation programs, including mitigation banking and in-lieu fee programs; and implements the proprietary waterways program. ARM establishes standards for and approves local wetland inventories (LWIs), used by cities and counties for land use planning. ARM also works with ODFW to update and maintain Essential Salmon Habitat, designating stream reaches that support spawning and rearing of state and federally listed anadromous fish species.

During the 2017-2019 biennium, ARM continued to develop wetland planning and assessment tools that help local governments meet Land Use Planning Goal 5; supported mitigation planning through release of the new Stream Function Assessment Methods; continued to support mitigation banks and in-lieu fee approaches; and worked with the Oregon State Marine Board to respond to and prevent abandoned vessels and to remove marine debris. Additionally, during this biennium DSL participated in a legislative workgroup that resulted in approved legislation that will assist with regulatory streamlining.

Oregon Department of Transportation (ODOT)

ODOT's [Geo-Environmental Section](http://www.oregon.gov/ODOT/GeoEnvironmental) (www.oregon.gov/ODOT/GeoEnvironmental) provides continued guidance on ODOT's projects and programs, including a [biology program](http://www.oregon.gov/ODOT/GeoEnvironmental/Pages/Biology.aspx) (www.oregon.gov/ODOT/GeoEnvironmental/Pages/Biology.aspx) to help [ODOT](http://www.oregon.gov/odot) (www.oregon.gov/odot) with all aspects of planning related to biological resources. For example, the [Fish Passage Program](http://www.oregon.gov/ODOT/GeoEnvironmental/Pages/Fish-Passage.aspx) (www.oregon.gov/ODOT/GeoEnvironmental/Pages/Fish-Passage.aspx) was developed with ODFW and has fostered partnerships with government agencies, watershed councils, and other stakeholders to support the recovery of threatened/endangered and other native migratory fish by removing passage barriers on the state highway system. The Program identifies high-value streams that bring the greatest benefit to native migratory fish, provides a list of priority barriers to address, and implements fish passage mitigation banking to expedite strategic actions. During the 2017 – 2019 biennium, ODOT constructed a total of 33 projects that addressed fish passage. These projects opened or improved access to over 81 miles of habitat for native migratory fish. In addition, ODOT paid \$2 million dollars into an ODFW managed account to address high priority fish passage barriers across the state. This fund was allocated to 11 projects that will improve access to over 160 miles of habitat for native migratory fish.

Stormwater runoff from impervious surfaces such as highways can bring pollutants into the state's waterways and impact fish habitat. ODOT works to minimize these impacts as required by the Clean Water Act, the Endangered Species Act, and other local, state, and federal regulations. ODOT's efforts address potential impacts from new or expanded impervious surfaces, as well as projects on already-existing sections of highway. Taken together, these efforts not only mitigate for new highway construction, but can also result in improved fish and aquatic habitat quality.

Oregon Parks and Recreation Department (OPRD)

[OPRD](http://www.oregon.gov/OPRD) (www.oregon.gov/OPRD) provides and protects outstanding natural, scenic, cultural, historic and recreational sites for the enjoyment and education of present and future generations. The agency manages state parks, ocean shores, scenic waterways, recreation trails and bikeways; manages the State Historic Preservation Office; and provides assistance to local governments for recreation and heritage conservation. Funds for these projects come from Oregon Lottery revenues, proceeds of the sales of salmon license plates, and from other revenue sources. Projects include riparian plantings, stream bank stabilization, upland restoration, forest health thinning, invasive species removal, endangered species habitat enhancement, hydrological restoration, and restoration monitoring. Additionally, federal Land and Water Conservation Grants provide matching funds to local governments to acquire or enhance outdoor recreation areas and facilities for public use. OPRD's Planning and Design Services offer guidance and supporting resources for trail and park development and improvements, and OPRD's Stewardship Section advises on natural resources and natural areas.

Throughout the 2017-2019 biennium, OPRD worked to remove gorse and improve trails at Floras Lake State Park (Curry County); manage trees at Fort Stevens State Park (Clatsop County); establish and maintain native plants at Cottonwood Canyon State Park (Sherman & Gilliam Counties); enhance meadows at Silver Falls State Park (Marion County); and evaluate salmon restoration opportunities through a hydrology assessment at Sitka Sedge State Natural Area (Tillamook County).

Oregon State Marine Board

[Oregon State Marine Board](http://www.oregon.gov/osmb) (www.oregon.gov/osmb) has worked closely with ODFW to implement the Oregon Aquatic Invasive Species Prevention Program (AISPP) since 2009. AISPP aims to protect Oregon against the introduction and spread of aquatic invasive species through the management of recreational boat inspection stations. Each year, AISPP provides a [comprehensive report](http://www.oregon.gov/osmb/boater-info/Documents/AISPP_2018_Report_Final.pdf) (www.oregon.gov/osmb/boater-info/Documents/AISPP_2018_Report_Final.pdf) for the public which is also submitted to the Oregon Legislature. Top concerns include Zebra and quagga mussels, hydrilla (an aquatic plant) and Asian carp. These aquatic invaders can spread to Oregon's water bodies when boats enter from neighboring states. During 2018, AISPP operated six boat inspection stations on Oregon highways leading into the state and performed 28,190 boat inspections resulting in the cleaning of 365 boats that had some type of AIS attached and 11 were contaminated with quagga and zebra mussels. In 2019, the Oregon Legislature passed an Aquatic Invasive Species bill that expands law enforcement's authority to order a driver back to an inspection station and imposes penalties for failure to comply. Additionally, this law also requires all boaters to "Pull the Plug" and empty all water-holding compartments when leaving a water body and while the boat is being transported to better protect Oregon's waterways from aquatic invaders. Another important partnership within the program is one with the Center for Lakes and Reservoirs at Portland State University (PSU). Resources are provided to PSU so that sampling and monitoring can occur within high risk water bodies for the presence of harmful aquatic invaders. Fortunately, these efforts have proven effective so far, and none of the invasive species mentioned above have been detected in Oregon.

Oregon Water Resources Department (OWRD)

[OWRD](http://www.oregon.gov/OWRD) (www.oregon.gov/OWRD) oversees programs to monitor and regulate Oregon's groundwater and surface water. OWRD facilitates voluntary streamflow restoration efforts throughout the state, assisting with streamflow restoration projects, and reviewing final water applications (i.e., instream leases, new instream water right applications, instream transfers, and allocations of conserved water). OWRD monitors streamflows through a network of gaging stations, and regulates for instream water rights. For example, in calendar year 2018, 40% of the total regulatory actions by OWRD (causing a change in water use) were conducted to benefit 205 instream water rights and OWRD ran more than 250 stream gauges. OWRD is also the lead agency charged with updating the multi-agency, statewide, Integrated Water Resources Strategy, last updated in 2017. In addition, OWRD provides funding and technical assistance through its Water Resources Development Program. The Water Resources Development Program helps Oregonians address instream and out-of-stream water supply needs now and into the future. The Program includes funding opportunities and other resources through three program components: Place-Based Planning Technical Assistance and Grants, Feasibility Study Grants, and Water Project Grants and Loans.

Throughout the biennium, department staff continued the review and processing of water management and conservation plans submitted by municipal and agricultural entities, thereby promoting the efficient water use and implementation of water conservation programs by these entities. Additionally, in 2017, staff undertook an effort to provide better notification to municipalities across the state concerning their water management and conservation plan progress reports. The results of this effort resulted in a greater than 50% increase in compliance with this requirement.

Recommendations from the OWEB Board

In 2018, the OWEB Board adopted a strategic plan that celebrates all that OWEB and its partners have accomplished over the past twenty years, and sets a course for the next ten.

OWEB, our partners, and our grantees have much to celebrate. With over \$780 million in investments from Lottery, federal, Salmon License Plates, and other funds, our grantees have restored 6,300 miles of streams, and improved habitat on over 1.17 million acres in the watersheds above those streams. Coupled with the restoration or creation of over 53,000 acres of wetlands and estuaries, these gains on state, federal, tribal and private lands support clean water and habitat for Oregonians and the fish and wildlife species that call this state home.

