

SALMON RECOVERY 2015 GRANTS AWARDED



Grants Awarded in Asotin County

\$481,595

Asotin County Conservation District Assessing Snake River Tributaries

Grant Awarded: \$100,000

The Asotin County Conservation District will use this grant to assess the watershed and develop a conceptual restoration plan for Snake River tributaries in Asotin County, including Alpowa, Asotin, Couse, George, and Tenmile Creeks. These tributaries are used by Snake River steelhead, Snake River Spring Chinook Salmon, Columbia River Bull Trout and, to a lesser extent, Snake River Fall Chinook Salmon, all of which are listed as threatened with extinction under the federal Endangered Species Act. The assessment will evaluate existing information, conduct habitat surveys, identify priority projects and locations, and develop conceptual restoration designs. The guiding principle of this assessment will be to focus on improving the habitat factors limiting salmon production and survival. The Asotin County Conservation District will contribute \$30,000 in donations of cash. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1308)

Nez Perce Tribe Designing Fish Passage Improvements in Buford Creek

Grant Awarded: \$97,550

The Nez Perce Tribe will use this grant to develop final construction designs to modify or replace a large pipe, also called a culvert, which carries Buford Creek under State Highway 129 near the Oregon and Washington border. The pipe is a barrier to fish passage. Buford Creek flows directly into the Grande Ronde River just 2.2 miles below the barrier providing critical habitat for steelhead in that reach as well as 1.9 miles of critical habitat above the barrier. Potential rearing and spawning habitat exists for nearly 5 miles upstream of the barrier. Buford Creek is used by Snake River steelhead, which are listed as threatened with extinction under the federal Endangered Species Act. The Nez Perce Tribe will contribute \$26,650 in donations of labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1320)

Washington Department of Fish and Wildlife Adding Logs to Asotin County Creeks

Grant Awarded: \$125,626

The Department of Fish and Wildlife will use this grant to maintain and enhance previously placed wood habitat structures in the south and north forks of Asotin Creek and in Charley Creek. The creeks are the site of an Intensively Monitored Watershed project southeast of Clarkston, which was started in 2008 and is expected to run until 2019. The monitoring project is analyzing the effectiveness of placing large tree root wads and logs in creeks to improve fish habitat and the effect they have on fish. The information will be used to provide recommendations for implementing similar restoration projects in other watersheds. In addition,

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the department will add trees with root wads and large logs to a new area in the lower portion of the South Fork Asotin Creek to increase the overall treated length being studied. Large wood structures, such as logjams, in rivers create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they change the flow of the river, creating riffles and pools, which give salmon more varied habitat. It is critical at this stage in the monitoring project to maintain the high levels of woody materials in the creek. The creeks are used by steelhead, spring Chinook Salmon and Columbia River Bull Trout, all of which are listed as threatened with extinction under the federal Endangered Species Act. The Department of Fish and Wildlife will contribute \$25,000 in donations of equipment and materials. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1321)

Washington Department of Fish and Wildlife **Grant Awarded: \$158,419** **Monitoring Salmon and Steelhead in Asotin and Charlie Creeks**

The Department of Fish and Wildlife will use this grant to support 1 year of monitoring for the Intensively Monitored Watershed project in North and South Forks of Asotin Creek and in Charley Creek. This monitoring project, which started in 2008 and is expected to run until 2019, is analyzing the effectiveness of placing large tree root wads and logs in creeks to improve habitat and the effect they have on fish. The information will be used to provide recommendations for implementing similar restoration projects in other watersheds. The budget, currently provided by Pacific States Marine Fisheries Commission has been cut from an average of \$250,000 to \$100,000. It is critical at this stage of the project to maintain the basic monitoring level to ensure its goals can be completed. The creeks are used by steelhead, which are listed as threatened with extinction under the federal Endangered Species Act. All data will be made available publicly. The Department of Fish and Wildlife will contribute \$35,000 in donations of equipment and materials. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1315)

Grants Awarded in Chelan County **\$1,554,185**

Chelan County **Grant Awarded: \$34,185** **Mapping Roads to Identify Erosion Problems**

The Chelan County Natural Resources Department will use this grant to map about 200 miles of forest roads in the Nason Creek watershed, document sediment delivery problems, and prioritize places for projects to address erosion. The cumulative effects of logging, development, and roads on stream channel function and sediment delivery are not fully known. A final report will include photographs of problem areas, identifying potential project areas and sediment modeling results, and develop drainage point maps to help prioritize projects. Unmaintained

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roads can cause too much fine sediment to enter Nason Creek. Once there, the sediment can smother fish eggs in spawning areas. Nason Creek is one of the most critical areas in the Wenatchee watershed for endangered spring Chinook Salmon and also is important for steelhead and Bull Trout. Chelan County will contribute \$7,004 in a federal grant. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1209)

Chelan County

Grant Awarded: \$750,000

Restoring the Upper White Pine Floodplain

The Chelan County Natural Resources Department will use this grant to restore about a half-mile of Nason Creek to improve and increase salmon habitat. The area to be restored is off the U.S. Forest Service's White Pine Road and upstream of the town of Merritt. When the Burlington Northern Santa Fe Railroad was built in the late 1950s, Nason Creek was moved to flow between two levees, which now protect the Chelan County Public Utility District power lines to the north and the railroad to the south. The creek bed is incised and Nason Creek is disconnected from its 30-acre floodplain wetland to the north. Endangered spring Chinook Salmon and steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, do not spawn in the project area; however, they do just upstream and downstream of the area. Chelan County plans to re-locate the power lines out of the floodplain; remove about a half-mile of the left levee; re-locate about quarter-mile of the now-straightened creek so it can meander within the floodplain; provide more than 8 acres of floodplain rearing habitat; re-connect about 30 acres of channel migration zone; and place tree root wads and large logs in the creek. The root wads and logs create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they change the flow of the river, creating riffles and pools, which give salmon more varied habitat to feed and rest. Chelan County will contribute \$780,000 in a state grant. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1210)

Trout Unlimited Inc.

Grant Awarded: \$500,000

Building Step Pools to Help Fish Migration

Trout Unlimited Inc. will use this grant to build a step pool channel so that fish can travel upstream of what is locally known as the Boulder Field on Icicle Creek. The work will allow fish access to the wilderness headwaters, reconnecting lower reaches with more than 23 miles of Icicle Creek and dozens of additional miles of pristine tributary habitat. The creek is used by steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, and Bull Trout. Icicle Creek is the largest tributary of the Wenatchee River subbasin. Trout Unlimited Inc. will contribute more than \$1 million in other grants. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1219)

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Trout Unlimited Inc.

Grant Awarded: \$270,000

Improving the Lower Wenatchee River Water Flow

Trout Unlimited Inc. will use this grant to encase 2.5 miles of the Wenatchee River in pipes for irrigation, which will save water and improve water quality. The Jones Shotwell Ditch Company diverts water from the Wenatchee River to irrigate about 400 acres of mostly fruit trees. The river travels through about 2.5 miles of open earthen and concrete ditches. By replacing the open ditches with pipes, less water will evaporate and less will need to be taken from the river, leaving more water in the river for fish. In addition, the water will be less likely to pick up pesticides, nutrients, chemical pollutants, and warm tailwater, improving water quality. The project will have the greatest impact during late summer when low flows and high water temperatures impact a variety of fish, including endangered spring Chinook Salmon; steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, and Bull Trout. Trout Unlimited also will build a pump station and pump infrastructure that will maintain constant pressure in the pipeline, which is more efficient and reduces the amount of water diverted for irrigation. Trout Unlimited Inc. will contribute more than \$1.4 million in another grant. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1220)

Grants Awarded in Clallam County

\$4,541,462

Coastal Watershed Institute

Grant Awarded: \$484,750

Buying and Restoring Land along the Elwha River

The Coastal Watershed Institute will use this grant to buy, provide public access to, and plan the restoration of 25 acres, including 870 feet of saltwater shoreline, next to the expanding Elwha River delta at the river's mouth. About a third of a mile of failed bank armoring now litters the shoreline in front of and next to this property. The institute will design and get permits to remove tideland armoring. The institute also will remove 10 structures, a tennis court, paved roads, two septic systems, and livestock from sensitive, wetland buffers. The work will re-engage dynamic, natural, habitat-forming processes for nearshore and wetland habitats that support Chinook Salmon, Bull Trout, and Eulachon, all of which are endangered. The Coastal Watershed Institute has applied to the U.S. Fish and Wildlife Service for a \$1 million grant to help fund this project. Other contributing partners besides the institute include the North Olympic Land Trust, the Surfrider Foundation, Built Green, and the North Peninsula Building Association. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1045)

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Lower Elwha Klallam Tribe **Restoring the Pysht River Floodplain**

Grant Awarded: \$635,939

The Lower Elwha Klallam Tribe, in partnership with the Makah Tribe, Merrill and Ring, the North Olympia Land Trust, and two landowners will use this grant to install 32 logjams and 350 feet of floodplain fencing, and plant the banks of the Pysht River, as part of a long-term effort to improve salmon habitat in the river and its major tributaries. Because of historic logging and removal of wood from streams, the entire watershed doesn't have enough logjams in its streams and the age and composition of shoreline forests are not adequate to support habitat-forming processes. Since 1994, the Lower Elwha Klallam Tribe has completed a series of restoration projects focusing on adding tree root wads and large logs to channels and replanting shorelines. Logjams create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, logjams change the flow of the river, creating riffles and pools, which give salmon more varied habitat. Planting trees and bushes along a shoreline helps shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. The Pysht River is used by Chinook, Coho, and Chum salmon and steelhead and Cutthroat Trout. The Lower Elwha Klallam Tribe and the Makah Tribe, along with others, will contribute \$276,500. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1061)

Jamestown S'Klallam Tribe **Removing the Dungeness River Railroad Bridge to Improve Habitat**

Grant Awarded: \$1,530,000

The Jamestown S'Klallam Tribe has used this grant to remove a 585-foot-long railroad trestle and its fill from the Dungeness River floodplain, near Sequim. The work, which is almost complete, will restore salmon habitat-forming processes on about 15 acres of floodplain, numerous side channels, and one-third mile of the Dungeness River. This project was approved in May because the trestle was damaged by flooding and the bridge subsequently closed. The trestle supports the Olympic Discovery Trail. The trestle was built on narrowly spaced creosoted pilings, which, along with the fill, have constrained the river channel to 150-foot-wide opening at the bridge for more than 60 years. Upstream of the trestle, the river meanders significantly, but narrow channel at the trestle has caused channel instability and damaged salmon habitat. The river is used by Puget Sound Chinook Salmon, steelhead, eastern Strait of Juan de Fuca summer Chum Salmon, and Bull Trout, all of which are listed as threatened with extinction under the federal Endangered Species Act, along with fall Chum, Coho, and Pink salmon. The Tribe has replaced the trestle with a 750-foot-long bridge. The Jamestown S'Klallam Tribe will contribute \$270,000 from a Floodplains by Design grant from the Washington Department of Ecology and \$606,100 in other funding from the Tribe, the Peninsula Trails Coalition, and the Bureau of Indian Affairs' Climate Adaptation program. This grant is from the [Puget Sound Acquisition and](#)

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[Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1053)

Jamestown S'Klallam Tribe

Grant Awarded: \$1,157,700

Restoring Dungeness River Floodplain

The Jamestown S'Klallam Tribe will use this grant to restore more than 29 acres of floodplain habitat along the Dungeness River, near Sequim. During the past century, more than 800 acres of the Dungeness River's floodplain was disconnected from the river through the construction of levees, roads, and other infrastructure. Interested people have worked for decades to reconnect a fraction of the lost floodplain. Opportunities for floodplain restoration are rare and usually expensive. However, this project is expected to cost less than one-third the costs of similar floodplain restoration projects and can be completed in less than 2 years. The Tribe will retire at least six development rights, move four houses from harm's way, remove infrastructure from the floodplain, and permanently conserve floodplain habitat and salmon habitat-forming processes. These actions will benefit Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act, and Bull Trout; Chum, Coho, and Pink salmon; and steelhead. In addition, the project will increase public access and recreation opportunities just minutes from Sequim. Recovery of sustainable, harvestable runs of salmon on the Dungeness is a cultural and economic priority of the Tribe and this project is an important step towards that goal. The Jamestown S'Klallam Tribe will contribute \$204,300 from a Floodplains by Design grant from the Washington Department of Ecology. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1055)

Makah Tribe

Grant Awarded: \$122,902

Restoring the Shorelines of Big River and Umbrella Creek

The Makah Tribe will use this grant to remove and treat non-native plants along 12 miles of Big River and 6 miles of Umbrella Creek, to improve salmon habitat. Big River and Umbrella Creek flow into Lake Ozette in northwest Clallam County. This work will allow native plant communities to re-inhabit stream banks that currently are infested with non-native weeds. The Tribe will conduct an extensive survey of Big River and Umbrella Creek to document and map invasive weeds. Target species include knotweeds and reed canarygrass. Following treatment, the Tribe will plant native trees, shrubs, and grass species on 2 acres of Umbrella Creek shoreline. The river and creek are used by endangered Lake Ozette Sockeye Salmon, as well as Coho and Chinook salmon, steelhead, and Cutthroat Trout. The Makah Tribe will contribute \$93,812 in cash and donations of labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1257)

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North Olympic Salmon Coalition Restoring Sequim Bay Shoreline

Grant Awarded: \$400,221

The North Olympic Salmon Coalition will use this grant to restore a quarter-mile of Sequim Bay shoreline along the eastern Strait of Juan de Fuca in Clallam County. Restoration will take place on land given by the Dawley family to the U.S. Fish and Wildlife Service for conservation. The salmon coalition will remove 450 feet of armoring, bulkheads, fill, a house, a pier, and pilings. The shoreline will be re-contoured to blend into undisturbed adjacent beaches and then planted with native plants. Planting native trees and bushes along a shoreline helps shade the water, providing refuge for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep the soil from entering the water, where it can smother fish spawning gravel. This project also will improve water quality in Sequim Bay because toxic creosoted pilings will be removed. The bay is used by Hood Canal Summer Chum Salmon, which are listed as threatened with extinction under the federal Endangered Species Act. The North Olympic Salmon Coalition will contribute \$70,629 in a federal grant. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1051)

Pacific Coast Salmon Coalition Replacing the Colby Creek Culvert

Grant Awarded: \$209,950

The Pacific Coast Salmon Coalition will use this grant to remove a cluster of four undersized, pipes that carry Colby Creek under roads and replace them with a bridge on Rayonier's 5000 Line forest road, west of Forks in Clallam County. The work will allow fish access to 4 miles of spawning and rearing habitat above the new bridge in Colby Creek, a tributary to the Dickey River, which is part of the Quillayute watershed. Colby Creek is used by Chinook and Coho salmon, steelhead, and Cutthroat Trout. Pacific Coast Salmon Coalition will contribute \$113,050 in donations of cash and materials from Rayonier This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1250)

Grants Awarded in Clark County

\$579,590

Clark Public Utilities Restoring McCormick Creek

Grant Awarded: \$325,000

Clark Public Utilities will use this grant to restore the lower half-mile of McCormick Creek, a tributary to the lower East Fork Lewis River near La Center. Crews will place tree root wads and large logs in the creek and plant the creek's banks and floodplains. Assessments and surveys have identified impaired habitat in lower McCormick Creek, including severe incision, low number of pools, too few large pieces of wood, too much fine sediment that can smother spawning gravel, and impaired shoreline plants. Tree root wads and large logs create places for

