



Reconnecting fish passage to recover Oregon Coast Coho in the Nehalem and Tillamook Watersheds.

**Aquatic Ecosystems Restoration Notice  
of Funding Opportunity No.  
R23AS00106**

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**Applicant Organization:** Oregon Department of Fish and Wildlife

**Project Title:** Reconnecting fish passage to recover Oregon Coast Coho in the Nehalem and Tillamook Watersheds.

## Table of Contents

<b>Title Page</b> .....	<b>1</b>
<b>Executive Summary</b> .....	<b>1</b>
<b>Project Location</b> .....	<b>1</b>
<b>Project Description</b> .....	<b>2</b>
<b>Project Budget</b> .....	<b>2</b>
<b>Evaluation Criteria</b>	
<b>Evaluation Criterion A- Project Benefit</b> .....	<b>3</b>
<i>Evaluation Criterion B- Prior Restoration Planning and Stakeholder Support</i> .....	<b>11</b>
<b>Evaluation Criterion C— Project Implementation and Readiness to Proceed</b> .....	<b>14</b>
<b>Evaluation Criterion D—Presidential and Department of the Interior Priorities</b> .....	<b>16</b>
<b>Evaluation Criterion E- Performance Measures</b> .....	<b>18</b>

### Executive Summary

The Oregon Department of Fish and Wildlife (ODFW) and local partners are applying for the Bureau of Reclamation’s Aquatic Ecosystem Restoration grant opportunity to assist the recovery and delisting of Oregon Coast coho salmon in the Nehalem River watershed. ODFW is a category A applicant and is mandated by the State of Oregon to protect and manage the state’s fish and aquatic habitat for the benefit of Oregonians. We are applying for funding under Task Area B: Construction to implement a bundle of four projects across Whiskey Creek, South Fork Wilson River, and the Lower Nehalem Watershed in Oregon. This proposal seeks funding to advance the recovery of Endangered Species Act (ESA)-listed Oregon Coast Coho Salmon by implementing high-priority fish passage and habitat restoration projects that are voluntary, large-scale, on-the-ground actions that advance existing landscape conservation or restoration plans within the Nehalem River watershed. Funding this proposal will remove multiple fish passage barriers (2 culverts), replace five tide gates with 2 muted tidal regulator gates, remove two diversion dams, and restore wetland habitat function, increase stream complexity, restore riparian habitat and floodplain connectivity. Project completion is expected to occur within 2 years of federal award and the proposed aquatic restorations will be conducted on private land or state land.

**Project Locations:** The Nehalem River basin is approximately 855 square miles and is located on the north Oregon Coast northeast of Nehalem, Oregon. The Nehalem River flows 118.5 miles from its headwaters in the Coast Range near Cochran, Oregon through Washington, Columbia, Clatsop and Tillamook Counties, and empties into the Pacific Ocean at Nehalem Bay. The major tributaries and project sites are in Whiskey Creek, Gallagher Slough, South Fork Wilson River,

Cook Creek, and the lower Nehalem River. The most common land use in the Nehalem River Watershed is forestry, with 89% of the land base used for public or private forestry. Agriculture constitutes 9% of the land use, and mostly occurs in and around the Nehalem River and Gallagher Creek floodplains (see supplemental land use map). The latitude and longitude coordinates of the confluence for the Nehalem River at Gallagher Slough are 45.701154 (North), -123.880589 (West). Whiskey Creek Dam is located at 45.393374 (North), -123.933355 (West). South Fork Wilson River (Tuffy Dam) is located at 45.590144 (North), -123.458397 (West).