Our current investment portfolio – ranging from our flagship Open Solicitation grants to our newly established Partnership Technical Assistance grants – provides the foundation to improve the health of our watersheds by investing in people and organizations in our local communities. OWEB grants support non-profits, tribal nations, local governments, universities, and others to work with farmers, ranchers, forestland owners, and local contractors to provide clean water for Oregonians and healthy habitat for our fish and wildlife and benefits to local economies.

Our new strategic plan builds on that strong granting foundation. As we look forward to the next ten years, the board recommends focusing our efforts, and current and future grant offerings, to address these strategic priorities:

Working with partners such as the Oregon Lottery, which is engaged in a state-wide awareness campaign on conservation, we will help Oregonians better understand the relationship between people and watersheds, and provide opportunities for them to improve the health of their own watershed. At the same time, we will ensure that leaders at all levels of watershed work reflect the diversity of Oregonians, which begins by listening, learning and gathering information so that new and varied populations are engaged in watershed conservation.

Our board and staff recognize that healthy watersheds are supported by the people who care for them. As we look to the future, OWEB will use its current grant offerings and consider new offerings that support community capacity and strategic partnerships to achieve healthy watersheds, for example the Organizational Collaboration grant offering.

While OWEB is a major investor in healthy watersheds, there are many others with a vested interest in this work. In partnership with agencies, foundations, and the business community, we will help watershed organizations have access to a diverse and stable funding portfolio, which includes new, coordinated grant making opportunities with NRCS, ODOT, U.S. Fish and Wildlife Service, and others to leverage investments.

Since our inception, much of the work of our local partners has taken place on private farms, ranches and forestlands. Over the next ten years, we will find ways to improve landowner access to funding and technical support for conservation on their lands, including through Oregon Agricultural Heritage Program grants, ensuring that the value of working lands is fully integrated into watershed health.

We will invest in coordinated monitoring and shared learning to advance watershed restoration effectiveness and increase the capacity to track and communicate the impact of OWEB's grant-making. An example is OWEB's continued support for the Conservation Effectiveness Partnership that describes the benefits of cumulative conservation actions among agency partners.

Oregon has long been recognized as a leader in its care for the watersheds we call home. Oregonians have chosen to permanently invest in healthy watersheds, which allow local partners the space to test bold and innovative actions to achieve health in Oregon's watersheds. This innovation includes approving Implementation Focused Investment Partnerships that implement landscape-scale conservation in watersheds across the state.

Oregon Plan Reporting Basins

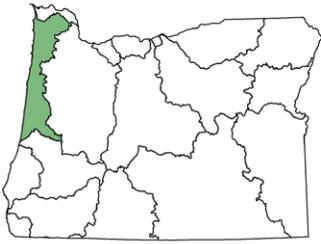
The Oregon Plan for Salmon and Watersheds defined 15 basins in which actions to benefit fish and wildlife habitat would be reported. Brief descriptions and locator maps for each of these basins are shown below.

Information is provided about the amount of OWEB funding invested within each basin and about the amount of funding leveraged by the OWEB dollars. Similar to Figure 1, information about the funding leveraged by partners is provided for each reporting basin. Leveraged funding indicates partner support of OWEB efforts and helps understand the roles of partners across the state. As in Figure 1, data is from the OWEB Grant Management System for grants awarded from 7/1/17 through 6/30/19 that were assigned to one of the Oregon Plan reporting basins. Partners contributing less than 5% of leveraged funds within a basin are shown grouped into the "other" category. Some grants are applicable throughout the state and therefore not represented by a specific reporting basin.

Example initiatives and collaborative progress from the 2017-2019 biennium are provided for each Oregon Plan reporting basin. Additional examples from OWEB are available online: [Telling the Restoration Story](https://geo.maps.arcgis.com/apps/webappviewer/index.html?id=7bc381f4422944778431a65f2b9b7fd6) (https://geo.maps.arcgis.com/apps/webappviewer/index.html?id=7bc381f4422944778431a65f2b9b7fd6).



North Coast



The North Coast Basin includes watersheds of the Nehalem, Wilson, Trask, Nestucca, Siletz, Yaquina, Alsea, and Siuslaw rivers, many medium and smaller coastal watersheds, and two lake areas: the Siltcoos and Tahkenitch in the southern part of the basin. The dominant land use in the basin is forestry. Agriculture is limited to the rich alluvial floodplains along the major streams.

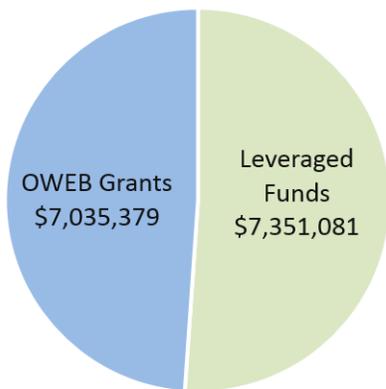
Examples of Actions and Progress in the 2017-2019 Biennium

Mid-Coast Water Planning Partnership: The Mid-Coast region was selected as one of three areas statewide to receive a place-based planning grant from the Oregon Water Resources Department (OWRD). Although the Mid-Coast receives 70 inches of rainfall annually, low summer stream flows and limited water storage options create pressures to meet drinking water needs while maintaining stream flows critical for fish, recreation, and industry. The City of Newport and OWRD have teamed together with many local partners to convene the [Mid-Coast Water Planning Partnership](http://midcoastwaterpartners.com) (midcoastwaterpartners.com), with the goal of providing adequate water supplies for commercial and residential, while maintaining adequate flows for fish and other natural resources.

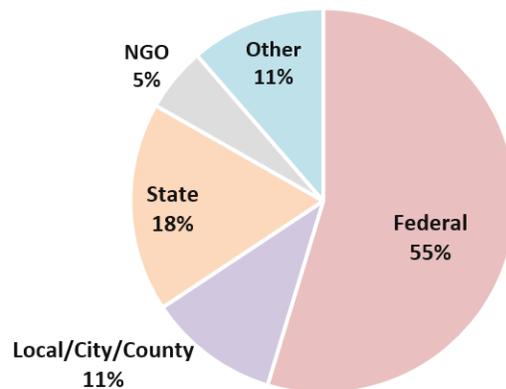
The Oregon Central Coast Estuaries Collaborative is a network of estuary conservation and restoration practitioners working towards a network of healthy and resilient estuaries on Oregon's coast. In 2018, the Collaborative completed a Strategic Action Plan, and partners are now working together to begin to implement high priority estuarine projects on the coast.

Oregon's Coast Coho Business Plans in the Siletz and Siuslaw: This planning process includes forming a partnership in a watershed with coho fish habitat and then developing a strategic action plan to address limiting factors to coho using a science-based framework with continued community involvement. During the 2017-2019 biennium, work towards a business plan in the Siletz was initiated, and the Siuslaw Coho Partnership completed their plan and moved into implementation.

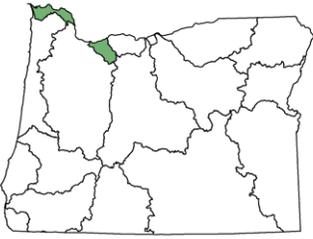
North Coast Investments



North Coast Leveraged Funds



Lower Columbia



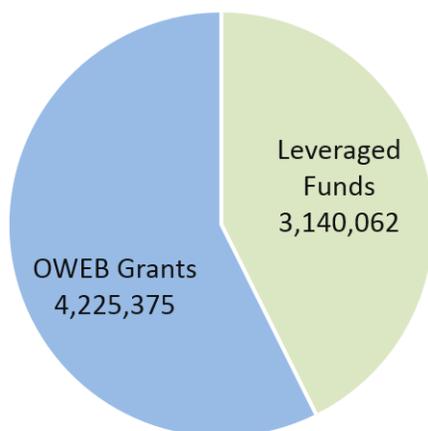
In the Lower Columbia Basin, a number of relatively small streams drain onto floodplains and into the tidal reaches of the Columbia River. Water flows either from the Coast Range, or from the west slope of the Cascades. Nearly all of the Columbia River floodplain has been diked to protect farms and urban areas. Undiked areas of the floodplain support high species diversity. Maritime shipping, fishing, forestry, and wood processing are key elements of the economy in this basin.