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fish to rest and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they change the flow of the river, creating riffles and pools, which give salmon more varied habitat. Planting trees and bushes along a shoreline helps shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep the soil from entering the water, where it can smother fish spawning gravel. The creek is used for spawning and rearing by Coho and Chum salmon and winter steelhead, all of which are listed as threatened with extinction under the federal Endangered Species Act. Clark Public Utilities will contribute \$266,000 in a state grant and donations of labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1119)

Lower Columbia Estuary Partnership Restoring the East Fork Lewis River

Grant Awarded: \$254,590

The Lower Columbia Estuary Partnership will use this grant to improve habitat for salmon species in the East Fork Lewis River and at two unnamed side channels. The partnership will lower the bed of the side channels and place trees with root wads and large logs in the river to increase habitat. Logs create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they change the flow of the river, creating riffles and pools, which give salmon the varied habitat they need. The partnership also will remove invasive weeds and replant a half-mile of river bank. Planting trees and bushes along a river bank helps shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. The river is used by Chum, Coho, and Fall Chinook salmon, and summer and winter steelhead, all of which are listed as threatened with extinction under the federal Endangered Species Act as well as by native aquatic species, including Lamprey. The Lower Columbia Estuary Partnership will contribute \$80,400 in a state grant. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1113)

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Grants Awarded in Columbia County

\$767,332

Blue Mountain Land Trust

Grant Awarded: \$45,050

Conserving the Touchet River and its Shorelines

The Blue Mountain Land Trust will use this grant to buy a voluntary land preservation agreement¹ for about 15 acres of a 40-acre parcel on the Touchet River, about 5 miles east of Waitsburg. The agreement will cover a half-mile of the Touchet River to the center line, 11 acres of shoreline, and 4 acres of agricultural land. With the agreement, the land trust will be able to permanently protect the shoreline and floodplain from damage caused by development and land management. The Touchet River is used by middle Columbia River steelhead and Columbia River Bull Trout, both of which are listed as threatened with extinction under the federal Endangered Species Act, and by Chinook Salmon. An enlarged shoreline buffer acquired in the agreement will allow for future channel and habitat restoration. This grant also will be used for a property survey, legal descriptions of the zones within the agreement, a baseline inventory, and recording of the agreement on the property deed. The Blue Mountain Land Trust will contribute \$7,950 in donations of cash, labor, and property interest. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1318)

Columbia Conservation District

Grant Awarded: \$38,151

Adding Logs to the Little Tucannon River to Improve Habitat

The Columbia Conservation District will use this grant to install a series of log structures and large wood pieces in the Little Tucannon River, south of Pomeroy, in Columbia County to improve habitat diversity and floodplain connection. The logs will create places for fish to rest, feed, and hide from predators. They also will slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they will change the flow of the river, creating riffles and pools, which give salmon the varied habitat they need. This project will focus on the lower 1.5 miles of river, which provide spawning and rearing habitat for Snake River steelhead and Columbia River Bull Trout, both of which are listed as threatened with extinction on the federal Endangered Species Act. The district will use large tree root wads and logs from surrounding hillsides to place in the river where habitat diversity and floodplain connectivity are lacking. The Columbia Conservation District will contribute \$18,461 in donations of cash, labor, and materials. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1317)

¹A land preservation agreement, also called a conservation easement, is a voluntary agreement between a landowner and private land conservation organization or a government agency. The landowner maintains ownership of the land, continues to manage it, and receives compensation, such as cash, reduced taxes, or other incentives, in exchange for limiting development on the land.

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Confederated Tribes of the Umatilla Indian Reservation Starting Restoration of the North Fork Touchet River

Grant Awarded: \$460,131

The Confederated Tribes of the Umatilla Indian Reservation will use this grant to restore about a three-quarter mile reach of the North Fork Touchet River, near Dayton. The Tribe will increase the floodplain by about 12 acres, lengthen the main channel by 800 feet, enhance or create multiple side channels, modify the channel bed to form riffles and pools, and place about 140 pieces of large wood in the river. The large tree root wads and logs will create places for fish to rest, feed, and hide from predators. They also will slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they change the flow of the river, creating riffles and pools, which give salmon more varied habitat. The Touchet River is used by middle Columbia River steelhead and Columbia River Bull Trout, both of which are listed as threatened with extinction under the federal Endangered Species Act, and by Chinook Salmon. The Confederated Tribes of the Umatilla Indian Reservation will contribute \$129,686 in donations of cash. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1306)

Washington Department of Fish and Wildlife Placing Logs in the Tucannon River to Repair Fish Habitat

Grant Awarded: \$165,000

The Department of Fish and Wildlife will use the grant to place tree root wads and large logs in 2 miles of the Tucannon River, in the William T. Wooten Wildlife Area. The Tucannon River, like most rivers, has been altered by humans. Where once large reaches of the river had pools and riffles, now there is uniform river beds and not enough diversity in types of habitat. The department will place the root wads and logs in the river to create places for fish to rest, feed, and hide from predators. The woody materials also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they change the flow of the river, creating riffles and pools, which give salmon more varied habitat. In addition to placing the logs, the department will reconnect historic side channels, which are used by fish to rest and hide from predators, and breach a dike to improve floodplain connection. The river is used by Snake River Spring Chinook Salmon, steelhead, and Columbia Bull Trout, all of which are listed as threatened with extinction under the federal Endangered Species Act. This project is part of a larger restoration project being done on the Tucannon River. The Department of Fish and Wildlife will contribute \$100,000 in donations of cash. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1323)

Washington Department of Fish and Wildlife Studying Tucannon Salmon and Steelhead Survival and Habitat Use

Grant Awarded: \$59,000

The Department of Fish and Wildlife will use this grant to study the survival rates, habitat use, and potential carrying capacity limitations for wild-origin spring Chinook Salmon and summer steelhead in the Tucannon River. The information will help direct habitat restoration efforts to

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ensure they address the most critical limiting factors to fish survival. The relative distribution of juvenile overwintering and migration habitats in the Tucannon River, and associated survival rates within those habitats are unknown, and critical to recovery actions. The department will attempt to identify if, when, and where the population bottlenecks exist for the fish in the Tucannon River by tagging juvenile fish and monitoring their movement across the watershed. The department also will conduct electrofishing surveys to capture fish and mark them with PIT tags. The Department of Fish and Wildlife will contribute \$45,000 in donations of equipment. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1322)

Grants Awarded in Cowlitz County

\$1,308,535

Cowlitz Conservation District

Grant Awarded: \$185,300

Placing Logjams in Germany Creek to Create Fish Habitat

The Cowlitz Conservation District will use this grant to install logjams in Germany Creek to increase the number and types of habitat in this Cowlitz County creek. Logjams create places for fish to rest and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, logjams change the flow of the river, creating riffles and pools, which give salmon more varied habitat. The work is being done in a private forest owned by the Mark Andrews and Richard Woods Trust. Germany Creek is used by fall Chinook and Coho salmon, both of which are listed as threatened with extinction under the federal Endangered Species Act, and by winter steelhead. The logjams will span the river channel and create pools in the center of the channel, which will be used for both rearing and spawning. The Cowlitz Conservation District will contribute \$33,100 in a state grant and donations of labor and materials. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1040)

Cowlitz Conservation District

Grant Awarded: \$260,625

Restoring Germany Creek

The Cowlitz Conservation District will use this grant to place tree root wads and logs in Germany Creek and its tributary. The woody materials will be placed in two side channels to improve connectivity and help maintain the channel long-term. The conservation district plans to plant trees along the shoreline of Germany Creek and the tributary streams. The work will be done on the Smith Ranch. Placing woody materials in streams slows the water, creating pools and places for fish to rest, feed, and hide from predators. Slowing the water also reduces erosion and allows gravel to settle out of the river, creating areas for spawning. Bare stream banks in several areas are allowing the banks to erode faster. The restoration work will increase the types of habitat found in the lower end of two tributary streams. The restoration will benefit Chinook and Coho

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salmon, both of which are listed as threatened with extinction under the federal Endangered Species Act, and steelhead. The Cowlitz Conservation District will contribute \$46,000 in federal and state grants and donations of labor and materials. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1039)

Cowlitz Indian Tribe Restoring Abernathy Creek Habitat

Grant Awarded: \$810,907

The Cowlitz Indian Tribe will use this grant to install whole trees and wood accumulations in 1.3 miles of upper Abernathy Creek and Ordway Creek, west of Longview in Cowlitz County. The woody materials will create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they change the flow of the river, creating riffles and pools, which give salmon the varied habitat they need. The creeks are used by winter steelhead and Coho and Chinook salmon. The Tribe also will work with the landowner, the Washington Department of Natural Resources, to thin crowded trees that have short lives along the creek banks to improve the success of trees that will live longer and provide better wood materials to the stream and improve stream bank function. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1127)

Lower Columbia Fish Enhancement Group Placing Fish Carcasses in Rivers to Increase Food for Salmon

Grant Awarded: \$51,703

The Lower Columbia Fish Enhancement Group will use this grant to place at least 70,000 hatchery salmon carcasses, during 3 years, in the subbasin of the Kalama, North Fork Lewis, East Fork Lewis, and Washougal Rivers. At least 40 river-miles of high priority, main stem and tributary habitats and more than 50 miles of mid to low priority reaches will receive the carcasses. Placing dead fish in rivers mimics what happens when fish spawn and die in the wild. Their carcasses provide food for insects and small fish, which later will be eaten by salmon. The rivers are used by Fall and Spring Chinook and Coho salmon and winter and summer steelhead, all of which are listed as threatened with extinction under the federal Endangered Species Act. The Lower Columbia Fish Enhancement Group will contribute \$40,000 in donations of labor and materials. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1093) Projects in Grays Harbor County

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Grants Awarded in Grays Harbor County

\$598,965

Chehalis R Basin Land Trust

Grant Awarded: \$85,000

Conserving the Hoquiam River Surge Plain

The Chehalis River Basin Land Trust will use this grant to buy nearly 82 acres of floodplain and uplands along the west shore of the East Fork Hoquiam River near Hoquiam in Grays Harbor County. The property includes nearly 1 mile of river shoreline, 1,000 feet of lowland stream, one slough, 60.3 acres of floodplain wetlands, and 12.5 acres of forest. This project is important because it will increase the amount of lands that are permanently protected in the Hoquiam River Surge-Plain. Surge plains provide a tidally influenced transition between saltwater and freshwater, have great diversity, are vital rearing habitat for salmon, and will serve a crucial habitat role under projected sea level rise. The river is used by endangered Bull Trout, as well as Chinook, Chum, and Coho salmon, Cutthroat Trout, and steelhead. The Chehalis River Basin Land Trust will contribute \$15,000 in donations of cash. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1150)

Chehalis Basin Fisheries Task Force

Grant Awarded: \$153,558

Opening Fish Passage in Porter Creek

The Chehalis Basin Fisheries Task Force will use this grant to replace a fish-blocking culvert on an unnamed tributary to Porter Creek, 1 mile east of the town of Porter in Grays Harbor County. Culverts are pipes or concrete structures that carry streams under roads. The work will open 2.5 miles of high quality spawning and rearing habitat for Coho, Chinook, and Chum salmon and steelhead and Cutthroat Trout. The Chehalis Basin Fisheries Task Force will contribute \$85,811. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1038)

Forterra

Grant Awarded: \$101,745

Conserving Wishkah Gardens

Forterra will use this grant to buy 72 acres of wetlands and shoreline habitat along the Wishkah River, about 6 miles upstream from downtown Aberdeen. The property has nearly 1 mile of river frontage, off-channel habitats that are critical for juvenile salmon species, and forest, which provides woody materials to the river and side-channel areas. Forterra is partnering with the Chehalis River Basin Land Trust and the Wild Fish Conservancy to buy the land and then create a stewardship and restoration plan to improve the land. The plan will help identify ways to reconnect and restore floodplain and river shoreline habitats on the property. The combined acquisition and restoration work will benefit fall Chinook, Chum, and Coho salmon, as well as winter steelhead, Cutthroat Trout, and Bull Trout. Forterra will contribute \$17,955 in a private

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grant. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1109)

Quinault Indian Nation Controlling Invasive Plants along the Quinault River

Grant Awarded: \$141,671

The Quinault Indian Nation's Division of Natural Resources will use this grant to continue to survey and treat invasive knotweed on 1,908 acres in the lower Quinault River floodplain for 1 year. Continued treatment and control of invasive species provides the opportunity to reestablish native plants and trees in the floodplain. Trees and bushes along a shoreline help shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. The Quinault River is used by Chinook, Chum, Coho, and Sockeye salmon, steelhead, and Cutthroat Trout. The Quinault Indian Nation will contribute \$25,001 in staff labor and a federal grant. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1103)

Quinault Indian Nation Designing the Restoration of Prairie Creek

Grant Awarded: \$72,999

The Quinault Indian Nation's Division of Natural Resources will use this grant to develop preliminary designs for a project to restore up to 8 miles of Prairie Creek and three tributaries – Milbourn Creek, Dry Creek, and an unnamed stream, all on the Quinault Indian Reservation in Grays Harbor County. The project designs will guide placement of large trees with root wads and logs in the creek and tributaries. The root wads and logs create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they change the flow of the river, creating riffles and pools, which give salmon more varied habitat. The work also will improve floodplain connectivity. This work is anticipated to lead to more diverse and productive habitat for both spawning and rearing salmon species. The streams are used by Coho, Chinook, and Chum salmon, steelhead, and Cutthroat Trout. The Quinault Indian Nation will contribute \$12,883. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1104)

Quinault Indian Nation Removing a Barrier to Fish Passage on a Moclips River Tributary

Grant Awarded: \$43,992

The Quinault Indian Nation's Division of Natural Resources will use this grant to remove a 5-foot-wide pipe that carries a Moclips River tributary under a Quinault Indian Reservation forest road with a 15-foot-wide bridge. The pipe, which is on a tributary to the North Fork Moclips River on the Quinault Indian Reservation, blocks young salmon during high flow. Removing the barrier would open about a quarter-mile of rearing habitat for Coho Salmon and Cutthroat Trout. The Quinault Indian Nation will contribute \$7,764. This grant is from the [salmon recovery](#)

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[grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1102)

Grants Awarded in Island County

\$665,406

Island County

Grant Awarded: \$104,805

Involving Stakeholders in Plan to Restore Iverson Marsh

The Island County Department of Natural Resources will use this grant to involve interested people in a plan to restore the 120-acre Iverson marsh. The marsh, which is on the western edge of Livingston Bay on Camano Island, has more than a half-mile of shoreline and 100 acres that are diked, drained, and farmed for grass seed. The marsh lies directly across from the Stillaguamish River delta. Iverson Spit is between the marsh and Port Susan and has almost 40 homes with septic tanks on low-bank waterfront. The homeowners have many concerns, including flooding and future natural or human-made alterations to the marsh. The County is seeking input from the people who live near, or recreate around, the marsh in an attempt to find mutually acceptable paths forward towards coastal resiliency planning that benefits salmon and stakeholders. The County has completed feasibility studies from 2001 that looked at restoration alternatives and recommended additional studies to evaluate flood risks to neighbors. Using the studies, county staff will meet with homeowners and park users to try to reach a consensus on potential restoration alternatives that would be modeled and evaluated for risks. The other major goal of this project is to explore better engagement with stakeholders for complex, multi-benefit restoration projects. Island County will contribute \$18,495 in donations of labor. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1049)