### **Project Description:**

This proposal requests funding for four projects across the Nehalem and Tillamook watersheds. The projects restore access to historical habitats to promote the recovery of coho salmon (*Oncorhynchus kisutch*) and Oregon Coast (OC) coho salmon. This evolutionarily significant unit (ESUs) is listed as “threatened” under the Federal Endangered Species Act (ESA). The ESA listings identify the extensive reduction in connectivity and access to historical estuarine and freshwater habitats as primary factors leading to the decline in ESU sustainability. All four projects aim to improve coho salmon passage and productivity in areas designated as “essential fish habitat.” The projects contained in this proposal were identified and prioritized through a two-year planning process that generated a “Strategic Action Plan” (SAP) for each watershed’s coast coho population. All the projects presented in this proposal address the primary and secondary factors limiting coho production in each of the four sub-watersheds. Juvenile coho survival is limited in these watersheds by insufficient off-channel rearing habitat in the winter and elevated water temperatures in the summer. The projects proposed here will increase access for juvenile coho to critical areas of high quality off-channel habitat in winter and/or areas of cold-water refuge in summer. Projects will also increase the availability of high-quality spawning reaches for adult coho, while undertaking targeted restoration of instream and riparian habitats. The projects will remove multiple fish passage barriers (2 culverts), replace five tide gates, and remove two diversion dams.

### **Project Budget**

A. ODFW is requesting federal funding assistance from the Bureau of Reclamation’s Aquatic Ecosystems Restoration program in the amount of \$3,000,000 to assist with the construction activities listed in this application. All federal funds will be used for contractual services to implement the projects for dam removal, culvert replacement, stream habitat restoration and floodplain connectivity. We are not requesting funds for salaries, indirect rates, or fringe benefits as part of the project. Anticipated Match Amount(s) and Source(s) include Lower Nehalem Watershed Council; \$49,148, Tillamook Creamery Association \$39,148, The Nature Conservancy \$10,000; \$147,154 from Wild Salmon Center; \$53,698 from the Department of Corrections; NOAA-SAP and OWEB grants (\$ 394,602 and \$165,000) are unsecured but awaiting review of applications. ODFW has provided \$191,250 in state drought funds for project design, permitting, and project coordination & management (all pre-implementation).

<b>Table 1. —Summary of Non-Federal and Federal Funding Sources</b>	<b>AMOUNT</b>
<b>FUNDING SOURCES</b>	
<b>Non-Federal Entities</b>	
1. Lower Nehalem Watershed Council	\$ 49,148
2. ODFW- State Drought Funds	\$191,250
3. Oregon Watershed Enhancement Board	\$165,000
4. Tillamook Creamery Association	\$39,148
5. The Nature Conservancy	\$10,000*
6. Department of Corrections	\$53,698
7. Wild Salmon Center	\$147,154
<b>Non-Federal Subtotal</b>	\$ 655,398
<b>Other unsecured non-federal funding (Applications Pending)</b>	\$394,602
<b>REQUESTED RECLAMATION FUNDING</b>	\$ 3,000,000

### Evaluation Criterion A- Project Benefits

#### General Project Benefits

The watershed processes in the Nehalem and Tillamook Rivers that create and maintain anadromous fish habitats have been considerably altered in the last 150 years. This has been due largely to the resource extraction activities and other land use including the creation and use of dams to transport timber downstream, the perceived value of flood protection, and energy development. Together, these resource extraction activities have reduced the quality and quantity of stream habitat in the South Umpqua watershed and have severely diminished the viability of the Oregon Coast coho salmon population. The projects contained in this proposal were identified and prioritized through a two-year planning process that generated a “Strategic Action Plan” (SAP) for each watershed’s coast coho population. The SAP processes were convened locally and facilitated by the “Coast Coho Partnership” (CCP). The CCP is a small team of federal, state, and non-profit partners that began meeting in 2015 to support local watershed groups implementing the two federal recovery plans for Oregon’s coast coho (“The Final Recovery Plan for the SONCC ESU of Coho Salmon” (2014) and the “The Final ESA Recovery Plan for OC Coho” (2016)). The core planning team identified the following coho habitat-forming watershed processes as the highest priority for protection and restoration: flows (hyporheic and base flows), large woody debris delivery, channel migration and floodplain function/channel interaction (including estuaries), riparian community diversity and function, and stream connectivity through fish passage and barrier removal. All the projects presented in this proposal address the primary and secondary factors limiting coho production in each of the four watersheds. Juvenile coho survival is limited in these watersheds by insufficient off-channel rearing habitat in the winter and elevated water temperatures in the summer. The projects proposed here will increase access for juvenile coho to critical areas of high quality off-channel habitat in winter and/or areas of cold water refugia in summer. Projects will also increase the availability of high-quality spawning reaches for adult coho, while undertaking targeted restoration of instream and riparian habitats.