Examples of Actions and Progress in the 2017-2019 Biennium

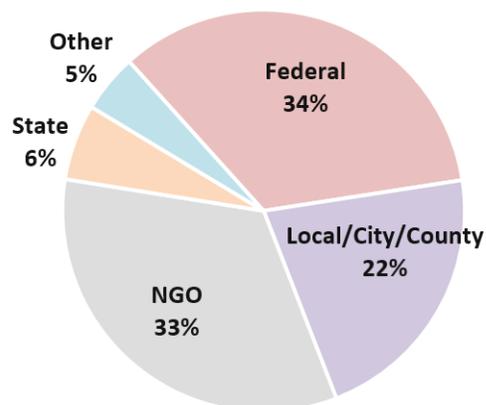
[Lower Columbia Watershed Partnership](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/programs/farmland/rcpp/?cid=nrcseprd628806) (www.nrcs.usda.gov/wps/portal/nrcs/detail/or/programs/farmland/rcpp/?cid=nrcseprd628806) continued work under a NRCS Regional Conservation Priorities Program grant, bringing approximately \$3 million towards restoration projects in the Lower Columbia throughout a five-year period from 2016 through 2021. Over 30 projects are underway, including riparian improvements, streambank restoration and fish passage projects. Collaborative efforts under this Partnership include monitoring as well as engagement with local high schools and youth programs.

The Lower Columbia Chum Partnership began work on a strategic action plan and efforts to engage with partners on prioritized actions to recover chum salmon and improve habitat throughout the Lower Columbia watershed. Led by the North Coast Watershed Association, efforts to engage with landowners and to complete the strategic action plan fill an important gap addressing the specific limiting factors to chum salmon habitat in the Lower Columbia. Efforts will identify priority areas for chum; reconnect and revegetate tidal habitat; decrease vegetation; improve channel complexity and floodplain connectivity to benefit chum salmon.

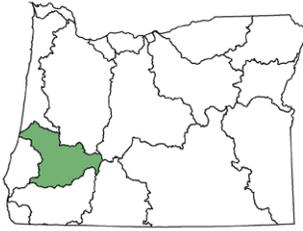
Lower Columbia Investments



Lower Columbia Leveraged Funds



Umpqua



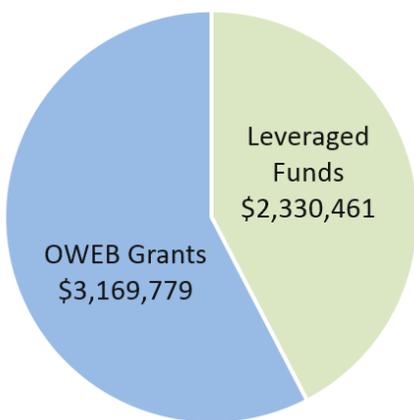
The Umpqua Basin includes the North and South Umpqua Rivers which join to form the mainstem of the Umpqua River. Cow Creek is a major tributary of the South Umpqua and the Smith River, the basin’s other major tributary, joins the Umpqua near its mouth. The headwaters of the North and South Umpqua Rivers are found in the Cascade Ecoregion, come together in the Umpqua Interior Foothills Ecoregion of the Klamath Mountains, and flow through the Coast Range on the way to Winchester Bay and the Pacific Ocean. The land use for much of the basin is forestry with some agricultural activities such as pastures, vineyards, orchards, and row crops found in the narrow valleys and foothills in the central portion of the basin. Winchester Bay is an important shellfish area on the Oregon Coast.

Examples of Actions and Progress in the 2017-2019 Biennium

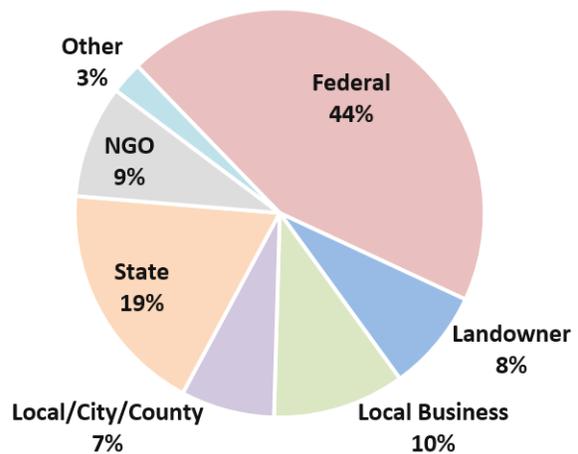
Umpqua Basin Partnership: Several nonprofit, private, and agency organizations are working towards long-term ecological recovery of the basin to benefit native fish and upland habitats, including dry-type forest and oak woodland habitats. Land owners and land managers are working together to prioritize restoration efforts across the checker-board land ownership pattern of the Umpqua. In the 2017-2019 Biennium, partners completed a tidegate prioritization process so they can begin to address these issues in the Smith River estuary and other priority areas.

Umpqua Basin Collaborative Monitoring: Efforts continued through the 2017-2019 biennium to monitor the health of the Umpqua Basin streams. Partnership for the Umpqua Rivers led volunteers to understand the status and trends in water quality throughout the basin. Monthly measures of temperature, bacteria, and other variables help to understand how conditions change over time. Project partners include BLM and the Collins Foundation.

Umpqua Investments



Umpqua Leveraged Funds



South Coast



The South Coast Basin includes watersheds of the Coos, Coquille, Elk, Sixes, Pistol, Winchuck, and Chetco Rivers, a small portion of the Smith River Watershed, several smaller coastal rivers, and the Tenmile Lakes area. Forestry, ranching, agriculture, commercial and recreational fishing, and tourism are significant factors in the economy of communities in the basin. Significant portions of ancient marine terraces in this basin have been converted to cranberry or lily production. The Coos and Coquille valleys historically were large timber producers along with cattle and dairy

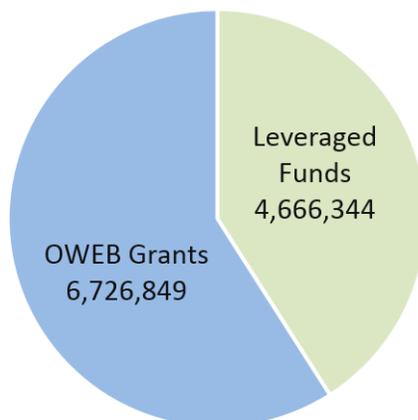
industries.

Examples of Actions and Progress in the 2017-2019 Biennium

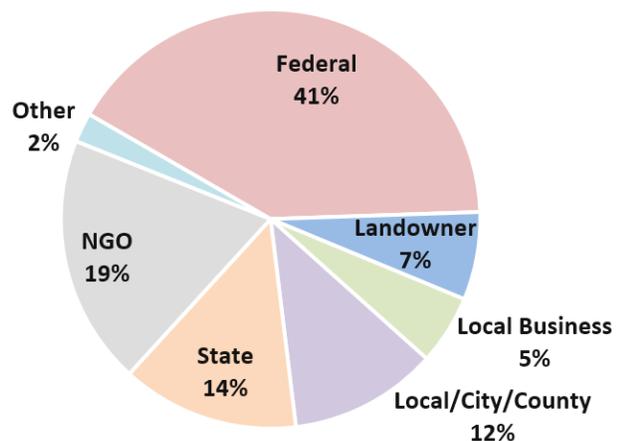
Oregon's Coast Coho Business Plans in the Coos and Elk Rivers: This planning process includes forming a partnership in a watershed with coho salmon habitat and then developing a strategic action plan to address limiting factors to coho using a science-based framework with continued community involvement. During the 2017-2019 biennium, work towards a strategic action plan was initiated for the Coos, while the Elk River plan was completed and partners are working to develop and implement projects.