Skagit River System Cooperative

Grant Awarded: \$39,355

Inventorizing Pocket Estuaries along Whidbey Island Shorelines

The Skagit River System Cooperative will use this grant to assess current pocket estuary habitat along the shorelines of Whidbey and Camano Islands using remote sensed imagery, such as aerial photography, LiDAR (light and laser imagery gathered by airplanes), and Geographic Information System analysis. The cooperative will be counting the pocket estuaries accessible to juvenile salmon, the extent of habitat by types, and the position or connectivity of the estuaries. The cooperative will be comparing new data with earlier data to reveal trends for the first decade of salmon recovery plan implementation. Island County shorelines are used by Puget Sound Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act. Pocket estuaries are important to salmon because they provide places for young fish to rest and feed before migrating to the ocean. The Skagit River System Cooperative will contribute \$7,641 in donations of labor. This grant is from the [salmon recovery](#)

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[grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1485)

Skagit River System Cooperative **Grant Awarded: \$185,096** **Studying the Feasibility of Restoring Camano Island State Park Shoreline**

The Skagit River System Cooperative will use this grant to evaluate potential restoration projects and design alternatives for restoring natural hydrological processes to the unique shoreline at Camano Island State Park. According to local stories, a marshy area in the park was filled when the park was being developed. Scoping studies by the Skagit River System Cooperative have indicated the likelihood that there was a pocket estuary at this location. This project will further investigate if it is possible to restore, and maintain, a tidal channel and estuary in this area. The park is popular and provides excellent potential for education about salmon biology and habitat needs. If a project is deemed feasible, the Skagit River System Cooperative will complete a preliminary design. Restoration is aimed at improving feeding and rearing habitat for juvenile Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act. The Skagit River System Cooperative will contribute \$32,664 in cash, a local grant, and donations of labor. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1048)

Snohomish Conservation District **Grant Awarded: \$220,000** **Opening Fish Passage in Kristoferson Creek**

The Snohomish Conservation District will use this grant to remove two barriers to fish passage in Kristoferson Creek, where it crosses Barnum Road and Russell Road, on publically owned land on Camano Island. These barriers are the first barriers on Kristoferson Creek and are the highest priority in the subbasin for removal to provide access to rearing habitat for baby Chinook Salmon and steelhead. At Barnum Road, four, undersized, large concrete pipes that carry the creek under the road lay side by side and at uneven heights, causing a partial barrier to salmon. At Russell Road, a 4-foot round steel pipe carries the creek under the road, and is a partial barrier. The creek is used by juvenile Chinook Salmon and steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act, as well as Chum and Coho salmon and Cutthroat Trout. The Snohomish Conservation District will contribute \$85,000 in federal and state grants, staff labor, and donations of labor. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1050)

Whidbey Island Conservation District **Grant Awarded: \$116,150** **Assessing Restoration Issues for the Greenbank Marsh**

The Whidbey Island Conservation District will use this grant to evaluate land use issues and the physical conditions of the Greenbank marsh so that restoration projects may be designed. Restoring the tidal connection and function of the marsh could open 20 acres of rearing habitat

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for juvenile Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act. The freshwater marsh and brackish tidal lagoon system is the relict of a larger salt marsh that covered the area before settlement. Following a 2013 conceptual-level engineering feasibility study, this present project will focus on clarifying the site hydrology and the legal obligations of local government and landowners to use and maintain the site's existing drainage infrastructure. The Whidbey Island Conservation District will contribute \$20,590 in donations of labor. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1072)

Grants Awarded in Jefferson County \$1,578,098

Jefferson County

Grant Awarded: \$788,800

Building a Bridge over Salmon Creek to Remove a Fish Passage Barrier

The Jefferson County Department of Public Works will use this grant to remove a fish passage barrier in Salmon Creek. The department will remove a large steel pipe that carries the creek under West Uncas Road and build an 80-foot-long bridge over the creek instead. The pipe and rip rap prevent Summer Chum Salmon from reaching three-quarter mile of prime spawning habitat, and removing the pipe will double the available spawning habitat for Hood Canal Summer Chum Salmon, which are listed as threatened with extinction under the federal Endangered Species Act. Jefferson County will contribute \$139,200 in cash and a federal grant. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1192)

Jefferson County

Grant Awarded: \$587,319

Restoring Big Quilcene River Floodplain

Jefferson County will use this grant to buy three residential properties (2.45 acres) prone to flooding and restore them to natural conditions. The work is part of a larger effort to re-establish a migration corridor for the lower Big Quilcene River, which includes setting back a levee on the north side of the river. The County will remove three homes, on-site systems and outbuildings; decommission three wells; and plant disturbed areas. The land is next to land owned by Jefferson County, the Washington Department of Fish and Wildlife, Hood Canal Salmon Enhancement Group, and others, who support the vision of a well-functioning lower Big Quilcene River and estuary. The river is used by Hood Canal Summer Chum Salmon and Puget Sound steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act. Jefferson County will contribute \$103,646 in donations of cash. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1189)

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Jefferson Land Trust **Conserving Snow Creek and its Banks**

Grant Awarded: \$150,979

The Jefferson Land Trust will use this grant to buy and restore nearly 11 acres along Snow Creek in Jefferson County. The purchase will add to the Snow Creek Uncas Preserve, which is open to the public for nature walks and to schools as a learning site. The land trust will plant native trees and shrubs on more than 5 acres of stream bank. The goal of this project is to preserve and improve the banks of Snow Creek to ensure that conditions are optimal for spawning and rearing of Summer Chum Salmon and steelhead, both of which are listed as endangered under the federal Endangered Species Act, and for Coho and Fall Chum salmon and Cutthroat Trout. A second goal of the project is to maintain resilience in the face of climate change. Purchasing the land fills a gap of unprotected land in the ongoing effort to protect and restore the Snow/Salmon watershed and Discovery Bay estuary supported by Chumsortium partners. The Jefferson Land Trust will contribute \$55,292 in conservation futures² and donations of cash and labor. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1200)

The Nature Conservancy **Designing the Restoration of Shale Creek**

Grant Awarded: \$51,000

The Nature Conservancy will use this grant to develop preliminary designs for a project to restore the lower 1.4 miles of Shale Creek, a tributary of the Clearwater River, in Jefferson County. The project designs will guide replanting of the shorelines and placement of large tree with root wads and large logs in the creek and. Tree root wads and logs create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they change the flow of the river, creating riffles and pools, which give salmon more varied habitat. Planting trees and bushes along a shoreline helps shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. The work also will improve floodplain connectivity. This work is anticipated to lead to more diverse and productive habitat for both spawning and rearing salmon species, especially Coho Salmon. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1097)

²Conservation futures are a portion of property taxes used by local governments to buy land or development rights to protect natural areas, forests, wetlands, and farms.

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Grants Awarded in King County

\$3,793,921

Adopt A Stream Foundation

Grant Awarded: \$50,000

Designing Restoration along Bear Creek

The Adopt A Stream Foundation will use this grant to complete preliminary designs for the second phase of a multi-phase restoration project on Bear Creek at the Friendly Village Mobile Home Park in Redmond. The work will include completing topographic surveying, hydraulic analysis, preliminary designs, cultural resource consultation, and permitting. Implementation of the future restoration project will focus on enhancing habitat for fish, restoring native trees and plants along the creek, and reestablishing floodplain connectivity. The creeks are used by Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1059)

Bothell

Grant Awarded: \$602,324

Restoring a Sammamish River Side Channel

The City of Bothell will use this grant to restore a historic side channel to the Sammamish River. Crews will reconnect the nearly quarter-mile relic side channel and adjacent floodplain to the Sammamish River at the upper and lower ends, creating rearing habitat for fish that is out of the main river channel and is intended to be fed by groundwater. The side channel will provide cool water for Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act, and for Coho Salmon. In addition, crews will control about 5 acres of reed canary grass and replant with native wetland plants, replant about 1.5 acres of blackberry-dominated shoreline with native trees and shrubs, and plant trees on about 1 acre of floodplain. Planting trees and bushes along a shoreline helps shade the water, keeping it cool for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. The City of Bothell will contribute \$120,434 from a King County Flood Control District grant, as well as other local funds. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1054)

Kent

Grant Awarded: \$292,000

Building a Wetland off Mill Creek

The City of Kent will use this grant to build a floodplain wetland off of Mill Creek, near the confluence with the Green River. Mill Creek is used by Chinook Salmon and steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act, as well as by Coho, Chum, and Pink salmon, and Cutthroat Trout. The City will build 1,000 feet of new off-channel habitat, place 43 log structures in the river to increase salmon habitat, remove

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invasive plants, and plant 7 acres to increase plant diversity, density, and shading. This is the third phase of the channel restoration. Once complete, the overall restoration project will increase places where salmon can rest and hide from predators, enhance riverbank habitat, and increase floodplain storage. When water flows into the off-channel area, juvenile salmon will find cover, food, and protection from flood flows. Kent will contribute \$1.4 million. This grant pays for cost increases on a project originally funded in 2014. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (14-1001)

Kent

Grant Awarded: \$700,000

Moving a Road away from the Green River on the Downey Farmstead

City of Kent will use this grant to complete the first phase of the Downey Farmstead restoration project by relocating Frager Road away from the Green River to make room for a future side channel network and expanded floodplain. The new road alignment will provide a greater buffer along the river. The City also will build a six-car parking lot at the Old Fishing Hole downstream to replace the existing parking area. After the road is moved, the city will apply for additional grants to build a side channel and reconnect a floodplain on the left bank of the Green River. When full restoration is completed, the project will provide rearing and refuge habitat for juvenile salmon throughout most of the year, particularly juvenile Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act. Additional fish at the site include Bull and Cutthroat trout; Chum, Coho, and Pink salmon; winter steelhead, and Pacific and River Lamprey. An added benefit of this project is that it will create additional water storage during floods, reducing damage in urban and agricultural areas nearby. The City of Kent will contribute \$159,173 in a local grant and donations of labor. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1240)

King County

Grant Awarded: \$375,000

Conserving Land along Bear Creek

The King County Water and Land Resources Division will use this grant to buy nearly 8 acres along Bear Creek, next to land publically owned near Redmond. The purchase will conserve spawning and rearing habitat for Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act. King County will contribute \$75,000 in conservation futures³. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1058)

³Conservation futures are a portion of property taxes used by local governments to buy land or development rights to protect natural areas, forests, wetlands, and farms.

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King County

Grant Awarded: \$800,000

Conserving Land along the Snoqualmie River

The King County Department of Natural Resources and Parks will use this grant to buy about 10 acres along the Snoqualmie River near its confluence with the Raging River, in Fall City. The land includes about a quarter-mile of the left bank of the Snoqualmie River. This purchase will provide the opportunity to establish a robust stream bank corridor and address fish passage problems on the property. The project supports recovery of Chinook Salmon and steelhead trout, both of which are listed as threatened with extinction under the federal Endangered Species Act, and other salmon species. King County will contribute \$2.4 million. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1163)

King County

Grant Awarded: \$200,000

Conserving Maury Island Shoreline Habitat

The King County Water and Land Resources Division will use grant to buy 11 acres with nearly a quarter-mile of shoreline along the Maury Island Aquatic Reserve in south central Puget Sound. The purchase will protect eelgrass, shorelines, and forage fish spawning habitat used by Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act. Eelgrass is used by salmon to hide from predators and shorelines are areas salmon feed. In the future, King County plans to remove about 375 feet of armoring and reconnect historic feeder bluffs to the beach. The land is on the west side of Quartermaster Harbor and the south side of Maury Island King County will contribute \$36,000 in a local grant. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1221)

King County

Grant Awarded: \$200,000

Designing Levee Setbacks on the Green River

The King County Water and Land Resources Division will use this grant to complete a conceptual design to setback two levees on the middle Green River. The Lones-Turley levees prevent the river from crossing the floodplain and disconnect the river from other lateral habitats. Moving the levees back will help fish reach side channels, wetlands, and an abandoned oxbow channel. The conceptual designs will diagram the removal of a half-mile of two levees on the Turley site and about a quarter-mile of the Lones Levee and construction of underground revetments. King County also will complete a wetland assessment, geotechnical study, hydrologic analysis, and an engineering and construction cost estimate. King County will contribute \$36,000. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1291)

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King County

Grant Awarded: \$200,000

Designing the Restoration of the Willowmoor Floodplain

King County Water and Land Resources Division will use this grant to complete a preliminary design of a project to restore the Willowmoor floodplain along the Sammamish River. The restoration will reconnect the river to up to 40 acres of floodplain and wetlands, creating rearing habitat for juvenile salmon. It also will create resting pools with cooler water at a critical point in the journey for adult salmon to spawning grounds in Issaquah Creek. In addition, the restoration will remove and control invasive plants across the project area, which is just downstream of Lake Sammamish in the uppermost reach of the Sammamish River. Besides Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act, the project will benefit other fish species including Sockeye, Kokanee and Coho salmon, steelhead and Cutthroat Trout, and Lamprey. King County will contribute \$40,000. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1067)

Redmond

Grant Awarded: \$338,174

Relocating Evans Creek to Improve Salmon Habitat

The City of Redmond will use this grant to move and restore a ditched section of Evans Creek to improve habitat for salmon. This section of Evans Creek is tightly constricted by industrial development, isolated from its floodplain, and has simplified habitat with no buffers. The City will create a longer, more diverse channel and reconnect the creek to its floodplain wetlands. To do this, the City will build a quarter-mile of new creek channel and place large logs in and along the creek. Logs create places for fish to rest, feed, and hide from predators. Finally, logs also change the flow of the river, creating riffles and pools, which give salmon more varied habitat. The work will benefit Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act, and Coho Salmon from Evans and Bear Creeks. This project is part of a larger project that will create more than a half-mile of new creek channel and restore 22 acres of shoreline buffer. The City of Redmond will contribute \$75,000. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1071)

Tukwila

Grant Awarded: \$36,423

Restoring the Duwamish Gardens

The City of Tukwila will use this grant to excavate a 2-acre site, removing 45,000 cubic yards of material and creating an acre of shallow water mudflat and marsh habitat, and restoring an acre of shoreline at Duwamish Gardens in King County. The work will be done next to lands owned by the Washington Department of Natural Resources on the right bank of the Duwamish River between freshwater and saltwater, where young salmon transition to saltwater. Off-channel and shallow water habitats in this stretch of the Duwamish River will provide opportunities for Chinook Salmon, which are listed as threatened with extinction under the federal Endangered

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Species Act, to move out of the main river channel to places where they can feed and grow. The longer salmon stay in an estuary, the larger and healthier they will be before beginning their migration to the ocean, thereby increasing their chance of survival. People can get to the area from East Marginal Way, where they will find a small parking lot, trail, viewpoint, and interpretive signs or art work that will focus on the cultural history of the area and ecological features of the site. This grant will cover a cost increase on the project, which was funded originally in 2013. Funding is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (13-1099)