This proposal seeks funding to advance the recovery of Oregon’s coast coho by implementing four high-priority fish passage projects. These projects were selected from Strategic Action Plans (SAPs) developed for independent coho populations and guided by The Final ESA Recovery

Plan for OC Coho” (NOAA 2016), and the Oregon Coast coho conservation plan (ODFW 2007). Oregon Coast coho salmon are currently listed as threatened under the federal Endangered Species Act. The National Marine Fisheries Service (NMFS) completed its most recent 5-year status review in 2016 and concluded the OC coho salmon ESU should remain listed under the ESA as threatened. The *Coastal Multi-Species Conservation and Management Plan (CMP)* was developed using a lengthy public process to understand and determine the fish management needs for the conservation and utilization of anadromous salmonids along much of the Oregon coast. Public involvement in plan development included: a series of meetings with four Stakeholder Teams distributed along the coast; an independent, scientific opinion survey west of the Cascades conducted by Oregon State University; meetings with habitat experts working on the coast. Together the core planning team and the recovery plans identified these projects as necessary for recovery of the Nehalem and Tillamook River stratum of coho salmon as the key populations that when recovered would help to delist the OC coho salmon ESU.

The projects in this proposal encompass a suite of fish passage corrective actions identified as high priorities in the SAPs. They target key locations throughout the watersheds to generate substantial ecological benefits while also providing benefits to landowners and surrounding communities. Fish passage corrective actions include replacing or removing undersized and failing fish passage culverts and tide gates, removing irrigation dams, restoring natural fish passage and voluntarily extinguishing water rights to increase instream flows.

The projects seek to ensure that local partners give highest priority to restoration projects with the greatest potential to: 1) reduce the primary factors limiting coast coho production, 2) restore watershed processes, and 3) promote species and watershed resilience to climate change. These benefits will affect water resources management within the Nehalem and Tillamook River Basin including four tributaries within Whiskey Creek, South Fork Wilson River, Cook Creek, and Gallagher Creek Slough (see supplemental map). These projects provide regional benefits by addressing the primary and secondary limiting factors including a lack of off-channel rearing habitat and elevated water temperatures, which increase juvenile coho salmon mortality in the winter and summer. The projects address the regional benefits by recovery within the Ecologically Significant Unit management and regional recovery scale as well as the watershed-reach scale for anadromous fish populations along the Oregon Coast. The project supports 8 water users by consolidation of an irrigation ditch and replacement of 5 side hinged tide gates with two muted tidal regulator gates that improve water conveyance and protect agricultural land from salt inundation, removal of two failing dams, and replacement of two culverts that are undersized and restrict fish passage and floodplain connectivity in the watershed. The projects will provide other regional benefits through local job creation within an underserved community and provide community resilience.

First and foremost, most of the projects improve infrastructure to address climate-driven increases in precipitation and efficient water management. The projects will remove two failing dams and construct new water diversion systems that improve the use of water rights for eight local landowners. Climate-driven atmospheric rivers increase the threat of catastrophic flooding. Culverts installed decades ago were not designed to handle the peak flows generated in these events, and culvert failures are increasingly common. When failures occur, the ensuing debris torrents not only scour streambeds, but they also damage roads, bridges, levees, fences and other

infrastructure. The loss of forest roads disrupts timber harvest operations and reduces access to culturally important areas that often support coastal communities year-round. Debris torrents can also destroy productive pasture and cropland and threaten barns, dwellings, and other farm infrastructure. Projects in this proposal aim to upgrade old or undersized culverts, significantly reducing threats to recreational and working lands from climate-driven flooding and associated culvert failures.