Coquille and Coos Tide gate Inventory and Restoration: A primary limiting factor for Oregon coastal coho population growth is access to winter rearing habitat within estuaries. Fish access is directly influenced by the location and condition of tide gates. A tide gate inventory along the south coast was completed in 2017, and efforts are now moving into implementation, using the inventory to help prioritize and implement restoration projects.

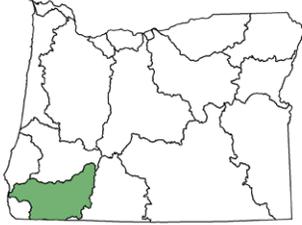
South Coast Investments



South Coast Leveraged Funds



Rogue



The Rogue Basin includes five drainages: Lower, Middle, and Upper Rogue, Illinois, and Applegate. The headwaters of the Rogue River begin in the wetter Cascade Mountains Ecoregion while the other major tributaries, Illinois and Applegate Rivers and Bear Creek, originate in the drier Klamath Mountains Ecoregion. The main towns in the interior of the Rogue Basin are located in the major river valleys which are surrounded by oak savanna foothills and, at higher elevations, the Siskiyou Mountains. Agricultural lands including orchards, vineyards, cropland, and pasture-lands are found throughout these valleys.

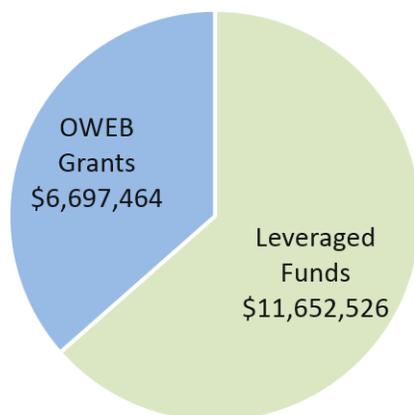
Examples of Actions and Progress in the 2017-2019 Biennium

Forest Restoration FIPs (Ashland Forest All-Lands FIP awarded 2017; Rogue FIP awarded 2019): In the 2017-2019 biennium, work continued into the second biennium for the Ashland Forest All-Lands Restoration FIP. This partnership is restoring the forest near Ashland by reducing fuels and the threat of severe forest fires to the community, as well as to wildlife and water quality. Building on lessons learned and successful approaches to forest restoration work, the Rogue Forest Restoration Initiative was funded by the OWEB Board in 2019. The first Rogue FIP grants have been awarded, and partners are beginning to implement projects.

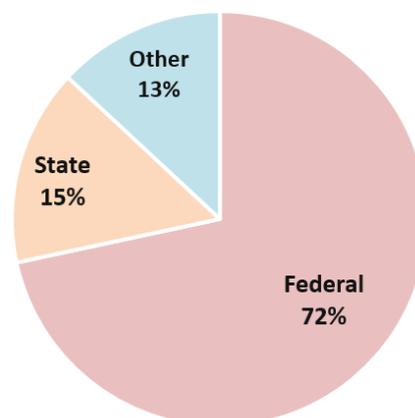
Oregon's Coast Coho Business Plan in the Upper Rogue: This planning process includes forming a partnership in a watershed with coho salmon habitat and then developing a strategic action plan to address limiting factors to coho using a science-based framework with continued community involvement. During the 2017-2019 biennium, work towards the Upper Rogue plan was well underway and efforts began to move into implementation.

Rogue Basin-wide Priority Barrier Removal Analysis: The Rogue Basin Partnership and local watershed councils continue to work together on the Rogue River Basin-Wide Barrier Assessment Project. This effort has updated information about passage barriers for salmon, lamprey, and trout throughout the basin. In the 2017-2019 biennium this information is being used to help prioritize projects, including restoration efforts in the Applegate, Little Butte and Evans Creek.

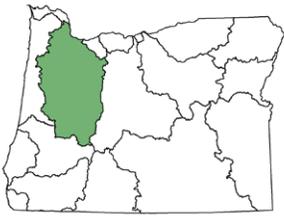
Rogue Investments



Rogue Leveraged Funds



Willamette



The Willamette Basin encompasses the Willamette Valley, the west slope of the Cascades Range, and the east slope of the Coast Range. The Willamette River is the 13th largest river in the lower 48 states and has 13 major water storage reservoirs on its tributaries. Much of the Willamette Valley was originally bottomland riparian hardwood forests, wet prairies, oak savannas, and oak woodlands. Extensive agricultural areas, urbanization, and fire suppression have greatly reduced these habitats.

Today, the basin supports concentrated areas of high technology, diverse agricultural production, forestry and wood products industries, and roughly two thirds of the state's population.

Examples of Actions and Progress in the 2017-2019 Biennium

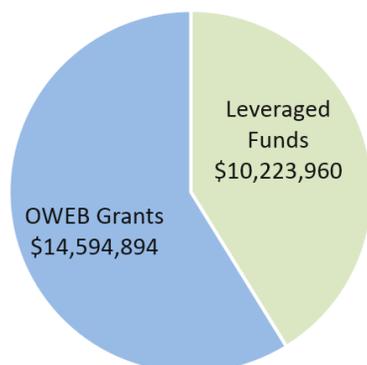
Innovative Restoration in the Sandy River Watershed: Local partners are working with the USFS, BLM, state agencies and others to leverage restoration funding and collect relevant fish monitoring data. Results are encouraging, providing large wood placement to enhance instream habitat for ESA listed fish; demonstrating side channel reconnection in Still Creek in 2018; and enhancing efforts to provide fish passage in 2019. To read the 2017 State of the Sandy and other reports, see the Sandy River Watershed Council website.

Enhancing Upland Habitats: Oak and prairie habitats are integral to several Willamette Basin watersheds, and in the 2017-2019 biennium, efforts to maintain and restore these habitats increased in pace and scale. For example, the Institute for Applied Ecology (IAE) launched an online tool called RestoreNet to help practitioners learn from monitoring and restoration results. Through a series of projects, IAE is working on a phased approach to integrate Traditional Ecological Knowledge into oak and prairie restoration.

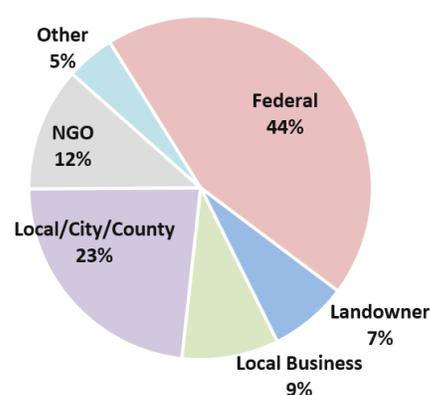
Clackamas Restoration for Native Fish Recovery FIP (awarded 2019): Over a dozen organizations in the eastern Portland metropolitan region have committed to work together towards sustainable native fish populations as well as ongoing economic and social vitality in the region. The Initiative builds on the Lower Columbia River Conservation and Recovery Plan, and includes the Clackamas River from its headwaters to the confluence with the Willamette River with tributaries and confluences of the lower Clackamas River (e.g., Clear, Deep, Rock and Eagle Creeks); a portion of the Willamette River and its floodplain; and watersheds flowing into the east side of the Willamette River, including Abernethy, Kellogg, and Johnson Creeks. Restoration efforts include identifying priority areas; enhancing fish habitat complexity; and addressing challenges from stormwater runoff and impediments to fish passage.

Mainstem Willamette River FIP (awarded 2017): The Willamette Mainstem Anchor Habitat Working Group continued efforts to prioritize restoration work at anchor habitat sites, identified as the best places to best protect native fish. In the second of three biennia anticipated by this FIP, restoration efforts focused on how to reconnect the river with floodplain, re-establish channel complexity, collect monitoring data, and communicate the restoration outcomes. These efforts will benefit ESA-listed spring Chinook and winter steelhead, as well as Pacific lamprey, Oregon chub, and other native fish and aquatic species.