Grants Awarded in Kitsap County

\$1,451,487

Bainbridge Island Land Trust

Grant Awarded: \$90,500

Designing the Restoration of Port Orchard Passage

The Bainbridge Island Land Trust will use this grant to complete a preliminary design to restore 8 acres of shoreline and more than 2 acres of tidelands along Port Orchard Passage, on the southwest shore of Bainbridge Island. The design will address removing bulkheads, intertidal fill, houses, and associated infrastructure. The design also will address shoreline processes, cultural resources, geotechnical analysis, hydrology, and vegetation. The land trust will examine the best way to remove structures and get cost estimates and initial permits. This project is the first phase of a multi-phased project to buy the land for future habitat and public access use, and to restore a segment of the shoreline, which, when combined with other non-developed shoreline nearby, would result in more than a half-mile of contiguous, unarmored shoreline. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1076)

Bremerton

Grant Awarded: \$125,767

Designing the Restoration of Shoreline near Evergreen Park

The Bremerton Department of Public Works & Utilities will use this grant to complete preliminary designs for a project to restore the shoreline next to Evergreen Rotary Park, on the western side of the Port Washington Narrows, which connects Sinclair Inlet with Dyes Inlet. The restoration project would remove shoreline armoring and upland fill, expand and enhance forage fish beach spawning habitat, and replant shoreline trees and bushes, which will restore 600 feet of shoreline. Chinook Salmon and steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act, and Chum and Coho salmon, and Cutthroat Trout migrate between Dyes and Sinclair Inlets. The conceptual design alternatives will be identified and assessed, then the preferred alternative will be developed to preliminary design. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (14-1949)

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Great Peninsula Conservancy Conserving Grovers Creek

Grant Awarded: \$300,000

The Great Peninsula Conservancy will use this grant to permanently protect about 74.5 acres of interconnected, highly-functioning shoreline habitat along 0.68 mile of fish-bearing streams in the lower reach of Grovers Creek, in northern Kitsap County. The land, which is between Kingston and Poulsbo, includes Grovers Creek and its tributaries, as well as palustrine scrub-shrub, wetlands with beaver ponds, habitat for amphibians and birds, and a migratory corridor for mammals. This project fills a critical gap within a larger wildlife corridor. It completes the preservation of stream and wetland habitat between Kitsap County's 809-acre North Kitsap Heritage Park and 270 acres owned by the Great Peninsula Conservancy. Grovers Creek and its tributaries are used by winter steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, and Coho Salmon and Cutthroat Trout. The conservancy will protect the land by purchasing some of it and by buying voluntary land preservation agreements.⁴ The Great Peninsula Conservancy will contribute \$385,650 in a grant from the state Washington Wildlife and Recreation Program and donations of cash. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1080)

Hood Canal Salmon Enhancement Group Continuing Restoration of Lower Big Beef Creek

Grant Awarded: \$440,970

The Hood Canal Salmon Enhancement Group will use this grant to continue the restoration of Lower Big Beef Creek. The salmon enhancement group will remove two decommissioned wells and their access road, allowing Big Beef Creek to reconnect with the floodplain and recently restored wetlands. The salmon enhancement group also will place three logjams in the river and supplement ten existing logjams to create different types of habitat for fish and increase the ability of the river to store sediment. Logjams create places for fish to rest and hide from predators. They also slow the river, which reduces erosion and creates riffles and pools, giving fish more varied habitat. The work, which is in the lower mile of Big Beef Creek, is expected to increase survival rates of juvenile Fall and Summer Chum and Coho salmon and steelhead by providing high-quality foraging and rearing habitat. Hood Canal Summer Chum Salmon and steelhead are listed as threatened with extinction under the federal Endangered Species Act. The Hood Canal Salmon Enhancement Group will contribute \$80,000 in materials, a federal grant, and donations of labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1203)

⁴A land preservation agreement, also called a conservation easement, is a voluntary agreement between a landowner and private land conservation organization or a government agency. The landowner maintains ownership of the land, continues to manage it, and receives compensation, such as cash, reduced taxes, or other incentives, in exchange for limiting development on the land.

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Hood Canal Salmon Enhancement Group Designing the Restoration of Seabeck Creek

Grant Awarded: \$86,250

The Hood Canal Salmon Enhancement Group will use this grant to design a plan to replace the large pipe that carries Seabeck Creek under Seabeck-Holly Road Northwest, remove the failing fish weir, and place large tree root wads and logs upstream and downstream of the pipe and downstream of the pipe under Hite Center Road. Seabeck Creek lacks woody materials in the creek, which creates places for salmon to rest, feed, and hide from predators. The creek is used by steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, and by Coho Salmon and Cutthroat Trout. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1194)

Kitsap County Designing a Bridge over Harper Estuary

Grant Awarded: \$340,000

Kitsap County will use this grant to complete final designs for a road crossing in Harper Estuary, a pocket estuary near the Harper-Southworth area on the western shores of central Puget Sound. Kitsap County is planning to remove an undersized pipe under Olympiad Drive and build a bridge in its place. By replacing the pipe, saltwater will flow more freely to the south estuary. Pocket estuaries are vital for rearing, feeding, and protection from predators for young salmon including Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act, and Chum and Coho salmon. The Washington Department of Fish and Wildlife is leading the fill removal and new channel component of the estuary restoration while Kitsap County is leading the design and construction of a bridge to replace the undersized pipe. Kitsap County will contribute \$60,000. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1075)

Mid Sound Fisheries Enhancement Group Studying the Feasibility of Removing Cowling Creek's Fish-blocking Culverts

Grant Awarded: \$68,000

The Mid Sound Fisheries Enhancement Group will use this grant to complete a feasibility study for replacing two, salmon-blocking pipes, also called culverts, that transport Cowling Creek under Miller Bay Road Northeast, about 1.5 miles north of Suquamish. Removing the culverts (a future project phase) will allow naturally spawning fish to return to Cowling Creek and natural processes such as saltwater entering the stream and large logs and branches moving from upstream to the estuary. It also will allow other wildlife to safely pass under the road. Cowling Creek is used by steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, and by Chum and Coho salmon and Cutthroat Trout. If restoration is completed in a future phase, the project would provide fish access to 4.44 miles of habitat upstream of the blockage. Cowling Creek is one of three advertised, publicly-accessible salmon viewing sites in Kitsap County. Many residents come to view adult salmon returning to spawn

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and Suquamish Elementary students walk from their school to observe the salmon. The Mid Sound Fisheries Enhancement Group will contribute \$12,000. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1074)

Grants Awarded in Kittitas County \$1,033,351

Kittitas County Conservation District Grant Awarded: \$185,312 **Fixing Fish Passage Barriers on Naneum and Coleman Creeks**

The Kittitas County Conservation District will use this grant to install fish screens and correct fish passage barriers on irrigation diversions on Naneum and Coleman Creeks, near Ellensburg. Both diversions are the most downstream barriers on their respective streams and addressing these diversions is part of an incremental effort to continue to provide safe fish passage in the watershed. The creeks are used by middle Columbia River summer steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, as well as by Chinook and Coho salmon. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (14-1215)

Kittitas County Conservation District Grant Awarded: \$107,713 **Improving Fish Survival at Parke and Caribou Creeks**

The Kittitas County Conservation District will use this grant to eliminate a mortality risk for juvenile fish at three irrigation diversions southeast of Ellensburg. The conservation district will move one water right holder's irrigation diversion on Parke Creek downstream and install a new headgate, pump, main line, and sprinkler system. The district also will consolidate and move another water right holder's irrigation diversions on Caribou Creek to a new pump diversion downstream. Diversions are structures that take water from a stream and divert it to irrigation pipes or ditches for watering land, usually farmland. Often, the pipes or ditches are unscreened where they connect with the creek and fish enter them and have no way to return to the stream. This project will improve access to rearing habitat for mid-Columbia River summer steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, and for spring Chinook and Coho salmon and resident fish. The Kittitas County Conservation District will contribute \$63,350 in a federal grant. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1151)

Kittitas Conservation Trust Grant Awarded: \$185,705 **Designing Habitat Restoration in Gold Creek**

The Kittitas Conservation Trust will use this grant to produce preliminary designs for a habitat restoration project in lower Gold Creek, a tributary to the upper Yakima River. Gold Creek starts in the Alpine Lakes Wilderness then flows into Lake Keechelus near Snoqualmie Pass in northern

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Kittitas County. It is used by Bull Trout, which are listed as threatened with extinction under the federal Endangered Species Act. Humans have disturbed the Gold Creek watershed by logging, mining, impounding water, and developing the land with roads and railroads. These historic disturbances have altered natural processes, degraded habitat, and resulted in the portions of creek drying up in summer, killing Bull Trout and impeding their migration to the spawning grounds. The cumulative impacts have resulted in an over-widened channel that lacks complexity. Designs will focus on projects that will narrow and stabilize stream banks, restore floodplains, increase stream flow complexity, encourage regeneration of shoreline forests, increase the number of shaded pools, and decrease the time and amount of the creek that dries up. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1153)

Kittitas Conservation Trust

Grant Awarded: \$214,920

Restoring Williams Creek Habitat

The Kittitas Conservation Trust will use this grant to restore 8 miles of stream in the Williams Creek basin, including the tributaries of Lion Gulch, Cougar Gulch, and Billy Goat Gulch. The land trust will decommission 1.45 miles of road and trail, remove fish passage barriers to open more than 22 miles of habitat upstream, and place tree root wads and large logs in 4 miles of creeks. The land trust expects to improve water quality and expand and enhance available habitat for mid-Columbia River steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, and other fish. The Kittitas Conservation Trust will contribute \$37,980 in donations of materials. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1247)

Kittitas County

Grant Awarded: \$100,000

Assessing Naneum, Wilson, and Cherry Creeks

The Kittitas County Public Works Department will use this grant to assess Naneum, Wilson, and Cherry Creeks' watersheds and begin development of long-term management plans that address floods, infrastructure, fish habitat needs, and irrigation in streams and ditches north and east of Ellensburg. With landowner permission, project partners will inventory the streams and their tributaries for fish screens, passage barriers, irrigation control structures, and habitat suitability. Fish surveys above the possible passage barriers also will be completed. Water rights and points of diversion will be mapped, with particular emphasis on finding efficiencies where there are multiple irrigation water sources for the same fields. The historic and current management of flows between the streams will be researched and documented. This assessment is a critical first step toward determining what is needed to restore fish passage into the upper Naneum watershed, and building consensus on priority salmon recovery actions in these upper Yakima River tributaries. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (13-1315)

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Mid-Columbia Fisheries Enhancement Group Designing Fixes to a Yakima River Rock Weir

Grant Awarded: \$116,000

The Mid-Columbia Fisheries Enhancement Group will use this grant to assess and produce a final design for a restoration project that will reduce fish stranding and death in a Yakima River side channel and Wilson Creek. A river-spanning rock weir was installed in the late 1990s to allow Yakima River fish access to more than a half-mile side channel. The weir was damaged by a combination of factors and now requires annual maintenance to divert flow. When Yakima River flow drops, fish are stranded in the side channel. The Bull Canal Company diverts water from the side channel for irrigation. When flow is insufficient in the side channel, the company pulls water from Wilson Creek, which decreases flow in the lower 8 miles of the creek, reducing the quality of off-channel habitat in this system. The fisheries enhancement group will assess existing conditions, perform an alternatives analysis, model hydraulic function, perform cultural resource surveys, and produce a final design for a restoration project that may replace the need for annual maintenance of weir, reduce fish stranding and death in the side channel and Wilson Creek, increase availability of Yakima River water for Bull Canal Company, and increase the limited availability of off-channel habitat. The project is intended to benefit steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, as well as Chinook and Coho salmon, resident rainbow trout, and Cutthroat Trout. The Mid-Columbia Fisheries Enhancement Group will contribute \$21,000 from a federal grant and donations of labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1350)

Trout Unlimited Inc. Designing a Project to Restore a Yakima River Floodplain

Grant Awarded: \$123,701

Trout Unlimited's Washington Water Project will use this grant to design a restoration project that will improve fish habitat and reduce flooding on about 135 acres of Yakima River floodplain. Trout Unlimited is partnering with an Ellensburg-area landowner whose land shows scars of past activities, such as abandoned levees, altered floodplain topography, simplified fish habitat, and reduced river functions – all combining to limit fish habitat and floodplain functions. Trout Unlimited will address these issues by completing a comprehensive habitat assessment, restoration plan, evaluation of alternatives, final design, and permits. The Yakima River is used by steelhead and Bull Trout, which are listed as threatened with extinction under the federal Endangered Species Act, as well as Chinook and Coho salmon, resident Rainbow and Cutthroat Trout. Trout Unlimited will contribute \$26,000 from another grant and donations of labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1147)

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Grants Awarded in Klickitat County

\$236,614

Underwood Conservation District Improving the Banks of Rattlesnake Creek

Grant Awarded: \$61,670

The Underwood Conservation District will use this grant to remove invasive weeds and plant the shorelines of Rattlesnake Creek to improve habitat for salmon, steelhead, and trout. Rattlesnake Creek in Klickitat County has several areas where water flows are low, invasive plants crowd out native vegetation, water temperatures are too warm for fish, and the creek banks don't have enough trees. The conservation district will treat at least 4 acres of noxious weeds and replant the creek banks with native vegetation. It also will plant at least another 8 acres along the shorelines with native trees and shrubs. Planting trees and bushes along a shoreline helps shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. In addition to planting, the conservation district will work with willing private landowners to complete further restoration through placement of tree root wads and logs in the creek, thinning of trees, developing cattle watering away from the creek, and preventing cattle from entering the creek. The work will improve and diversify fish habitat, stabilize the creek channel, and cool the water for fish. Rattlesnake Creek is important habitat for steelhead and Chinook Salmon, both of which are listed as threatened with extinction under the federal Endangered Species Act, as well as for Cutthroat and Rainbow Trout. The Underwood Conservation District will contribute \$7,510 in donations of equipment and labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1298)

Underwood Conservation District Improving Water Quality in Rattlesnake Creek

Grant Awarded: \$174,944

The Underwood Conservation District will use this grant to design and build at least three projects that will improve water flows and quality in Rattlesnake Creek, which has become a key tributary in the White Salmon River basin since the 2012 removal of Condit Dam. The projects would be in the upper, non-fish-bearing reaches of the watershed, upstream of a large waterfall. Through the projects, the district hopes to improve the water quality for fish downstream by stopping stream incision and stabilizing the creek channel, improving the recharge of local groundwater, enhancing low flows and cooling the water so it's more fish-friendly, and replacing historic checkdams, which are small, temporary structures built across the creek to slow the water. Rattlesnake Creek is used by steelhead and Chinook Salmon, both of which are listed as threatened with extinction under the federal Endangered Species Act, as well as by Coastal Cutthroat Trout, Coho Salmon, and Pacific Lamprey. The Underwood Conservation District will contribute \$35,000 in a federal grant. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1297)

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Grants Awarded in Lewis County

\$380,564

Lewis County

Grant Awarded: \$125,735

Designing the Reconnection of Lacamas Creek to its Side Channel

The Lewis County Public Works Department will use this grant to develop a preliminary design for a project that will reconnect a historic side channel to Lacamas Creek. Historically, a side channel of the creek carried water from the area 200 feet west of the intersection of Jackson Highway and Frost Road through an unconfined channel, nearly 2 miles in length, before reconnecting to Lacamas Creek. Reconnection of this historic side channel would provide rearing habitat for winter steelhead and Coho Salmon, both of which are listed as threatened with extinction under the federal Endangered Species Act. The design also would include plans to restore a 100-foot buffer on either side of the channel and installation of tree root wads and logs in the channel. Lewis County will contribute \$23,365 in donations of cash. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1087)