The Oregon Coast is a largely rural and historically resource-dependent region dotted with numerous underserved communities, including many on lands of the Confederated Tribes of Siletz Indians, Confederated Tribes of Grand Ronde, the Cow Creek Band of Umpqua Tribe of Indians, the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians. Steep reductions in timber harvest on federal lands since the 1990s, coupled with significant declines in commercial and Tribal fisheries, have precipitated a slow transition from resource-based economies to those that rely on income from recreation and transfer payments. (Transfer payments— e.g., unemployment, welfare, social security, and government subsidies—are the primary source of personal income in many coastal communities). Socioeconomic impacts from this transition are being experienced in all the communities near the projects in this proposal. The SAP planning teams are almost entirely comprised of stakeholders that live within the region, including tribes, federal and state land managers, farm, and forest operators, elected officials, non-profit organizations, and other residents. Socioeconomic goals are considered a core element of each SAP. The financial support for local businesses and contractors generated from SAP implementation is regarded locally as an important economic input. In fact, a University of Oregon study found that for every \$1 million invested in restoration, 15 to 30 new jobs are created. If awarded, these funds will support construction, trucking, engineering, and other contractors throughout the region, as well as several coastal watershed partnerships. These employment benefits will be measured by each of our sub-grantees, who will track the number of local contractors hired and organizational staff supported.

**Status of the species and/or habitat that will benefit from the project:**

The projects restore access to historical habitats to promote the recovery of Oregon Coast (OC) coho salmon. The Final ESA Recovery Plan for OC Coho” (NOAA 2016), and the Oregon Coast coho conservation plan (ODFW 2007) have identified the Nehalem and Tillamook Stratum of coho salmon populations as needing an increase in implementation of priority actions to maintain or achieve their population viability and sustainability goals. This evolutionarily significant units (ESUs) are listed as “threatened” under the Federal Endangered Species Act (ESA). The ESA listings identify the extensive reduction in connectivity and access to historical estuarine and freshwater habitats as primary factors leading to the decline in ESU sustainability. All four projects aim to improve coho salmon passage and productivity in areas designated as “essential fish habitat.” The project will also benefit the recovery of spring Chinook salmon, winter steelhead, coastal cutthroat trout, Pacific lamprey, and Chum salmon which are identified in the *Coastal Multi-Species Conservation and Management Plan* (CMP, 2022).

Recovery is within reach. OC Coho Salmon have shown resilience during recent challenges in ocean and freshwater conditions. After decades of monitoring, research, and analysis, ODFW and our restoration community have developed strategic actions that are needed to recover this

species. Prioritization processes and tools are in place to guide priority freshwater habitat actions where they are needed and having a substantial funding investment boost to do so would allow us to gain significant progress toward ESA-delisting and the broad sense recovery goals identified in the Oregon Coast Coho Conservation and Management Plan.

### **Sub Criterion A.2 Quantification of Specific Project Benefits**

The proposal for this funding opportunity is a bundle of projects that implement voluntary, large-scale, on-the-ground conservation activities to advance existing landscape conservation or restoration plans within the South Umpqua River watershed. This proposal seeks funding to advance the recovery of Oregon's coast coho salmon (threatened) by implementing high-priority fish passage projects. The projects contained in this proposal will remove 4 fish passage barriers (dams and culverts), construct instream beaver habitat and large wood habitat, and replace 5 fish passage barriers (Tide gates) that restrict wetland and floodplain connectivity and prevent access to further upstream habitat complexity, this will result in: 22 miles of coho spawning and rearing habitat reconnected and 381 acres of floodplain/ wetlands reconnected. The projects will also provide 18 acres and 5 miles of riparian habitat enhanced through conservation and wood structure placement. The projects will also return 1.5 cfs of water to protected instream flows.

#### **A.2.2 Task B: Construction applicants**

##### **Species and Habitat Benefits**

Addresses recovery of multiple species within the Oregon Conservation Strategy; chinook salmon, coho salmon, summer steelhead, coastal cutthroat trout, Pacific lamprey, beaver, Acorn Woodpecker, clouded salamander, Cascades frog, northern red-legged frog, Lewis's woodpecker, tailed frog, Columbia torrent salamander and Del Norte salamander.