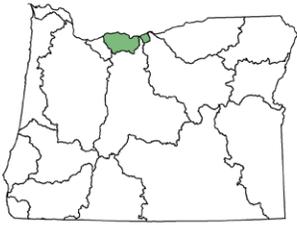
Willamette Investments



Willamette Leveraged Funds



Hood



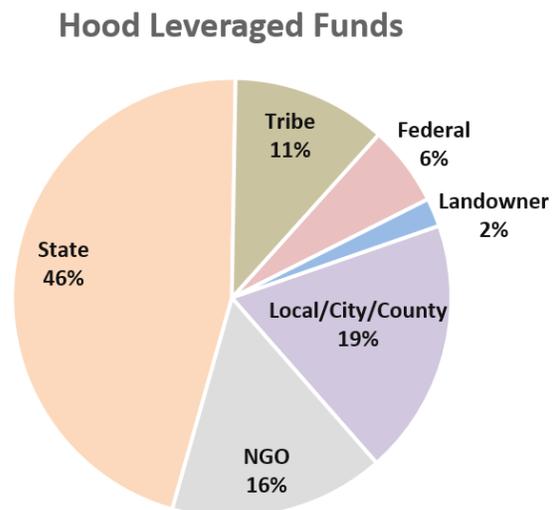
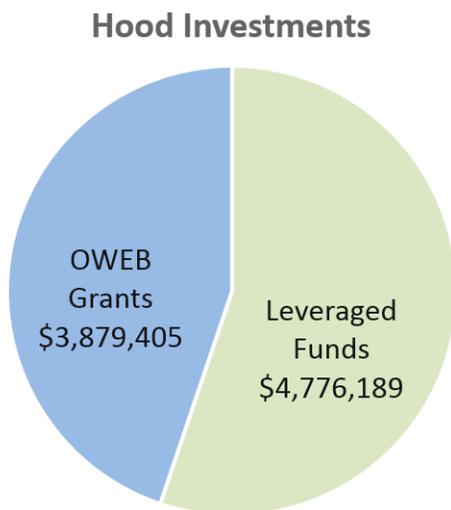
From east to west the Hood Basin includes: Spanish Hollow, Fifteenmile, Mill, and Mosier Creeks; Hood River; and Eagle Creek. All streams flow in a northerly direction discharging directly into the Columbia River either just upstream or downstream of The Dalles Dam. The headwaters for Hood River (Mount Hood), and the smaller Eagle Creek, are in the wetter Cascade Ecoregion. With the exceptions of Mosier Creek, entirely with the Eastern Cascade and Foothills Ecoregion, and Spanish Hollow Creek, entirely within the Columbia Plateau Ecoregion, all other streams flow through both

ecoregions. These watersheds are mostly located in the rainshadow of the Cascades and receive most precipitation in the winter with an occasional summer thunderstorm. Land use is primarily forestry, agriculture, and recreation in the western part of the basin, with dryland wheat and range in the remainder.

Examples of Actions and Progress in the 2017-2019 Biennium

Fifteenmile Water Quality Study: In 2019, DEQ completed a report summarizing sediment and macroinvertebrate data collection efforts in Fifteenmile Creek and its tributaries. Results indicate the percentage of fine sediments has remained at decreased levels over the past twenty years, as much of the agricultural activity in the watershed has transitioned to no-till and direct seeding practices. Continued biological and water quality monitoring in the area will help local partners, and the inter-agency Conservation Effectiveness Partnership, assess responses to natural disturbances such as the widespread wildfires of 2018.

West Fork Hood River collaboration: This unique watershed provides excellent water quality and important cold water refugia for fish and wildlife. Recognizing these values, local partners have teamed up with the USFS, Confederated Tribes of the Warm Springs, and others to plan and implement projects maintaining the area's water quality, and enhancing instream habitat for ESA listed fish species. In the 2017-2019 biennium, projects to benefit instream habitat at Jones Creek and Red Hill were initiated, and a new Development FIP was funded, supporting efforts of the Hood River Water Bank and collaborative working group.



Deschutes



Bordered by the Cascade Range to the west, this basin includes the high Cascade lakes, wild and scenic waterways, and a rapidly growing human population. Tourism, agriculture, forestry, ranching, and the high technology industry dominate the economy of the basin. Fed by snowfields of the Cascade and Ochoco ranges, the basin's headwaters flow from springs through high elevation wet meadows and lava plains before dropping through scenic canyons and shrub steppe. Irrigated agriculture, rangeland, and wheat lands lie along the lower Deschutes. The

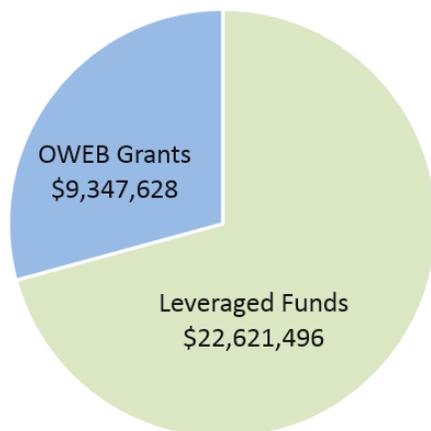
construction of the Pelton (1958) and Round Butte (1965) dams on the Deschutes River completely blocked anadromous fish passage to the upper Deschutes Basin.

Examples of Actions and Progress in the 2017-2019 Biennium

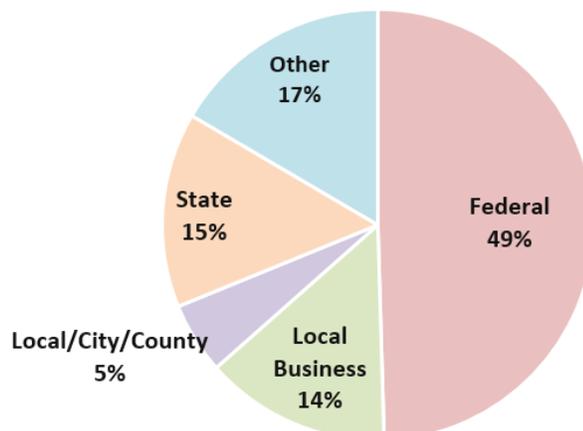
The Deschutes River Basin Habitat Conservation Partnership is a large scale planning effort that will help the City of Prineville and the Irrigation District members of the Deschutes Basin Board of Control meet their water needs while enhancing fish and wildlife habitat. The [HCP](http://www.fws.gov/Oregonfwo/articles.cfm?id=149489716) (www.fws.gov/Oregonfwo/articles.cfm?id=149489716) will cover approximately 10,700 square miles of land in central Oregon. The HCP will help minimize and mitigate impacts on the Oregon spotted frog, bull trout, steelhead, sockeye salmon, and spring Chinook.

Upper Deschutes Basin FIP (awarded 2017): The Deschutes Partnership's FIP initiative seeks to support the recovery, resiliency, and sustainability of resident trout and reintroduced anadromous Chinook and Sockeye Salmon and summer steelhead, through restoration encompassing 226 miles of the upper Deschutes Basin, including Whychus Creek, Metolius River, and Crooked River. Restoration actions include permanent protection of land through acquisition, riparian and floodplain habitat restoration, increasing instream flows in critical habitat areas, and restoring fish passage at priority locations. In 2017-2019, FIP funding helped bring the Opal Springs Fish Passage Project to completion, designing and implementing fish passage at the hydroelectric project on the Crooked River near the town of Culver. The long-term project will allow both upstream and downstream passage for federally protected fish species.