Lewis County Conservation District

Grant Awarded: \$198,933

Designing Removal of Fish Barriers on Bunker Creek

The Lewis County Conservation District will use this grant to design a project to address two pipes that carry Bunker Creek under Bunker Road and consistently clog, preventing fish passage. The two pipes, also called culverts, are the last two barriers to fish passage on Bunker Creek, which is west of Centralia, in Lewis County. The two culverts are plugged, completely blocking fish and forcing Bunker Creek to flow down Bunker Road part of the year. Bunker Creek is used by Coho and Chum salmon, steelhead, and Coastal Cutthroat Trout. The Lewis County Conservation District will contribute \$50,500 in a federal grant and cash. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1101)

Lewis County Conservation District

Grant Awarded: \$55,896

Reconnecting Wisner Creek

The Lewis County Conservation District will use this grant to improve a section of Wisner Creek about 2 miles west of Chehalis in Lewis County. The conservation district will create a new channel, plant trees and bushes on the channel's banks, and spray to manage the invasive reed canary grass. The new channel will be about 400 feet long with a meandering structure that is good for fish and will allow fish access to about 1.75 miles of previously unreachable habitat. Planting trees and bushes along a stream bank will shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. Wisner Creek is used by Coho Salmon, steelhead, and Cutthroat Trout. The

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Lewis County Conservation District will contribute \$10,340 in federal and state grants. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1096)

Grants Awarded in Mason County \$4,608,670

Hood Canal Salmon Enhancement Group Grant Awarded: \$66,567 **Designing a Restoration Plan for the Duckabush River Estuary**

The Hood Canal Salmon Enhancement Group will use this grant to complete feasibility studies to remove the U.S. Highway 101 causeway, which will reconnect the floodplain and wetlands of the Duckabush River, improve the tidal exchange, and improve the transport of sediment to provide habitat for rearing salmon. The salmon enhancement group also will study the feasibility of buying land in the lower Duckabush River floodplain. Built in 1934, the highway causeway separates the upper estuary from distributary channels of the Duckabush River and causes sediment to build up in the north Duckabush River channel. The salmon enhancement group will gather substantial site specific information to support any subsequent design for the restoration of the Duckabush Estuary. The Hood Canal Salmon Enhancement Group will contribute \$235,760 in a grant from the state [Estuary and Salmon Restoration Program](#). This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1190)

Hood Canal Salmon Enhancement Group Grant Awarded: \$300,000 **Designing Restoration of the Lower Big Quilcene River**

The Hood Canal Salmon Enhancement Group will use this grant to design restoration of the lower Big Quilcene River by reconnecting the river with the floodplain and channels in the estuary. The goal is to have a project that restores natural processes and is compatible with shellfish in Quilcene Bay. The salmon enhancement group will evaluate design alternatives through a public involvement process and three-dimensional water flow modeling and create a preliminary design. The river is used by Hood Canal Summer Chum Salmon and Puget Sound steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act, as well as Coho Salmon. The Hood Canal Salmon Enhancement Group will contribute \$52,941 in cash and a federal grant. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1204)

Long Live the Kings Grant Awarded: \$687,766 **Assessing What is Killing Juvenile Steelhead at the Hood Canal Bridge**

Long Live the Kings will use this grant to determine what is causing slower migration times and deaths of juvenile steelhead at the Hood Canal Bridge. Long Live the Kings will assess different

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causes, such as the changing water circulation caused by the pontoons that might be affecting fish behavior, bridge components that might be allowing for nests or hideouts for steelhead predators, light and noise that might be altering fish or predator behavior, or other causes. Long Live the Kings will use the assessment to develop management actions to address the steelhead deaths. Puget Sound steelhead are listed as threatened with extinction under the federal Endangered Species Act. Long Live the Kings will contribute \$153,577 in donations of equipment and labor. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1191)

Mason Conservation District

Grant Awarded: \$305,213

Deciding Where to Place Logjams in the Upper South Fork Skokomish River Floodplain

The Mason Conservation District will use this grant to develop a prioritized list of areas to place logjams in a 12-mile reach of the upper South Fork Skokomish River watershed and produce designs for the top locations. Streams in the watershed have lost structural and habitat diversity. Logjams will help keep sediment in the upper watershed and stabilize channel patterns. They do this by slowing the river and reducing erosion and the resulting input of sediment in the river. Logjams also stabilize the flow and sediment of the river, creating riffles and pools, giving fish more varied habitat. The rivers and streams in the watershed are used by Chinook Salmon, steelhead, and Bull Trout, all of which are listed as threatened with extinction under the federal Endangered Species Act. The Mason Conservation District will contribute \$53,900 in another grant and donations of labor. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1196)

Mason Conservation District

Grant Awarded: \$265,302

Designing Logjams in the Skokomish River to Improve Fish Habitat

The Mason Conservation District will use this grant to analyze a 1.6-mile reach of the Skokomish River to determine where to place logjams and their most appropriate size and frequency. Logjams create places for fish to rest and hide from predators. They also slow the river, which reduces erosion and the resulting loading of sediment in the river. Finally, logjams change the flow of the river, creating riffles and pools, giving fish more varied habitat. The conservation district will select a design based on landowner support and benefit to fish and will obtain all permits. This project will improve habitat for Chinook and Summer Chum salmon, steelhead, and Bull Trout, all of which are listed as threatened with extinction under the federal Endangered Species Act, and for Pink Salmon and Cutthroat Trout. The Mason Conservation District will contribute \$47,000 in donations of equipment. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1205)

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Mason Conservation District

Grant Awarded: \$224,692

Placing Logjams in the South Fork Skokomish River to Create Habitat, Reduce Sediment, and Stabilize Channel and Banks

The Mason Conservation District will use this grant to place 22 logjams in the Holman Flats area of the South Fork Skokomish River. The area was logged and cleared in preparation for a new reservoir, which was never built. As a result, the watershed has excess sedimentation, which buries fish spawning gravel and degrades the entire downstream system. The logjams will create places for fish to rest and hide from predators and will slow the river, reducing erosion and the resulting loading of sediment in the river. This is the third phase of a larger project to improve habitat for Chinook Salmon, steelhead, and Bull Trout, all of which are listed as threatened with extinction under the federal Endangered Species Act. The Mason Conservation District will contribute \$468,937 in a state grant. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1206)

Mason Conservation District

Grant Awarded: \$362,990

Realigning Skokomish Valley Road to Improve Fish Habitat

The Mason Conservation District will use this grant to develop conceptual designs for a project that will move the Skokomish Valley Road outside of the South Fork Skokomish River's banks and nearby area. This would reconnect the South Fork Skokomish River to as much as 60 acres of floodplain. The end project would include restoring the right bank of the Skokomish South Fork, removing 800 feet of rock bank armor, placing large tree root wads and logs along the river bank, and possibly adding engineered logjams in the river to increase habitat complexity and improved channel flow. The project also would investigate adding a meander to the river channel to create channel complexity and improve sediment movement and moving or removing the constricting bridge across Vance Creek to improve the movement of sediment and large logs. The Skokomish River is used by Chinook and Hood Canal Summer Chum salmon, steelhead, and Bull Trout, all of which are listed as threatened with extinction under the federal Endangered Species Act, as well as by Rainbow and Cutthroat trout and Coho, Pink, and Sockeye salmon. The Mason Conservation District will contribute \$64,175 in a federal grant. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1195)

Mason Conservation District

Grant Awarded: \$199,574

Reconnecting Weaver Creek to Improve Oxygen Levels for Fish

The Mason Conservation District will use this grant to create a 750-foot-long channel that will connect the stagnant section of Weaver Creek to the free-flowing Purdy Creek in Mason County. The conservation district will place 25 logs along the meander beds of the channel and add native plants to 100 feet of both banks, creating a stream bank buffer. This work will restore a free-flowing outlet for Weaver Creek, improving the water quality and oxygen levels that fish need to survive. The creek is used by Puget Sound Chinook Salmon, which are listed as

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threatened with extinction under the federal Endangered Species Act. The Skokomish Indian Tribe will continue to monitor dissolved oxygen levels in the project area. The Mason Conservation District will contribute \$152,785 in a federal grant. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1197)

South Puget Sound Salmon Enhancement Group Improving Habitat in Anderson Creek

Grant Awarded: \$124,550

The South Puget Sound Salmon Enhancement Group will use this grant to improve salmon habitat by placing tree root wads and logs in a lower section of Anderson Creek, which is southwest of Allyn, and planting the creek's banks. Anderson Creek is a major tributary in the Sherwood Creek basin, and an important rearing area for Coho Salmon. Many of the streams in the Sherwood Creek basin are too warm for salmon in the summer. Tree root wads and logs in a creek will create places for fish to rest, feed, and hide from predators. They also will slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they can change the flow of the river, creating riffles and pools, which give salmon more varied habitat and cooler water. Planting trees and bushes along a shoreline helps shade the water, also cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. The South Puget Sound Salmon Enhancement Group will contribute \$23,450 in another grant and donations of cash. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1182)

Squaxin Island Tribe Conserving and Restoring West Oakland Bay

Grant Awarded: \$1,565,116

The Squaxin Island Tribe will use this grant to begin work on multiple projects to conserve and restore the Goldsborough Creek estuary in Oakland Bay, in southern Puget Sound. The larger project has four components: 1) Install up to 14 logjams at the creek mouth to capture sediment; 2) remove a quarter-mile dike and add bed material to build up creek banks to allow trees and plants to survive; 3) produce a final design for the removal of a bulkhead on Port of Shelton property on the north shore of the harbor so the shoreline can be reconfigured to a more natural slope; and 4) buy 14 acres of habitat, including 2 acres of wetland, 4 acres of tideland, and more than 8 acres of shoreline, on Eagle Point in Shelton harbor. This project will benefit steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, and Chinook, Coho, and Chum salmon and Cutthroat Trout. The Squaxin Island Tribe will contribute \$286,000 from another grant. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1107)

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Wild Fish Conservancy **Mapping Stream Water Types to Aid in Protection**

Grant Awarded: \$110,500

The Wild Fish Conservancy will use this grant to determine and correct water type classifications in about 34 miles of streams in the Mason County watersheds. Water type maps demonstrably under-represent the extent of fish and fish habitat, and many streams are mapped incorrectly or not at all. Consequently, many streams that warrant protection may not receive appropriate buffers. The assessment also will provide data on fish species composition and distribution, which will be used to help identify habitat restoration and protection projects. The Wild Fish Conservancy will incorporate assessment results into a Web-based, interactive map that will be available to the public. The project benefits steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, and Coho and Chum salmon, and Cutthroat Trout. The Wild Fish Conservancy will contribute \$19,500 in donations of labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1177)

Wild Fish Conservancy **Studying Hood Canal Summer Chum Salmon's Use of the Shoreline**

Grant Awarded: \$396,400

The Wild Fish Conservancy will use this grant to study Hood Canal Summer Chum Salmon's use of nearshore habitat. The conservancy will conduct intensive field work collecting 2 years of fish use data, as well as perform statistical modeling and reporting to develop an assessment of nearshore habitat usage by juvenile Summer Chum Salmon. The goal of the project is to refine the recovery strategy and project selection process for Hood Canal Summer Chum Salmon, which are listed as threatened with extinction under the federal Endangered Species Act. The Wild Fish Conservancy will contribute \$72,000 in donations of labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1202)

Grants Awarded in Okanogan County

\$398,815

Methow Salmon Recovery Foundation **Conserving Land along the Methow River**

Grant Awarded: \$104,465

The Methow Salmon Recovery Foundation will use this grant to buy 12 acres in the middle Methow River reach, between Twisp and Winthrop, including nearly three-quarter mile of river and side channel. The land is in the "Sugar Dike" area and the purchase will expand the land already protected and create an opportunity for further restoration. The Methow River provides significant spawning and rearing areas for endangered upper Columbia River Spring Chinook Salmon and for steelhead, which are listed as threatened with extinction under the federal Endangered Species Act. Columbia River Bull Trout, Pacific Lamprey, Cutthroat Trout, and Coho Salmon also use the river. The Methow Salmon Recovery Foundation will contribute \$18,435 in a

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local grant and donations of labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1217)

Methow Conservancy Conserving the Twisp River

Grant Awarded: \$294,350

The Methow Conservancy will use this grant to buy a voluntary land preservation agreement⁵ for 29 acres, including a half-mile of riverfront and high quality shoreline and floodplain habitat along the lower Twisp River in Okanogan County. This site is near the mouth of Poorman Creek, which is about 5 miles upstream of the town of Twisp, and is one of the highest priority areas for salmon and steelhead in the Methow Valley. The preservation agreement will prevent the land from being developed for homes and protect the shoreline from removal of trees and bushes, armoring, and other activities that might damage the fish habitat. By permanently protecting existing high quality shoreline and floodplain habitat, the area can continue to provide important salmon habitat functions in perpetuity. The Twisp River is used by endangered spring Chinook Salmon; steelhead, which are listed as threatened with extinction under the federal Endangered Species Act; and Bull Trout. The Methow Conservancy will contribute \$52,000 in donation of property interest. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1251)

Grants Awarded in Pacific County

\$1,013,151

Columbia Land Trust Conserving Chinook River Habitat

Grant Awarded: \$450,500

The Columbia Land Trust will use this grant to buy 250 acres of fish habitat on the Chinook River, just off the Columbia River estuary outside of Chinook, in Pacific County. The land is next to the 600-acre Fort Columbia State Park and 1,000-acre Washington Department of Fish and Wildlife Chinook River Wildlife Area. Purchasing the land will ensure habitat connectivity. The land contains 1 mile of Chinook River, three fish-bearing tributaries, and 210 acres of wetlands. The acquisition will enable habitat restoration and support local and out of basin populations of fall Chinook, Chum, and Coho salmon, and steelhead, all of which are listed as threatened with extinction under the federal Endangered Species Act as well as listed eulachon. The Columbia Land Trust will contribute \$89,500 in a federal grant. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1111)

⁵A land preservation agreement, also called a conservation easement, is a voluntary agreement between a landowner and private land conservation organization or a government agency. The landowner maintains ownership of the land, continues to manage it, and receives compensation, such as cash, reduced taxes, or other incentives, in exchange for limiting development on the land.