The federally coordinated Pacific Lamprey Conservation Initiative (PLCI) is a regional strategy that covers California, Oregon, Idaho, Washington, and Alaska (Luzier et al. 2009 and 2011; USFWS 2012). The PLCI is driven by partnerships to improve the status of Pacific Lamprey throughout its range in the United States. The conservation agreement is a cooperative effort among entities to improve habitats, reduce threats, and improve the population status of Pacific Lamprey. These four projects will contribute to lamprey conservation by opening access to historic spawning and rearing habitat.

The *Coastal Multi-Species Conservation and Management Plan* (CMP) is the overarching regional plan for salmon, steelhead, and trout within the Coastal planning area. The purpose of this multi-species plan is to ensure the continued viability and conservation of Chinook salmon, chum salmon, steelhead trout, and cutthroat trout Species Management Units (SMUs) along the Oregon Coast. This plan, along with the conservation plan for Oregon Coast coho salmon identifies blocked/impaired fish passage as one of several primary habitat-related limiting factors affecting recovery of this ESU. The document identifies removal or modification of barriers as one of several management actions to protect and restore watershed processes and facilitate

species recovery. The proposed project expands on the extensive habitat restoration work initiated or maintained under the Oregon Plan for Salmon and Watersheds (Oregon Plan) and the Oregon Conservation Strategy. The project enhances watershed projects developed through the requirements of Oregon’s Native Fish Conservation Policy (NFCP) (OAR 635-007-0502 to 0509). A general summary of the overall status results for each climate resilient fish stocks that this project will help with recovery is provided below (Table 1). Incorporating viability results and climate resilient stocks in the Oregon Coast project area anadromous fish populations will help restoration of these strata during periods of poor ocean and freshwater conditions.0

Table 1. Climate Resilient fish stocks identified in the *Coastal Multi-Species Conservation and Management Plan (CMP)*.

		Chinook <sup>a</sup>	Spring Chinook	Chum	Winter Steelhead	Summer Steelhead	Cutthroat
SMU Viability Results	Viable Populations	17	1	3	19	2	19
	Non-Viable Populations	1	1	1	0	0	0
	Populations with Unknown Viability	0	0	9	0	0	0
	Viable Strata	4/4	1/1	N/A	4/4	2/2	4/4
<b>Indicators of Confidence in Results</b>							
Indicators of Confidence in Results	Populations with Declining Trend	7	1	4 <sup>b</sup>	2	0	N/A
	Populations with Incomplete Data	4	0	13	17	0	19
Current Overall SMU Status		Strong – Guarded	Sensitive - Vulnerable	Sensitive – Critical	Strong – Guarded	Sensitive - Vulnerable	Strong – Guarded

### Watershed Benefits

Assessments of the Nehalem watershed regularly identify estuarine habitat loss as a major limiting factor for salmonids rearing in the Nehalem watershed (NSAP 2023, NCAP 2012). Habitat loss in the estuary has been due to changes in land use from forested wetland to grazing fields through clearing, diking, and the installation of tide gates. Overall tidal wetlands in the Nehalem have been reduced by 54.9%. Top hinged tide gates are very difficult for juvenile salmonids to migrate past, serving as nearly complete barriers to their migration. The tide gates also prevent flooding in the landscape surrounding these sloughs, disrupting natural cycles of nutrient exchange, and further limiting aquatic organism access to seasonal flooded area. Gallagher Slough is the largest slough in the Nehalem Estuary. It drains approximately 1031 acres of mostly agricultural field. The border of this drainage area is diked protecting 650 acres that would otherwise be inundated. All those acres are in agricultural production (TNC Tide Gate Prioritization Tool 2023). Within that area are approximately 1.25 miles of habitat listed by ODFW as rearing habitat for ESA listed Coho Salmon and Coastal Cutthroat Trout. An additional 4 miles of habitat is listed as spawning and rearing habitat for Coastal Cutthroat Trout extending up the hillside to the south (ODFW, 2023). ODFW’s 2019 Statewide Fish Passage Barrier Priority List also includes Fall and Summer Chinook and Chum as species that historically used Gallagher Slough (ODFW 2019). A total of 15.9 miles of slough, stream, and ditch drains through Gallagher Slough. Historically this area was predominantly tidal salt marsh with some tidal forested wetlands at the upper extents of the area (Brophy 2019). Replacement of these 5 tide gates will result in restored tidal salt marsh wetland habitat, fish passage, and reconnect valuable ecological functions to the Gallagher Slough and Nehalem Estuary.