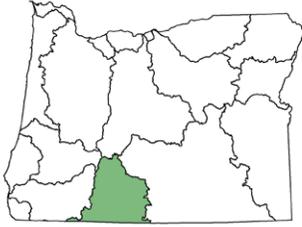
Deschutes Investments



Deschutes Leveraged Funds



Klamath



The Klamath Basin is located in the southern part of Klamath County in the Eastern Cascades Slopes and Foothills Ecoregion. The Basin includes the Klamath River: Sprague, Williamson, Upper Klamath Lake, and Upper Klamath River drainages. The Lost River drainage is also included in this reporting unit. The Oregon portion of the Klamath Basin is in the rain shadow of the Cascade Range. Lower elevations in the basin are arid semi-desert and upper elevations are dry alpine coniferous forests with precipitation higher closer to the crest of the Cascade Range. Primary land use along the basin’s major streams is irrigated agriculture. The majority of these irrigated lands are drained wetlands. The Lost River begins and ends in California, and flows through one of Oregon’s closed basin and begins. The Lost River is part of Bureau of Reclamation’s Klamath Project. Most of the basin is within Klamath County with the eastern edge in Lake County and the southwestern section in Jackson County.

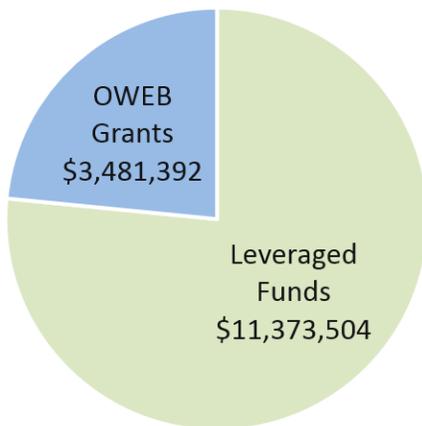
Examples of Actions and Progress in the 2017-2019 Biennium

Klamath River Dam Removal: Coordinated efforts continued to plan the decommissioning and removal of four dams on the Klamath River, anticipated to occur as early as 2022. Technical and policy discussions with tribes, agencies and stakeholders in Oregon and California set the stage to plan this large-scale effort, with anticipated benefits for fish habitat and water quality.

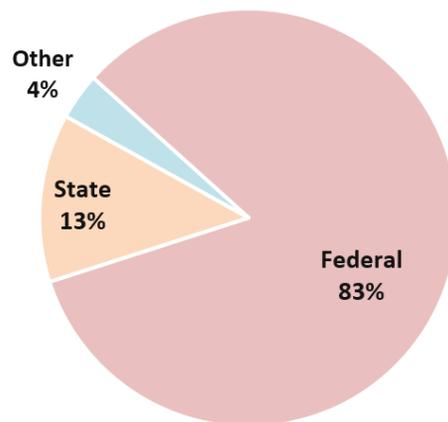
Upper Klamath Lake: In response to concerns about endangered sucker fish, ODA is working state agencies, local partners, farmers and ranchers on a variety of projects to enhance water quality. The goal is to reduce nutrients moving into the lake from nearby agricultural operations, and to avoid the harmful algal blooms the nutrients can cause. In the 2017-2019 biennium, ODA and local partners developed water quality plans with most of the farmers and ranchers around the lake. ODA and other partners, including the Klamath Tribes, have also worked with the landowners to gather water quality data to better understand nutrient sources and project effectiveness.

Klamath-Lake Forest Health Partnership: The Klamath Lake Forest Health Partnership continues to take a holistic approach to restoration that includes the work on dry forest landscapes, wildlife and fisheries habitat, aquatic and riparian resources, road decommissioning, recreation resources, and cultural and social value. The partnership is comprised of private landowners, conservation groups, fire districts, and federal agencies and has been working collaboratively since 1993. In the 2017-2019 biennium, major forest health projects were initiated in the North Warner, Chiloquin, and Thomas Creek areas.

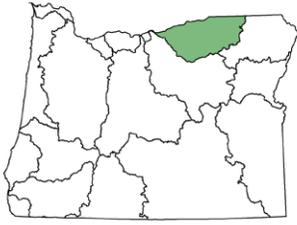
Klamath Investments



Klamath Leveraged Funds



Umatilla



The three major rivers in the Umatilla Basin flow from their headwaters in the Blue Mountain Ecoregion through the Columbia Plateau Ecoregion to the Columbia River. The Umatilla and the Oregon portion of the Walla Walla River basins are mostly in Umatilla County with the majority of the Walla Walla Basin within Washington State. The Willow Creek drainage is located mostly in Morrow County and the confluence with the Columbia River is in Gilliam County. Lower elevations in the basin are arid sagebrush-steppe and grassland flanked by the moister and predominantly forested

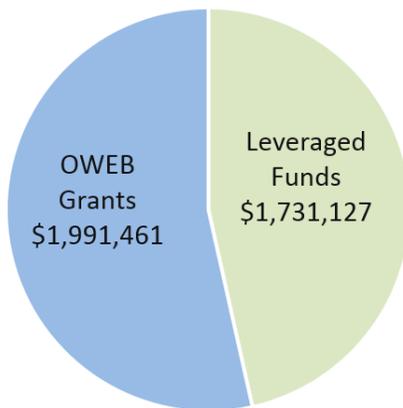
Blue Mountains. The Umatilla Basin is characterized by irrigated agriculture at lower elevations continuing upstream along the major river corridors and grazing at higher elevations.

Examples of Actions and Progress in the 2017-2019 Biennium

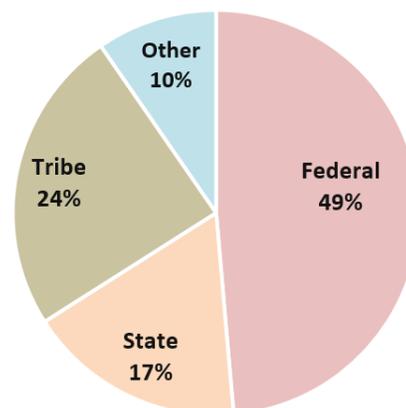
Walla Walla Basin Bi-State Watershed Management Initiative (WMI): The WMI has brought together a large array of stakeholders with an interest in better management solutions and protection of water resources in the basin. A particular area of emphasis is protecting the newly restored stream flows in what had been a seasonally dewatered reach of the Walla Walla River, and the improved groundwater levels resulting from managed aquifer recharge. Partners are collecting basin-wide data about both groundwater and surface water, and have developed a database that integrates and visualizes hydrological and fisheries data to inform decision-making about water resources in the basin.

Umatilla Strategic Implementation Area Monitoring: Led by the Umatilla SWCD, a collaborative group of partners initiated efforts to collect baseline data starting in winter 2019. The goal is to measure bacteria and nutrient levels to better understand the effectiveness of efforts to improve agricultural water quality in this SIA. Monitoring is included in the coordinated inter-agency approach to all SIAs starting in the 2017-19 biennium. The Umatilla team recognized the need for baseline information and was the first to start collecting data, with help from state agencies, Confederated Tribes of the Umatilla Indian Reservation, the Umatilla Basin Umbrella Watershed Council and other partners.

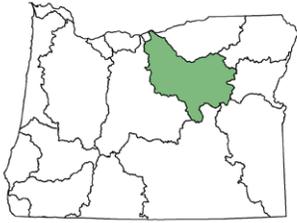
Umatilla Investments



Umatilla Leveraged Funds



John Day



The John Day Basin includes the mainstem of the John Day River and the North, Middle, and South Forks. The John Day River is one of the most significant undammed stream systems in the West. The upper mainstem and the three major forks of the John Day flow from their headwaters in the Blue Mountain Ecoregion. The Lower John Day flows through an incised canyon that bisects shrub-steppe and wheat ranches in the uplands of the Columbia Plateau Ecoregion before flowing into the Columbia River at the eastern edge of the Columbia River Gorge. The tributary streams on the Lower John Day (Rock, Hay, Thirtymile, and Grass Valley Creeks) also originate in the Columbia Plateau Ecoregion. The economy of the basin is dependent on natural resource industries: forest products, farming, ranching, recreation, and mining.