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Cowlitz Indian Tribe **Removing Roads and Culverts to Prevent Landslides**

Grant Awarded: \$55,997

The Cowlitz Indian Tribe, in partnership with Rayonier, will use this grant to abandon .65 mile of road, pull back .67 mile of fill, and replace four large pipes, also called culverts, which carry streams under roads in private forests. The preventative road treatment project will reduce the risk of landslides. Rayonier's geologist identified the areas as likely slide areas that could dump large amounts of sediment to the Grays River. The river is used by winter steelhead. The Cowlitz Indian Tribe will contribute \$55,997 in donations of cash. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1134)

Cowlitz Indian Tribe **Trapping Large Woody Materials in the East Fork Grays River to Increase Habitat**

Grant Awarded: \$124,300

The Cowlitz Indian Tribe will use this grant to develop preliminary designs and install vertical pilings to capture and keep large tree root wads and logs in the East Fork Grays River. The large woody materials will encourage habitat stability and complexity. The woody materials create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they change the flow of the river, creating riffles and pools, which give salmon more varied habitat. The river is used by winter steelhead spawning adults and rearing juveniles. The Cowlitz Indian Tribe will contribute \$23,400 in donations of materials. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1135)

Pacific County Anglers **Removing Barriers to Fish Passage on Stringer Creek**

Grant Awarded: \$382,354

The Pacific County Anglers will use this grant to remove a pipe, also called a culvert, that carries Stringer Creek under Hyland/Stringer Road and build a new channel for the creek, which is in Pacific County. Removing the pipe will open 6.6 miles of high quality salmon habitat. In addition, the new, 750-foot-long channel downstream from the pipe will have meanders, pools, and riffles, increasing the types of habitat salmon need to survive. Stringer Creek is used by Chum, Chinook, and Coho salmon, steelhead, and Cutthroat Trout. Pacific County Anglers will contribute \$68,048. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1047)

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Grant Awarded in Pend Oreille County

\$359,992

Kalispel Tribe of Indians

Grant Awarded: \$359,992

Making Changes to Forest Roads to Improve Fish Habitat

The Kalispel Tribe of Indians and U.S. Forest Service will use this grant to obliterate and rebuild forest roads along Leclerc Creek in the Colville National Forest, in Pend Oreille County. The work will remove fish passage barriers and restore the natural stream channel, helping Bull Trout, which are listed as threatened with extinction under the federal Endangered Species Act, and Westslope Cutthroat Trout. Specifically, the Tribe and U.S. Forest Service will remove three culverts (pipes that carry streams under roads) that block fish passage, obliterate 1.8 miles of road and build .7 mile of new road, and rebuild 1.2 miles of road to connect to a forest road on land owned by Stimson Lumber Company. Removing the fish passage barriers will open 4.5 miles of habitat on West Branch Leclerc Creek and its tributaries, Saucon Creek, and an unnamed tributary. The Kalispel Tribe of Indians will contribute \$63,528 in staff labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1106)

Grants Awarded in Pierce County

\$4,648,756

Forterra

Grant Awarded: \$163,152

Studying the Possibility of Removing the Chambers Creek Dam

Forterra and its partners will use this grant to assess the feasibility of buying the Chambers Creek Dam in Pierce County, removing it, and restoring the area. The dam, which is three-quarters of a mile upstream from the mouth of Chambers Creek, between Lakewood and University Place, impedes fish passage and contributes to increased death and predation from fish-eating birds and mammals. The premise of this proposal is that the dam likely will be removed or fail in the next several years, and the community should work together to determine how and when it will be removed and the site restored. Removal of the dam would help restore habitat to the lower 4 miles of Chambers Creek. The estuary, in which the dam is located, is the major estuarine feature between the Nisqually River and the Tacoma narrows. Restoration would benefit Puget Sound Chinook Salmon and steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act, and Coho and Chum salmon and Smelt. Forterra will contribute \$78,692 in a local grant. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1159)

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Nisqually Land Trust Conserving Little Mashel River Habitat

Grant Awarded: \$129,370

The Nisqually Land Trust will use this grant to buy a voluntary land preservation agreement⁶ on 5 acres on the east side of the Little Mashel River, near the river's confluence with the Mashel River. The land includes about 700 feet of shoreline and is next to land owned and managed by the land trust and the Town of Eatonville. The goal of the project is to prevent further residential development and eliminate more damage to habitat used by Chinook Salmon and steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act. The land is zoned for up to 20 homes. The Nisqually Land Trust will contribute \$22,830. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1232)

Nisqually Land Trust Conserving the Mashel River

Grant Awarded: \$724,165

The Nisqually Land Trust will use this grant to buy 2.49 salmon-producing river miles, 1.78 tributary miles, 313 acres of shoreline habitat, and 60 acres of forest in the middle reach of the Mashel River. The purchase will protect permanently priority habitat for Chinook Salmon and steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act. The land is threatened by logging and development. The Mashel River is the largest tributary to the Nisqually River. The Nisqually Land Trust will contribute \$149,335 in cash and a grant from the state Washington Wildlife and Recreation Program. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1233)

Nisqually River Foundation Monitoring Hatchery and Wild Chinook

Grant Awarded: \$41,500

The Nisqually River Foundation, in partnership with the Nisqually Indian Tribe, will use this grant to fund continued evaluation of the response of hatchery and natural juvenile Chinook Salmon to the restoration of the Nisqually Delta, the largest tidal marsh restoration in Puget Sound. The Tribe has begun implementing a Chinook Salmon stock management plan, which integrates habitat, harvest, and hatchery actions to develop a locally adapted, natural population of Chinook salmon. Successful implementation of the plan depends on robust hatchery and natural stock monitoring, a vital component to ongoing monitoring and adaptive management efforts. Data collection efforts will focus on juvenile Chinook Salmon abundance and distribution throughout the lower Nisqually River, estuary, and south Puget Sound near-shore. Chinook Salmon are listed as threatened with extinction under the federal Endangered Species Act. The

⁶A land preservation agreement, also called a conservation easement, is a voluntary agreement between a landowner and private land conservation organization or a government agency. The landowner maintains ownership of the land, continues to manage it, and receives compensation, such as cash, reduced taxes, or other incentives, in exchange for limiting development on the land.

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Nisqually Indian Tribe will contribute \$7,500 in donations of equipment and labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1261)

Pierce County

Grant Awarded: \$875,631

Buying Land and Planning Restoration along the Puyallup River

Pierce County Surface Water Management Division will use this grant to buy land along Neadham Road, on the upper Puyallup River, and if money remains, complete conceptual designs for future levee removal. The land is about 5.5 miles south of Orting, in Pierce County. The County wants to remove homes, levees, and roads in the Neadham Road floodplain area so the Puyallup River can reach its full historical right bank floodplain. This project is a continuation of a larger project that will reconnect 1.3 miles of uninterrupted floodplain and shoreline along the right bank of the Puyallup River. The river is used by Chinook Salmon, Bull Trout, and steelhead, all of which are listed as threatened with extinction under the federal Endangered Species Act, as well as by Chum, Coho, and Pink salmon and Cutthroat and searun Cutthroat trout. Pierce County will contribute at least \$161,022. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1157)

Pierce County

Grant Awarded: \$105,000

Studying the Feasibility of Removing Two Fish Barriers on Purdy Creek

The Pierce County Public Works Department will use this grant to complete a feasibility study of removing two fish passage barriers on Purdy Creek and restoring a historic arm of Burley Lagoon near Purdy, in southern Puget Sound. One barrier, which is owned by Pierce County, is at 144th Street Northwest in the historic tidal prism and is connected to concrete box culvert with a gas station built over it. The second barrier, which is owned by the Washington Department of Transportation, is downstream, under State Route 302, on the eastside of Burley Lagoon. The feasibility study will define and model the expected physical and ecological outcomes with different sized openings at State Route 302, a reroute around the gas station, the removal of the gas station and associated fill, and the restoration of the historic tidal channel area. Pierce County also will evaluate acquisition and contamination issues. This information will help the Department of Transportation and Pierce County select the best approaches to restoring fish passage and estuary habitat. Purdy Creek is used by Chinook Salmon and winter steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act, and by Coho and Fall Chum salmon and Coastal Cutthroat Trout. Pierce County will contribute \$20,000. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (14-2176)

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South Puget Sound Salmon Enhancement Group Restoring South Prairie Creek

Grant Awarded: \$1,363,438

The South Puget Sound Salmon Enhancement Group and its partners will use this grant to implement the first construction phase of a stream and floodplain restoration project along a half-mile of South Prairie Creek, east of Orting. The group will place tree root wads and logs in the creek; install woody structures in the floodplain; demolish a bridge on the creek and replace it with one over Silver Springs, off Spring Site Road; demolish remnant dairy buildings; and plant 18 acres. Placing logs in rivers creates places for fish to rest, feed, and hide from predators. The logs also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they change the flow of the river, creating riffles and pools, which give salmon more varied habitat. This project will increase the types of habitat in the creek, create places off-channel for fish to rest, restore the creek banks, and reconnect the creek to its floodplain. The work will increase the overall capacity of this stream to support Pacific salmon, specifically Puget Sound Chinook Salmon and steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act, and Coho, Chum, and Pink salmon, and Coastal Cutthroat Trout. The South Puget Sound Salmon Enhancement Group, along with Pierce County, the Puyallup Tribe of Indians, and the Pierce Conservation District, will contribute \$248,000. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1224)

South Puget Sound Salmon Enhancement Group Restoring the Mashel River

Grant Awarded: \$1,190,000

The South Puget Sound Salmon Enhancement Group and partners will use this grant to implement the third phase of a decade-long restoration effort to improve salmon habitat in the Mashel River, near Eatonville. The team will install engineered logjams and wood crib walls in the river, reconnect a side channel, and plant about 5 acres of shoreline. This section of the Mashel River is a high restoration priority in multiple recovery plans. The loss of habitat diversity there is the single, largest limiting factor for salmon populations. Placing logjams in the river will create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, logjams change the flow of the river, creating riffles and pools, which give salmon more varied habitat. Reconnecting off-channel habitat increases the areas salmon can go to rest during high water flows. Planting trees and bushes along a shoreline helps shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. The South Puget Sound Salmon Enhancement Group will contribute \$210,060 in federal and other grants and donations of labor. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1231)

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South Puget Sound Salmon Enhancement Group **Grant Awarded: \$56,500** **Studying the Feasibility of Replacing a Culvert on Crescent Creek**

The South Puget Sound Salmon Enhancement Group will use this grant to complete a feasibility study to replace the culvert at Crescent Creek, a tributary to Puget Sound. Flowing about 3 miles from Crescent Lake, the Creek enters Puget Sound in the northeast corner of Gig Harbor through an undersized pipe, or culvert, under 96th Street Northwest/Vernhardson Street. The culvert restricts tidal flow, inhibits some fish passage, and fragments the estuary. This project would complete a feasibility study to evaluate fish passage, tidal hydrology, and estuarine function to prescribe a design for a new structure to restore fish passage and tidal hydrology. Crescent Creek is used by Chinook Salmon and winter steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act, and by fall Chum and Coho Salmon. The South Puget Sound Salmon Enhancement Group will contribute \$10,000 in donations of labor. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1079)

Grants Awarded in San Juan County **\$952,319**

Friends of the San Juans **Grant Awarded: \$91,260** **Designing the Restoration of Sucia Island's Salt Marsh**

The Friends of the San Juans will use this grant to complete preliminary designs for a project to remove a road, fill, culvert, and revetment along Mud Bay's beach on Sucia Island. Removal of the road and culvert will allow seawater to cover the entire marsh and uncover about 8,000 square feet of beach and salt marsh habitat. The 2.2-acre marsh and beach were altered when a road was built along the shore. There is a single, 18-inch corrugated plastic pipe that allows only a partial exchange between the salt marsh and Mud Bay. The pipe prevents young fish from traveling through and using the salt marsh. Salt marshes are important to salmon because they provide a place for salmon to transition between freshwater and the ocean. The road, its armor, and fill buries marsh and upper beach habitat. During this phase of the project, Friends of the San Juans and the Washington State Parks and Recreation Commission will work with technical experts to complete a preliminary design for the salt marsh and associated pocket beach and for a feasible, cost-effective alternative to support park operations impacted by road removal. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1288)

Friends of the San Juans **Grant Awarded: \$172,176** **Uncovering Fish Spawning Habitat**

The Friends of the San Juans will use this grant to remove large rocks that have buried spawning habitat of surf smelt, a fish salmon eat, in San Juan County at Blind Bay on Shaw Island and at

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West Sound on Orcas Island. Over decades, waves have moved angular rocks placed to protect roadways onto beaches used by smelt to spawn. The Friends of the San Juans will use both machines and volunteers to remove the unwanted rocks. Hand removal will be completed using Washington Conservation Corps crews and community volunteers, providing an excellent opportunity for engagement and education while minimizing construction impacts to sensitive areas. The Friends of the San Juans will contribute \$30,384 from another grant and donations of labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1289)

Long Live the Kings

Grant Awarded: \$196,383

Studying Chinook Salmon in the San Juan Islands

Long Live the Kings will use this grant to assess the role of Chinook Salmon residency in the San Juans relative to salmon recovery. The group will determine the natural populations represented, the relationship between residency and overall ocean survival, what influences residency, and the relative importance of the San Juan Islands to sustaining this unique life-history trait that provides diversity and resilience to Puget Sound Chinook. The San Juan Islands have the highest catch-rate of resident Chinook Salmon anywhere in Puget Sound. Results will help determine the priority of protecting the resident form, and what steps, including habitat restoration and protection, harvest changes, and hatchery management modifications, can be taken to do so. This collaborative effort is a component of the Salish Sea Marine Survival Project. Puget Sound Chinook Salmon are listed as threatened with extinction under the federal Endangered Species Act. Long Live the Kings will contribute \$60,000 from another grant. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1239)

San Juan County Land Bank

Grant Awarded: \$492,500

Conserving Cascade Creek Shoreline

The San Juan County Land Bank will use this grant to buy nearly 24 acres of forest and shoreline along Cascade Creek, on Orcas Island. Cascade Creek has valuable freshwater salmon habitat and documented historical use by Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act, and Coho Salmon and Cutthroat Trout. Included in the acquisition request will be nearly a quarter-mile of creek shoreline, including all 300 feet of the currently available salmon habitat. The San Juan County Land Bank will contribute \$88,500 in voter-approved bonds and donations of labor. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1300)

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Grants Awarded in Skagit County

\$5,445,289

Skagit Fisheries Enhancement Group

Grant Awarded: \$199,426

Designing a Restoration Project for Carey's Slough

The Skagit Fisheries Enhancement Group and the Town of Hamilton will use this grant to develop a suite of restoration actions in and around for Carey's Slough and take one of those restoration actions to preliminary design. The slough is in the middle reaches of the Skagit River in the town of Hamilton. Restoring the slough could give salmon access to more than 12 acres of off-channel habitat, where they can rest and grow while. It also can reduce flood risk for local residents. The slough is used by Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1164)

Skagit Fisheries Enhancement Group

Grant Awarded: \$77,688

Planning the Removal of Barriers to Fish Passage in Skagit River Side Channels

The Skagit Fisheries Enhancement Group will use this grant to complete final designs for the removal or replacement of two barrier culverts on East Fork Day Creek and Cedar Grove-Ovenell slough, near Sedro-Woolley and Concrete. The culverts, which are large pipes that carry creeks under roads, partly or completely block fish from moving through them. Each of these barriers is surrounded by floodplains that are undeveloped, forested, and generally protected from future development. Providing young salmon access to floodplain channels will improve their survival during floods. The creek and slough are used by Chinook Salmon, steelhead, and Bull trout, all of which are listed as threatened with extinction under the federal Endangered Species Act. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1166)

Skagit Fisheries Enhancement Group

Grant Awarded: \$1,839,734

Restoring a Side Channel in Pressentin Park

The Skagit Fisheries Enhancement Group will use this grant to restore side channel habitat in Pressentin Park in Marblemount, along the Skagit River. The salmon enhancement group will re-configure a relict side channel so that it gets water and provides more than 2 acres of rearing habitat for juvenile Chinook Salmon and steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act, and other salmon species and 11 acres of streamside vegetation. Analyses indicate that the restored channel may provide spawning habitat also for Coho and Chum salmon. The Skagit Fisheries Enhancement Group will contribute \$315,000 in a local grant and donations of labor. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1165)