This proposal also provides fish passage to Oregon Coast tributaries where upstream critical habitats have been blocked for decades. In most populations, winter salmonid parr capacity will continue to limit smolt production in the near term due to a lack of fish passage and access to stream habitat complexity. Increasing water temperatures and decreasing base flows in the future create an even more severe summer habitat bottleneck. The primary management strategy to minimize long-term impacts of climate and ocean change on salmon, trout, and lamprey centers on the access to freshwater and estuarine habitats. Maintaining and restoring fish passage to access diverse and productive rearing habitats will support the expression of the full complement of life history diversity and help sustain populations. The project will provide co-benefits to the community by improving upstream passage and upgrading the water intake and screen system. Restoring fish passage in the watershed restores several layers of ecosystem function in compounding fashion. Fish passage will increase resilience of the ecosystem and fish stocks. With habitat connectivity restored native migratory fish may access expanded stream habitats. As habitat capacity increases, productivity of salmonids also increases because of additional spawning and rearing habitat availability. Uninterrupted migration ensures that spawning coincides with environmental conditions conducive to egg and fry survival, and that available spawning habitat is more likely to be seeded proportionately. The entire ecosystem benefits from that increased productivity through increased marine derived nutrient loading within the forest ecotype, genetic diversity and positively affecting primary production while also providing a food source for killer whales. Specific projects include the following that will benefit the watershed:

- **Whiskey Creek Dam Removal**

- This project will improve fish passage upstream of the water diversion dam on Whiskey Creek, on the north Oregon coast west of the city of Tillamook. The dam is located just above the head of tide, impacting passage into virtually the entire watershed. This will allow access to approximately 3 miles of OC coho salmon habitat, and benefitting cutthroat trout, Pacific lamprey, steelhead, chum salmon and Chinook salmon. Conceptually, the project will remove a water diversion dam on Whiskey Creek and construct a new roughened channel fishway, including a new screened water intake. The project is necessary to provide fish passage and upgrade the water intake/screening system for the Whiskey Creek fish hatchery. This will allow water withdrawal for the hatchery while excluding juvenile fish from being entrained in the system. The Whiskey Creek Fish Hatchery is a community-based volunteer project that produces spring Chinook salmon to support recreational fisheries in the nearby Tillamook Bay watershed.

- **Tuffy Dam Removal**

- The proposed project would replace an existing water diversion dam (Tuffy Dam) on the South Fork Wilson River (Tillamook Bay basin on the north Oregon coast, about 30 miles east of Tillamook). The current dam supplies water through an unscreened intake to the Tuffy Creek rearing pond (satellite facility of ODFW's Trask River Hatchery) and to the Oregon

Department of Corrections (jointly operated with the Oregon Department of Forestry) South Fork Prison Camp. The current diversion dam is a barrier to juvenile salmonid and lamprey migration, partial barrier to adult salmonid migration, and likely at least a partial barrier to adult lamprey migration. In addition, the water intake is unscreened, potentially allowing juvenile fish to be diverted from the river. A new screened intake would be included as part of the project. Multiple fish species would benefit from this project, including Chinook salmon, coho salmon, steelhead, cutthroat trout, and lamprey. The completed project (diversion dam with fish ladder and new screened intake) would enhance the ability of wild fish to use the South Fork Wilson River watershed and should increase downstream survival of juveniles passing the water intake. Less unintended mortality would increase the resiliency of the populations of Oregon Coast coho salmon and sustain genetic diversity under current marine and freshwater environmental instability. Fish passage would provide 7 miles of upstream habitat connectivity.