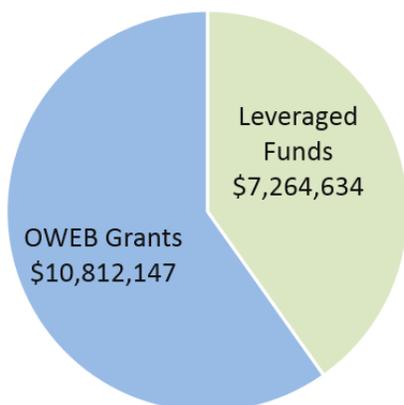
Examples of Actions and Progress in the 2017-2019 Biennium

Lower John Day Sub-Basin Place-Based Planning: This partnership has regularly convened diverse water partners, completing a State of Water Resources Report and beginning work towards a report on Integrated Water Resource Needs and Vulnerabilities. The partnership has hosted outreach meetings and events, presenting to the Tri-County Court and the City Council of Grass Valley, Spray and Condon.

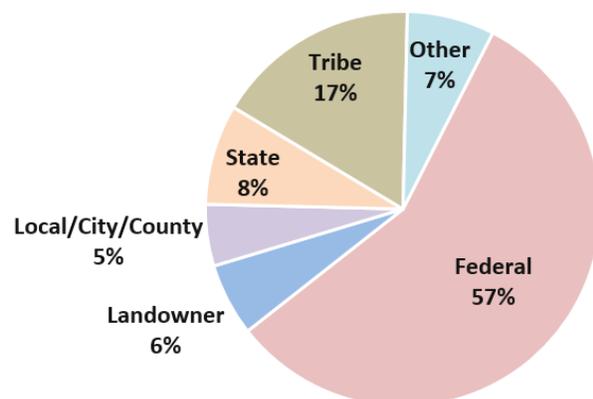
John Day Native Fish Initiative FIP (awarded 2019): The [John Day Partnership](http://johndaybasinpartnership.org) (johndaybasinpartnership.org) consists of 20 partners who have been working together since 2014, prioritizing restoration activities, and leveraging resources to restore the basin. The partnership completed a Strategic Action Plan in 2017 to identify the best areas for restoration to achieve those outcomes in the John Day Basin. Efforts continued through the 2017-2019 biennium to increase cold water and summer base flows in the system, and improve ecosystem processes that support increasing populations of wild summer steelhead, spring Chinook, Bull Trout, and other native fish.

The [Middle Fork John Day River Intensively Monitored Watershed \(IMW\)](http://www.middleforkimw.org) (www.middleforkimw.org) continues to coordinate monitoring efforts, building from recommendations described in 2017's synthesis report, working to communicate about restoration progress. IMWs are watershed-scale monitoring efforts designed to answer questions at a broad, watershed-level scale. Monitoring results from the Middle Fork John Day River IMW provide insights into stream temperature, fish populations and habitat quality. These results are of interest to funders, restoration practitioners, and the IMW community throughout the Pacific Northwest.

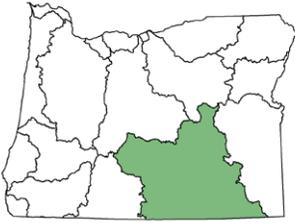
John Day Investments



John Day Leveraged Funds



Lakes Basin



The Lakes Basin is an area of closed watersheds where streams flow through the desert landscape of Lake, southern Harney, and southwestern Malheur counties and eventually into inland lakes like Malheur, Abert, Silver, Summer, Goose, and Warner, instead of flowing to the ocean. Ranching and forest products principally support the basin's communities.

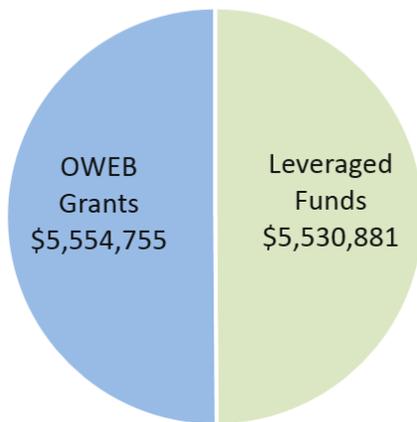
Examples of Actions and Progress in the 2017-2019 Biennium

Harney-Malheur Lake Basin Placed-Based Planning: Collaborative efforts continue to examine water needs in Harney County and develop a strategic plan to address future demand and challenges. Diverse partners continue to convene regularly, including efforts to summarize available water data, and a two-day Solutions Summit to define potential solutions to address critical water issues. Partners are pursuing funding for a Groundwater Market feasibility assessment and exploring further study in selected areas of the aquifer to ascertain if opportunities exist for future groundwater development.

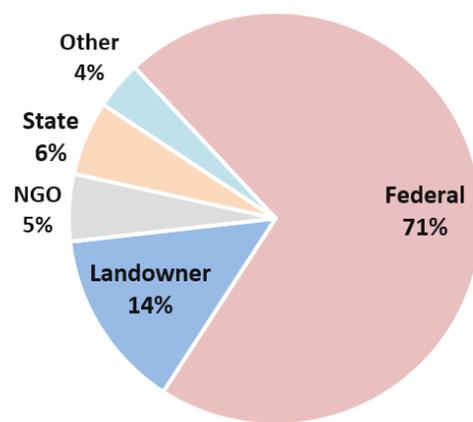
Harney Basin Wetlands Initiative FIP (awarded 2017): The Harney Basin Wetlands Initiative includes a diverse group of partners collaborating to address invasive carp and issues impacting water quality in Malheur and Harney Lakes and their tributaries. The partnership is also seeking to maintain traditional flood irrigation practices in floodplains across the basin that sustain seasonal wetland habitats and provide crucial habitat for migratory birds through the Pacific Flyway. In the 2017-2019 biennium, efforts continued to understand the factors contributing to poor water quality and to implement on-the-ground actions to conserve floodplain habitat.

Warner Basin Fish Passage and Habitat Improvement FIP (awarded 2019): Partners are identifying how to connect streams and lakes in the Warner Basin to help the Warner Lakes redband trout and the federal endangered Warner Sucker. The partnership is engaging with the local communities, landowners, and irrigation districts in Honey Creek, Twentymile Creek and Deep Creek. Projects will focus on enhancing fish passage and instream water flows, and explore bioengineering projects in priority areas to improve water quality and provide access to high quality habitat. With community engagement, the Initiative will also consider approaches to improve irrigation efficiency and address impacts of invasive non-native fish species.

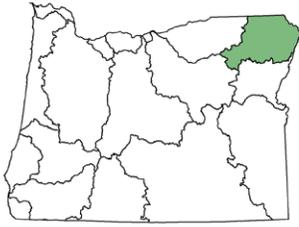
Lakes Investments



Lakes Leveraged Funds



Grande Ronde



The Willowa, Grande Ronde, and Imnaha rivers flow from the majestic Willowa Mountains to the Snake River. Mountain headwater streams in subalpine forests transition through deep canyons and meander through agricultural communities in the lowlands before flowing once again through deep canyons to join the Snake River. This basin is the historic homeland of the Chief Joseph band of the Nez Perce Tribe. Ranching, agriculture, and forest products are important to the economy in this basin. Nestled between the Imnaha and Grande Ronde rivers, Zumwalt Prairie supports the highest density of raptors in Oregon.

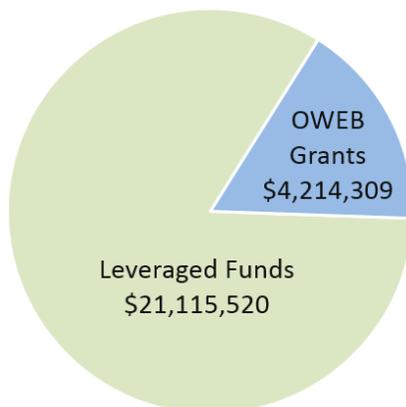
Examples of Actions and Progress in the 2017-2019 Biennium

Upper Grande Ronde Sub-Basin Place Based Planning: This partnership has produced an Integrated Water Resources Needs and Vulnerabilities report, held regular meetings of diverse stakeholders, identified over 100 strategies to address local water needs, and collaborated with other place-based planning groups.