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Skagit Land Trust

Grant Awarded: \$164,755

Conserving the Lake Creek Wetland Complex

The Skagit Land Trust will use this grant to buy slightly more than 50 acres to permanently protect high quality steelhead habitat on the West Fork Nookachamps Creek. The land includes 46 acres of wetlands; a small wooded area; 3,900 feet of Lake Creek, which moves freely across the land in deep braided channels; and 1,000 feet of Big Lake shoreline. The land is one of the largest, intact, functioning wetlands in this section of the Nookachamps, and is significant juvenile rearing habitat for steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, and other salmon species. Based on historic photographs, the wetlands appear to have been mostly undisturbed. The Skagit Land Trust will contribute \$29,075. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1172)

Skagit River System Cooperative

Grant Awarded: \$328,000

Planting the Shorelines of the Skagit River Watershed to Create Habitat

The Skagit River System Cooperative will use this grant to plant trees and shrubs along 2.3 miles of the banks and floodplains of the Skagit River watershed. Planting trees and bushes along a shoreline helps shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. The work will restore habitat and water quality for Chinook Salmon, steelhead, and Bull Trout, all of which are listed as threatened with extinction under the federal Endangered Species Act, and Chum, Pink, Coho, and Sockeye salmon and Cutthroat Trout. This project is a partnership between Skagit Fisheries Enhancement Group and Skagit River System Cooperative, along with multiple landowners in the Skagit River basin, including Seattle City Light, Skagit Land Trust, Swinomish Indian Tribal Community, North Cascades Institute, and Washington State Department of Transportation. The Skagit River System Cooperative will contribute \$60,000. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1168)

Skagit River System Cooperative

Grant Awarded: \$2,538,336

Restoring Habitat in Illabot Creek

The Skagit River System Cooperative will use this grant to remove 850 feet of dike and build two, 100-foot-long bridges on Rockport-Cascade Road, over Illabot Creek, near Rockport. The work will reconnect the creek to its historic channels on the floodplain and alluvial fan and improve fish habitat in these historic spawning areas. The cooperative also will complete final designs for the project and install logjams in the creek. Logjams create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, logjams change the flow of the river, creating riffles and pools, which give young salmon more varied habitat in

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which to grow. One existing bridge will be left in place. The project initially will direct the creek through constructed pilot channels and under the two new bridges, and then, over time, will allow the natural processes of erosion, deposition, and channel development to occur across the alluvial fan. The work is expected to increase substantially spawning and rearing habitat for Chinook Salmon, steelhead, and Bull Trout, all of which are listed as threatened with extinction under the federal Endangered Species Act, and other species. The Skagit River System Cooperative will contribute \$459,275. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1169)

Skagit River System Cooperative Studying Chinook in the Skagit River Basin

Grant Awarded: \$97,350

The Skagit River System Cooperative will use this grant to measure habitat for Chinook Salmon in the Skagit River. Chinook Salmon are listed as threatened with extinction under the federal Endangered Species Act. Specifically, the cooperative will use aerial photography to identify shallow edge habitats where young salmon and trout grow. This will be the third survey, giving the ability to establish long-term trends in habitat quantity and quality throughout the Skagit River basin. This will help answer the question of whether habitat, collectively, is increasing or decreasing after a decade of habitat restoration and rural development. The survey will look at Chinook habitat in the Skagit River, its floodplain, and 14 tributaries. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1449)

Washington Department of Fish and Wildlife Designing the Restoration of Milltown Island

Grant Awarded: \$200,000

The Washington Department of Fish and Wildlife will use this grant to develop a preliminary design for restoration of 216 acres of the middle and northern portions of Milltown Island, which is on the South Fork Skagit River, in the 17,000-acre Skagit Wildlife Area. The island is defined by Steamboat Slough to the west and Tom Moore Slough to the east. As early as the late 1800s, the area was diked and drained for agricultural uses. The Skagit River System Cooperative, in partnership with Department of Fish and Wildlife, removed about more than a quarter-mile of dike along Steamboat Slough, developed a marsh channel on the island, removed two sections of a mid-island cross dike, and created more than a half-mile of channels. These restoration efforts restored tidal processes to about half the island. The department will be planning to remove more levee, develop more tidal channels, and manage the shoreline plants to return to more native communities. This part of the Skagit River is used by Chinook, steelhead, and Bull Trout, all of which are listed as threatened with extinction under the federal Endangered Species Act. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1167)

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Grants Awarded in Skamania County

\$1,087,903

Lower Columbia Estuary Partnership Restoring Upper Hamilton Creek

Grant Awarded: \$295,250

In partnership with the U.S. Forest Service, the Lower Columbia Estuary Partnership will use this grant to restore 1.3 miles of upper Hamilton Creek. The project team will refine preliminary designs, get permits, install about 30 logjams in the creek, and plant nearly 10,000 bushes and trees on 30 acres of shoreline. The work will increase the quantity and diversity of habitat for Coho Salmon and winter steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act. Logjams create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, logjams change the flow of the river, creating riffles and pools, which give salmon more varied habitat. Planting trees and bushes along a shoreline helps shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. The Lower Columbia Estuary Partnership will contribute \$126,526 in donations of cash, labor, and materials. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1114)

Lower Columbia Fish Enhancement Group Removing Log Dams in Silver and Bluebird Creeks

Grant Awarded: \$301,000

The Lower Columbia Fish Enhancement Group will use this grant to open fish passage to the upper reaches of Silver and Bluebird Creeks in the upper Washougal River, in Skamania County. Both of these creeks contain very large, cemented log dams, which block fish passage to about 4 miles of habitat and block downstream transport of woody materials and spawning gravel. The log dams were created in the 1950s, when the surrounding land was logged and the logs were dragged off the hillsides into the stream channels and then skidded down the stream channels to the river. The Lower Columbia Fish Enhancement Group will modify the three log dams to restore fish passage to about 1.75 miles of habitat in Silver Creek and 2.3 miles of habitat in Bluebird Creek. The fish enhancement group also will move some of the salvaged logs into the lower reaches of each creek to form logjams and other wood structures to enhance spawning and rearing habitat. Logjams create places for fish to rest and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, logjams change the flow of the river, creating riffles and pools, which give salmon more varied habitat. When the log dams are opened, about 12,000 cubic yards of spawning gravels stored behind the dams will be released downstream, which will create riffles and pools as habitat for summer steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, and for resident Rainbow and Cutthroat trout. The project sites are on land owned by the Washington Department of Natural Resources.

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The Lower Columbia Fish Enhancement Group will contribute \$54,000 in donations of labor and materials. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1090)

Mid-Columbia Fisheries Enhancement Group **Grant Awarded: \$66,500** **Monitoring Fish Returning to the White Salmon River after Condit Dam Removal**

The Mid-Columbia Fisheries Enhancement Group and the U.S. Geological Survey will use this grant to monitor salmon species returning to the White River and its tributaries after 2012 removal of the Condit dam. The goal is to understand the abundance, distribution, origin, and productivity of returning salmon and steelhead listed as threatened with extinction under the federal Endangered Species Act. Results will be compared to baseline data collected by the U.S. Geologic Survey before dam removal. The grant will support the operation of a smolt trap to sample out-migrating juvenile salmon and steelhead, which will provide new information about salmon recolonization. This type of monitoring has not been conducted since the removal of the dam. The Mid-Columbia Fisheries Enhancement Group will contribute \$11,736. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1296)

Underwood Conservation District **Grant Awarded: \$425,153** **Replacing a Fish Blocking Culvert**

The Underwood Conservation District will use this grant to replace a large pipe that carries Mill Creek under Lakeview Road and completely blocks fish passage. The conservation district will install a bottomless, concrete box that will allow fish to pass through. Mill Creek is a tributary to the White Salmon River and this barrier was ranked as the highest priority for removal in the watershed. The work will open 4.55 miles of high-quality, tributary stream habitat in Mill Creek above the former Condit Dam to fish. Mill Creek is used by steelhead and Chinook Salmon, both of which are listed as threatened with extinction under the federal Endangered Species Act, as well as Coho Salmon, Rainbow Trout, and Pacific and Brook Lamprey. The larger opening created by the new concrete box, or culvert, will allow high stream flows, large logs and branches, and sediment through, allowing Mill Creek to function as a natural part of the White Salmon River basin. The Underwood Conservation District will contribute \$78,700 in a federal grant. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1258)

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Grants Awarded in Snohomish County

\$1,740,996

Adopt A Stream Foundation

Grant Awarded: \$195,192

Restoring the Woods Creek Watershed

In partnership with the Snohomish Conservation District, the Adopt A Stream Foundation will use this grant to install about 12 structures of tree root wads and logs in the Woods Creek watershed, north of the city of Monroe. In addition, the foundation will restore 2 acres of shoreline habitat. Placing logs in creeks creates places for fish to rest, feed, and hide from predators. The logs also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, logs change the flow of the river, creating riffles and pools, which give salmon more varied habitat. Planting trees and bushes along a shoreline helps shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. The Woods Creek watershed is used by Fall Chinook Salmon, summer steelhead, and Bull Trout, all of which are listed as threatened with extinction under the federal Endangered Species Act. Additional salmon species that will benefit include Coho, Pink, and fall Chum salmon. A lack of large wood in the channel, too much fine sediment, infrequent and shallow pools, and high summer water temperatures are limiting salmon populations. Adopt A Stream Foundation will contribute \$35,000 in donations of labor and materials. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1131)

Snohomish Conservation District

Grant Awarded: \$408,445

Re-establishing the Moga Back Channel along the Snohomish River

The Snohomish Conservation District, in partnership with the Moga family, will use this grant to re-establish off-channel habitat on the Snohomish River, just below the confluence of the Skykomish and Snoqualmie Rivers. The conservation district will remove two barrier crossings, excavate a series of relic side channels, place tree root wads and logs in the river, and plant 5 acres of shoreline forest. This project will re-establish this off-channel habitat for juvenile Chinook and Coho salmon and steelhead by allowing for exchange with the river during normal winter flows. The Snohomish Conservation District will contribute \$72,079 in donations of cash. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1198)

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Snohomish County

Grant Awarded: \$201,750

Controlling Knotweed in North and South Forks of the Stillaguamish River

The Snohomish County Department of Public Works will use this grant to continue knotweed control in restoration areas along the South and North Forks of the Stillaguamish River. A total of 140 acres of knotweed on 42 river miles will be controlled between Oso and Arlington. Knotweed control will be followed by planting of 5 acres with about 3,000 trees. Knotweed inhibits the formation of functioning river bank habitat, which is one of six primary factors limiting Chinook Salmon populations in the Stillaguamish River. Today, Chinook Salmon populations are about 1 percent of historic numbers. Planting trees and bushes along a shoreline helps shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. Knotweed has been shown to damage salmon habitat by reducing shade and food supply in the water, warming the water, and reducing the amount of large logs and branches that can fall into the water and create habitat for salmon. Knotweed smothers young trees. Snohomish County will contribute \$45,000 in cash, a state grant, and donations of materials. This grant is from the Salmon recovery grant program. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1110)

Snohomish County

Grant Awarded: \$250,000

Designing the Removal of a Fish Passage Barrier at Meadowdale Beach County Park

The Snohomish County Department of Parks and Recreation will use this grant to prepare preliminary designs for habitat improvements at Meadowdale Beach County Park, which is at the northern end of Browns Bay in Puget Sound. The design will focus on removing about 130 feet of armored railroad embankment, replacing a small pipe that carries Lund's Gulch Creek under the railroad with a bridge, creating up to nearly 1 acre of tidal marsh pocket estuary, connecting a small freshwater wetland to the creek, restoring about 1 acre of near-shore and shoreline buffers, and restoring sediment delivery to the near-shore to contribute to delta formation. The bridge will provide additional room for the creek to meander, which will create essential habitat over time. The project improvements are focused on enhancing rearing habitat for Chinook Salmon, which are listed as threatened with extinction under the federal Endangered Species Act, and for Coho and Chum salmon, Cutthroat Trout, and other fish. Snohomish County will contribute \$45,000 in local funds. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1056)

Snohomish County

Grant Awarded: \$55,125

Monitoring Chinook Salmon Habitat in Stillaguamish River Side Channels

The Snohomish County Department of Public Works will use this grant to evaluate the edge habitat in floodplain side channels of the Stillaguamish River used by Chinook Salmon, which are

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listed as threatened with extinction under the federal Endangered Species Act. This effort will be repeated to develop trends. Floodplains provide critical nursery habitat for young fish, enabling them to increase their size and ability to survive in the ocean. Snohomish County will contribute \$9,728. This grant is the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1333)

Tulip Tribes Restoring the Qwuloolt Estuary

Grant Awarded: \$500,000

The Tulip Tribes used this grant to breach a levee along Ebey Slough and build a setback levee to protect land in the floodplain. This funding is part of the \$7.8 million project to restore the Qwuloolt estuary and reconnect 350 acres of isolated floodplain. The project also restored two stream systems and provides unrestricted fish access to 16 miles of spawning and rearing habitat. This grant was funded in October and is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (09-1277)

Wild Fish Conservancy Designing Logjam Placement in the Middle Pilchuck River

Grant Awarded: \$130,484

The Wild Fish Conservancy will use this grant to develop preliminary designs for placing logjams in the middle Pilchuck River. The goal of the project is to restore the historic floodplain processes and function in the area. Although habitat in this reach of the river is degraded, there is still a high concentration of Chinook Salmon spawning. Logjams create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, logjams change the flow of the river, creating riffles and pools, which give salmon more varied habitat. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1199)

Grants Awarded in Thurston County

\$1,046,814

Capitol Land Trust Conserving Deschutes River Floodplain

Grant Awarded: \$208,250

The Capitol Land Trust will use this grant to buy fee title to a strategic reach of the Deschutes River along with the floodplain and off-channel habitat in central Thurston County. This 21-acre property is at a sharp bend in the Deschutes River, incorporating about one-third mile of the Deschutes River and its shoreline. The majority of the property is river floodplain that has historically been used for agriculture, with a wetland and beaver pond that connects to the river. The property runs along the Chehalis Western Trail and about 50 acres of land owned by

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Thurston County Parks and Recreation Services. This project will protect rearing and spawning habitat for steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, and for Coho Salmon and Cutthroat Trout. Capitol Land Trust will contribute \$36,750 in a local grant. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1152)

Capitol Land Trust Designing a Farm Bridge Over the Deschutes River

Grant Awarded: \$25,000

The Capitol Land Trust will use this grant to develop a preliminary design and cost estimate for replacing a farm bridge over the Deschutes River on the 550-acre Nelson Ranch, in central Thurston County. The bridge washed out 15 years ago and since then the landowners have been using a ford in the river to move equipment and cattle across the river. This project would help determine the economic and technical feasibility of replacing the bridge sometime in the future to avoid the negative impacts of more than 1,000 river crossings each year by livestock and farm equipment. The river is used for spawning and rearing by steelhead, which are listed as threatened with extinction under the federal Endangered Species Act, and by Coho Salmon and Cutthroat Trout. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1154)

Nisqually Land Trust Conserving the Nisqually River

Grant Awarded: \$300,000

The Nisqually Land Trust will use this grant to buy 35 acres, including 7 acres of shoreline habitat, 8 acres of forested wetlands, and nearly a half-mile of river shoreline on the Thurston County side of the Nisqually River. The land connects to lands owned and managed by the land trust and the City of Yelm. The goal of this project is to protect naturally functioning habitat-forming processes, existing high-priority salmon and trout rearing habitats, and an important transport corridor that is used by all salmon species in the Nisqually River. The Nisqually Land Trust will contribute \$97,200 in cash and conservation futures.⁷ This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1238)

South Puget Sound Salmon Enhancement Group Designing a Project to Improve Salmon Habitat in the Deschutes River

Grant Awarded: \$92,000

The South Puget Sound Salmon Enhancement Group will use this grant to develop a preliminary design to enhance salmon habitat in a quarter-mile of the Deschutes River, in Thurston County. The enhancement group will design a project to place large tree root wads and logs in the river to increase the types of habitat found there, and plant and maintain a buffer of native trees

⁷Conservation futures are a portion of property taxes used by local governments to buy land or development rights to protect natural areas, forests, wetlands, and farms.

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along the shoreline. Tree root wads and logs create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they change the flow of the river, creating riffles and pools, which give salmon more varied habitat and cooler water. This part of the river has too much fine sediments entering the river and water that can be too warm. The river is used by Chinook Salmon and steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act, and by Coho and Chum salmon and Coastal Cutthroat Trout. The land is owned by the Center for Natural Lands Management, which manages it for preservation and restoration. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1228)

South Puget Sound Salmon Enhancement Group Designing Habitat Improvements in the Deschutes River

Grant Awarded: \$72,000

The South Puget Sound Salmon Enhancement Group will use this grant to conduct geotechnical analysis and hydraulic modeling of about a quarter-mile of the Deschutes River, in Thurston County, and then develop preliminary designs for placing large tree root wads and logs in the river. Placing logs and root wads in the river creates places for fish to rest, feed, and hide from predators. It also slows the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, it can change the flow of the river, creating riffles and pools, which give salmon more varied habitat. The enhancement group also will discuss the plans with landowners and others. The enhancement group also will assess design criteria such as environmental and habitat impact, project stability and life expectancy, infrastructure and private property impact, public safety and use, construct-ability, and construction impacts. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1226)

South Puget Sound Salmon Enhancement Group Removing Fish-blocking Culverts in Lake Lawrence

Grant Awarded: \$239,064

The South Puget Sound Salmon Enhancement Group will use this grant to improve fish passage by removing a pipe that carries a small, Lake Lawrence stream and replacing it with a full spanning bridge across the stream. The enhancement group also will install logjams, wood, and large boulders in the stream channel. Logjams create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, logjams change the flow of the river, creating riffles and pools, which give salmon more varied habitat. The enhancement group will plant about 3 acres with trees and shrubs. Planting trees and bushes along a shoreline helps shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. The Lake Lawrence stream confluence is on the Deschutes River, in Thurston County. This project complements a larger

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nearby restoration project. The stream and the Deschutes River are used by Chinook Salmon and steelhead, both of which are listed as threatened with extinction under the federal Endangered Species Act, and by Coho and Chum salmon and Coastal Cutthroat Trout. The South Puget Sound Salmon Enhancement Group will contribute \$43,836 in another grant. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1227)

Wild Fish Conservancy Mapping Stream Water Types to Aid in Protection

Grant Awarded: \$110,500

The Wild Fish Conservancy will use this grant to determine and correct water type classifications in about 34 miles of streams in the McLane and Deschutes watersheds. Water type maps demonstrably under-represent the extent of fish and fish habitat, and many streams are mapped incorrectly or not at all. Consequently, many streams that warrant protection may not receive appropriate buffers. The assessment also will provide data on fish species composition and distribution, which will be used to help identify habitat restoration and protection projects. The Wild Fish Conservancy will incorporate assessment results into a Web-based, interactive map that will be available to the public. The Wild Fish Conservancy will contribute \$19,500 in donations of materials. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1176)

Grants Awarded in Walla Walla County

\$246,529

Tri-State Steelheaders Inc. Designing a Project to Improve Fish Passage in Mill Creek

Grant Awarded: \$155,371

The Tri-State Steelheaders will use this grant to complete final designs for part of an ongoing project to improve fish passage in a nearly mile-long reach of the concrete-lined Mill Creek, between Roosevelt and Park Streets, in Walla Walla. To help control flooding, Mill Creek is put in a concrete channel that extends more than 2 miles through Walla Walla. The fish encounter barriers, have no resting places, and experience low flows and water that is too warm as early as late spring. Often by mid-May, fish become trapped in the flood control channel, where they die from water that is too warm. Upstream of the flood control project, is a critical and underused area for spawning and rearing. Mill Creek is used by steelhead and Bull Trout, both of which are listed as threatened with extinction under the federal Endangered Species Act, and by Chinook Salmon. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1324)

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Washington Department of Fish and Wildlife **Removing Old Bridge Remnants to Improve Fish Passage**

Grant Awarded: \$91,158

The Washington Department of Fish and Wildlife will use this grant to remove remnants of an old bridge that are blocking fish passage under Collins Bridge, where Lower Waitsburg Road spans Dry Creek, north of Walla Walla. The relic structure consists of a concrete apron and wing walls from an old Lutin arch bridge. The department will remove the old structure and reshape the channel under the bridge to prevent Dry Creek from eroding the area. The department also will place riprap on the banks around the footings to protect the bridge. Dry Creek, a tributary of the Walla Walla River, is used by steelhead and Bull Trout, both of which are listed as threatened with extinction under the federal Endangered Species Act, and by Spring Chinook Salmon. Removal of the blockage will allow fish access to 10.2 miles of habitat. Walla Walla County has agreed to share the cost of this project and the Department of Fish and Wildlife will contribute \$35,000 in donations of cash. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1307)

Grants Awarded in Whatcom County

\$3,332,534

Lummi Nation **Placing Logjams to Create Habitat in the Middle Fork Nooksack River**

Grant Awarded: \$867,114

The Lummi Nation will use this grant to build 11 logjams in the Middle Fork Nooksack River, in the town of Welcome, in Whatcom County. The Middle Fork suffers from water that is too warm, unstable channels, and not enough habitat. Logjams create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, logjams change the flow of the river, creating riffles and pools, which give salmon more varied habitat and cooler water. The work also will increase the river's connection with its floodplain and side channels, creating 1.23 miles of off-channel rearing habitat. The Middle Fork is used by Chinook Salmon, Bull Trout, and steelhead, all of which are listed as threatened with extinction under the federal Endangered Species Act, and by Coho, Chum, and Pink salmon. The Lummi Nation will contribute \$155,657 in a federal grant. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1286)

Lummi Nation **Restoring South Fork Nooksack River Habitat**

Grant Awarded: \$285,159

The Lummi Nation will use this grant to build four logjams, augment three others, and build other log structures in the South Fork Nooksack River. In addition, the Tribe will remove 600 feet of revetment. Logjams create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, logjams change the flow of the river, creating riffles and

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pools, which give salmon more varied habitat and cooler water. This section of the river is used by Chinook Salmon, Bull Trout, and steelhead, all of which are listed as threatened with extinction under the federal Endangered Species Act. The Lummi Nation will contribute \$113,928 in a federal grant. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1278)

Nooksack Indian Tribe

Grant Awarded: \$585,681

Placing Logjams in the North Fork Nooksack River to Increase Habitat

The Nooksack Indian Tribe will use this grant to build 16 logjams in the North Fork Nooksack River, near Kendall, in Whatcom County. The North Fork suffers from high channel instability and low habitat diversity. Logjams create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Logjams also help increase length of side channels and promote forested island formation by protecting the banks of the islands, stabilizing the channel, and allowing shoreline regrowth. Finally, logjams change the flow of the river, creating riffles and pools, which give salmon the varied habitat they need. This work is the second of six phases of restoration planned in the broader Farmhouse reach. The North Fork Nooksack River is used by Chinook Salmon, Bull Trout, and steelhead, all of which are listed as threatened with extinction under the federal Endangered Species Act, and by Coho, Chum, Sockeye, and Pink salmon, and by Cutthroat Trout. The land along the river has been logged and the channel has few constraints, making the Farmhouse reach an important place to restore habitat-forming processes associated with logjams. The reach also is just upstream of the Kendall hatchery, site of the North Fork/Middle Fork Nooksack early Chinook Salmon rebuilding program. The Nooksack Indian Tribe will contribute \$140,442 in another grant. This grant is from the [Puget Sound Acquisition and Restoration fund](#) and the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1287)

Nooksack Indian Tribe

Grant Awarded: \$1,009,330

Placing Logjams to Create Habitat in the South Fork Nooksack River

The Nooksack Indian Tribe will use this grant to build 20 logjams in a half-mile of the South Fork Nooksack River, in Whatcom County, as part of the first of three phases of habitat restoration planned in the broader Nessel reach. The South Fork Nooksack River is used by Chinook Salmon, Bull Trout, and steelhead, all of which are listed as threatened with extinction under the federal Endangered Species Act. The river suffers from a lack of different types of habitat needed by salmon and water that is too warm. Logjams create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, logjams change the flow of the river, creating riffles and pools, which give salmon more varied habitat and cooler water. The South Fork also is used by Coho, Chum, Sockeye, and Pink salmon and Cutthroat Trout. The Whatcom Land Trust and Whatcom County own the upper portion of the reach, presenting a unique opportunity to restore habitat and reconnect floodplains in a relatively unconfined reach in the

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lower South Fork. The Nooksack Indian Tribe will contribute \$178,131 from another grant. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1283)

Upper Skagit Indian Tribe Restoring Goodell Creek's Alluvial Fan

Grant Awarded: \$228,250

The Upper Skagit Indian Tribe, in partnership with the National Park Service, Seattle City Light, and Washington State Department of Transportation, will use this grant to complete a feasibility study for restoration of the alluvial fan of Goodell Creek, a tributary to the upper Skagit River near Newhalem. Goodell Creek is used by Chinook Salmon, steelhead, and Bull Trout, all of which are listed as threatened with extinction under the federal Endangered Species Act, and by Coho and Pink salmon and Cutthroat Trout. Nearly all of the Goodell watershed is well protected on land administered by the National Park Service. The exception to high quality functioning habitat is the alluvial fan, which has a confined and straightened stream channel that is disconnected from the surrounding floodplain and shoreline. This has been worsened by a landslide upstream that deposited sediment in this reach, which likely will increase flooding and road closures. Initial concepts include removing a levee along Goodell Creek, excavating a channel, and building an additional bridge, reconnecting more than 60 acres of floodplain and shoreline habitat. The Upper Skagit Indian Tribe will contribute \$43,850 in a federal grant and donations of labor. This grant is from the [Puget Sound Acquisition and Restoration fund](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1174)

Whatcom Land Trust Conserving Salmon Habitat on the South Fork Nooksack River

Grant Awarded: \$357,000

The Whatcom Land Trust will use this grant to buy fee title interest to about 55 acres of left bank floodplain in the South Fork Nooksack River to conserve the salmon habitat and make it available for restoration of natural habitat-forming processes. The area is used by early Chinook Salmon, winter steelhead, and Bull Trout, all of which are listed as threatened with extinction under the federal Endangered Species Act, and by Coho, Chum, Pink, and Sockeye salmon. The Whatcom Land Trust will contribute \$63,000 in donations of cash. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1271)

Grants Awarded in Whitman County

\$228,570

Palouse Conservation District Removing a Fish Passage Blockage on Steptoe Creek

Grant Awarded: \$189,738

The Palouse Conservation District will use this grant to replace an undersized pipe that carries Steptoe Creek under Steptoe Canyon Road with a bridge. The pipe, also called a culvert, is about

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a half-mile upstream from the Snake River and has blocked steelhead completely for more than 50 years. Replacing the pipe with a bridge could open 1.5 miles of Steptoe Creek and 2 miles of Stuart Creek to Snake River steelhead, which are listed as threatened with extinction under the federal Endangered Species Act. The Whitman County Department of Public Works will contribute in-kind matching funds and construction crews. The Palouse Conservation District will contribute \$48,500 in donations of labor. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1309)

Whitman Conservation District Improving habitat in Penawawa Creek

Grant Awarded: \$38,832

The Whitman County Conservation District will use this grant to install up to 50 log structures and beaver dam replicas in Penawawa Creek, from its mouth to about 1 mile upstream on U.S. Army Corps of Engineers property, southeast of LaCrosse. Penawawa Creek suffers from too much fine sediment, which can smother fish eggs and reduce water quality. The log structures will create places for fish to rest, feed, and hide from predators. They also will slow the river, which reduces erosion, combats incision, and allows small material and rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they can change the flow of the river, creating riffles and pools, which give salmon the varied habitat they need. The creek is used by Snake River steelhead, which are listed as threatened with extinction under the federal Endangered Species Act. The Whitman Conservation District will contribute \$9,940 in donations of labor and materials. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1316)

Grants Awarded in Yakima County

\$284,982

Mid-Columbia Fisheries Enhancement Group Restoring the South Fork Cowiche River with Large Woody Materials

Grant Awarded: \$84,314

The Mid-Columbia Fisheries Enhancement Group and the Confederated Tribes and Bands of the Yakama Nation will use this grant to restore the floodplain on South Fork Cowiche Creek, a tributary to the Naches River in the Oak Creek Wildlife Area in Yakima County. The partners will install tree root wads and large logs along 2 miles of the creek on land owned by the Washington Department of Fish and Wildlife. These woody materials create places for fish to rest, feed, and hide from predators. They also slow the river, which reduces erosion and allows small rocks to settle to the riverbed, creating areas for salmon to spawn. Finally, they change the flow of the river, creating riffles and pools, which give salmon more varied habitat. The work will reconnect the South Fork Cowiche Creek with its floodplain. During high flows, the woody material will cause flood waters to leave the channel and spread out over large areas, recharging the groundwater, increasing flows to the stream during summer, and reducing flood risk downstream. The South Fork Cowiche Creek is used by middle Columbia River steelhead, which

SALMON RECOVERY

2015 GRANTS AWARDED



are listed as threatened with extinction under the federal Endangered Species Act. The Mid-Columbia Fisheries Enhancement Group will contribute \$15,000. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1144)

North Yakima Conservation District Restoring the Ahtanum Creek Shorelines

Grant Awarded: \$200,668

The North Yakima Conservation District will use this grant to restore, enhance, and protect more than 25 acres of shoreline habitat for steelhead and Bull Trout, both of which are listed as threatened with extinction under the federal Endangered Species Act. The work will be done along nearly 1.5 miles of Ahtanum Creek, west of Union Gap. The conservation district will install fences, create livestock watering facilities away from the creek, and implement livestock management practices to reduce the damage to creek banks caused by livestock. In addition, the conservation district will treat weeds and plant about 6,300 native trees, shrubs, and grasses to help restore natural stream function. Planting trees and bushes along a shoreline helps shade the water, cooling it for fish. The plants also drop branches and leaves into the water, which provide food for the insects salmon eat. Finally, the roots of the plants help keep soil from entering the water, where it can smother fish spawning gravel. This reach of Ahtanum Creek lacks native trees and bushes and healthy floodplains, the water temperatures are too high, and the banks have eroded, all affecting the quality of fish spawning habitat. The North Yakima Conservation District will contribute \$35,448 in a state grant and donations of equipment. This grant is from the [salmon recovery grant program](#). For more information and photographs of this project, visit [RCO's online Project Search](#). (15-1141)