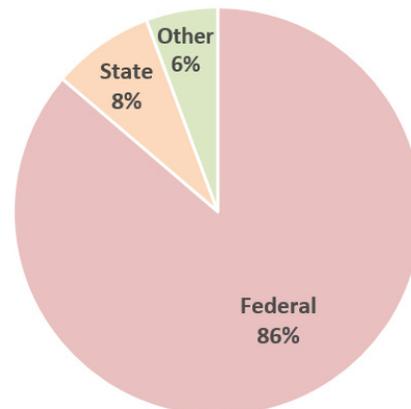
Upper Grande Ronde FIP (awarded 2017): The Upper Grande Ronde Restoration Partnership includes the Grande Ronde Model Watershed, Confederated Tribes of the Umatilla Indian Reservation, the Union County SWCD, USFS, and ODFW. In the 2017-2019 biennium, the Partnership is implementing projects at a watershed scale based on a strategic plan that prioritizes habitat restoration in biologically significant reaches of the Upper Grande Ronde and Catherine Creek to improve native fish habitat, including ESA-listed spring/summer Chinook Salmon, summer steelhead, and Bull Trout. The plan identifies key restoration locations and actions to increase knowledge of limiting factors affecting survival rates of ESA-listed fish species, improve fish habitat quantity and quality, and promote partnership-building among land owners and land managers to facilitate long-term ecological stewardship in the greater Upper Grande Ronde watershed.

Alder Slope Cooperative Partnership: In the Willowa sub-basin, the Willowa SWCD, Oregon Department of Forestry (ODF) and landowners are cooperating to address irrigation inefficiencies and high fuel loads as high-priority action items. Alder Slope was identified as “high risk” for wildfire by an ODF inventory. Reducing fuel loads and improving irrigation conveyance and more efficient on-farm systems are key outcomes.

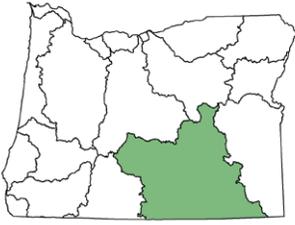
Grande Ronde Investments



Grande Ronde Leveraged Funds



Powder



Draining south and east from the Blue Mountains, the Powder and Burnt Rivers flow to the middle Snake River and eventually to the Columbia River. The Powder Basin is a complex landscape which includes the Blue and Elkhorn Mountains to the west and the Wallowa Mountains to the northeast. This topographic complexity results in a diverse mix of ecosystems including shrublands, grasslands, and forests, as well as climatic zones. The basin receives from 10 to 60 inches of precipitation annually.

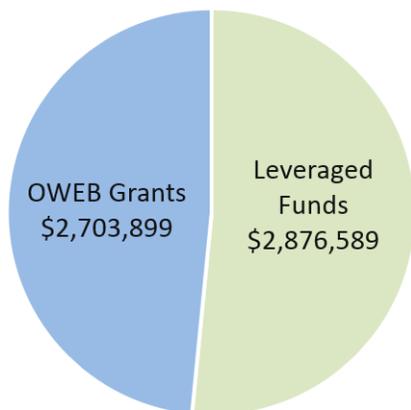
A variety of economic activities occur in the basin including ranching, agriculture, and mining. The Powder Basin contains remnants of the original Oregon Trail traveled by settlers in covered wagons.

Examples of Actions and Progress in the 2017-2019 Biennium

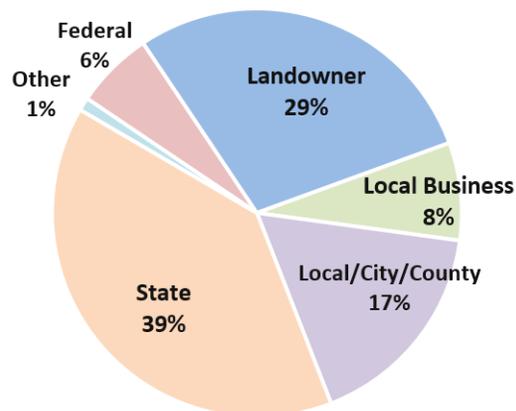
Baker Comprehensive Sage Grouse Threat Reduction FIP (awarded 2019): This effort supports the Baker Local Implementation Team (LIT) to develop and implement collaborative conservation plans, while meeting the needs of the local community. In Baker County, sage-grouse populations are geographically isolated from other, more stable populations in Oregon, and have experienced steep declines throughout the past decade. The LIT will augment voluntary efforts to address known range-wide concerns for sage-grouse, including invasive annual grasses; wildfire; and juniper encroachment.

Collaboration in the Cusick, Pine, and Eagle Creek Watersheds: The Eagle Valley and Keating SWCDs and Idaho Power Company continue successful collaboration irrigation efficiency projects and push-up dam conversions in the Cusick, Pine, and Eagle Creek watersheds. Irrigation projects converting from flood to sprinkler irrigation improves water quality in critical Bull Trout habitat. Push-up dam replacements with fish-friendly, construction-ready designs are planned for Pine Creek and Eagle Creek. Idaho Power provides technical assistance for development of these projects.

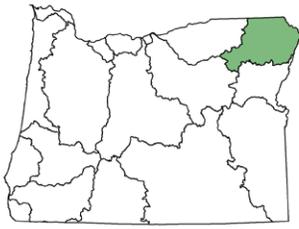
Powder Investments



Powder Leveraged Funds



Owyhee-Malheur



The Owyhee-Malheur Basin is located on the eastern edge of the state and is drained by the Owyhee and Malheur Rivers. The landscape of Owyhee-Malheur is harsh and dry, composed of scattered rock outcrops and vast expanses of semi-arid sagebrush-steppe. The lower portions of the Owyhee and Malheur basins, along the western edge of the Treasure Valley, support rich irrigated agriculture and are particularly known for production of Spanish onions. Both the upper Malheur and Owyhee basins are primarily used for cattle ranching, including numerous ranches and large

tracts of land managed by the BLM.

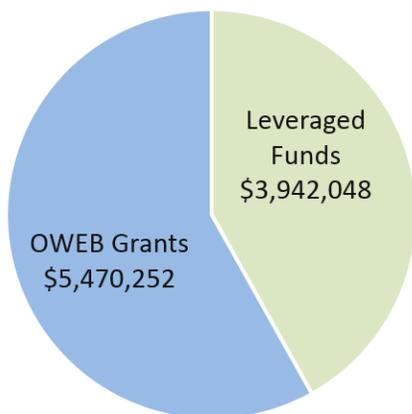
Examples of Actions and Progress in the 2017-2019 Biennium

Irrigation Improvements lead to Water Quality Outcomes in Malheur and Owyhee Basins: Local partners are leading efforts to show water quality outcomes in some of Oregon’s most remote and ecologically diverse watersheds. For example, nutrient and sediment levels are decreasing in the Malheur Basin, shown through efforts reported in 2019 by the Malheur Watershed Council and partners. In Fletcher Gulch, southwest of the town of Ontario, investments in irrigation improvement projects are leading to improved stream flow and water quality.

Owyhee Weed Wars: This long-standing weed program has surveyed over 225,000 acres in southern Malheur County. In 2019, a project to augment the program’s successful outreach, inventory, weed treatment, and other natural resource services was launched, under coordination through the Owyhee Watershed Council and with Jordan Valley Cooperative Weed Management Area as the hub for the weed treatment efforts. The program serves a critical weed control need in the area, covering 4 million acres of sparsely populated rangeland in Malheur County.

Oregon Model to Protect Sage Grouse, All Counties FIP (awarded 2017): This FIP works closely with private landowners to identify innovative solutions to conserve habitat for the Greater sage-grouse. For example, the initiative supports Candidate Conservation Agreements with Assurances (CCAAs) for privately owned sage-grouse habitat; and provides funding and technical assistance to remove juniper and treat exotic annual grasses in sage grouse habitat.

Owyhee-Malheur



Owyhee-Malheur Leveraged Funds