- **Gallagher Slough Tide Gate**

- This project will produce permittable, and fish-passable tide gate solutions for replacing the 5 tide gates located on Gallagher Slough at Highway 101. The gates are owned and currently maintained by Oregon Department of Transportation. The 5 gates are deteriorating, top-hinged wooden doors, 7'x 8' and would be replaced by 2 muted tidal regulated gates. The deterioration of the wooden doors led to the upstream dairy operator to contact the Tillamook County Creamery Association (TCCA) to begin the process of replacing these gates with a fish passable tide gate alternative. The project partners currently anticipate that muted tidal regulator tide gates will be retrofitted to the existing bridge superstructure. This system is the best alternative to tide gates for fish passage that still allows for protection of the valuable grazing lands upstream. Gallagher Slough drains approximately 1031 acres, dominated by agricultural land use and limited impervious area. The existing tide gates block fish passage to two forks, providing rearing habitat for Coho salmon and coastal cutthroat trout. Based on the ODFW District Biologist review, both Gallagher and Pye Sloughs (the second fork) provide rearing habitats for all salmonid species in the Nehalem Basin where tidal slough habitat is a limited but important habitat component. ODFW's 2019 Prioritization List ranks this gate as a high priority #129 out of 588 barriers in the state, with a score of 205 placing it in Group 5 (out of 16 groups).

- **Cook Creek sub-watershed culverts.**

- The perched culvert at Harliss Creek is owned and maintained by the Oregon Department of Forestry. The Harliss Creek culvert is a complete fish passage barrier (10 ft perch) blocking 1.4 miles of Coho habitat. The McPherson Creek culvert is owned and maintained by Oregon Parks and

Recreation Department. It is a barrier to fish passage (undersized) impeding migration to 0.65 miles of Coho habitat.

### **Water Supply Benefits**

Each project has water conservation and efficiency benefits that will contribute to the overall watershed health within the Nehalem and Tillamook River Basins. Because leakage represents the largest real losses for most water delivery systems; the project focuses on assessing and addressing water loss minimization through leakage control. Metrics focus on measures of leakage tailored to system characteristics and upgrade to new pipe material, identifying a water volume level of loss, and measures (in place and planned) to assess and control water loss. Water savings from this project will contribute to efficient use and return to the Nehalem River tributaries which will benefit aquatic habitat during drought and climate change conditions. Only taking what is needed and efficient use of water is critical to minimize aquatic resource impacts of hydrologic alteration from consumptive water use. These factors were chosen as metrics for evaluation as a pipe conveying water is the target of this project. Leakage at eleven water users point of diversion will be proactively addressed by upgrading to HDPE pipeline material, result in an economic savings, and benefit stewardship of water that is a valuable resource for Oregon. Replacement of the pipeline will allow water users to prevent water loss and compare how much water can be saved and redistributed to instream water availability. Currently estimated at 1.5cfs at the Whiskey Creek Dam.

Removal of the Tuffy Dam and Whiskey Creek dams along with the culvert replacements in the watershed will restore the natural hydrograph within the basin and make water available at a more advantageous timing for adult coho salmon spawning and summer juvenile rearing. The dams and culverts also impound water which increases the stream temperature. This will have multiple ecological benefits by restoring a natural flow regime, reducing water temperatures, and providing efficient use of water at a time that is less stressful to coho salmon.

The Nehalem and Tillamook Basin Investigation Reports (ODFW 2018 and 2020) uses USGS stream gauge, Oregon Water Resources Department (OWRD) gauge data and flow reports that have indicated seasonal trends in flow are affected by snowmelt in the spring and summer rainfall, with the highest flows occurring in the winter months. This pattern has suited the ecological life histories of anadromous Pacific salmon and steelhead stocks in the basin, however, recent alterations to this pattern have resulted from the allocation of water and consumptive uses that divert the water at critical summertime periods. The project will restore this pattern through dam removal and replacing undersized road crossing structures with full channel spanning bridges that allow water to be stored in the floodplain and released during critical summer months. Correcting these barriers will provide access to perennial, cool water important for over-summering coho, steelhead, chinook, cutthroat, and resident trout. The Strategic Action Plan identifies these tributaries as important thermal refugia for juvenile salmonids. Summer temperatures range from 12.9-13 °C in these tributaries, compared to mainstem Tillamook River temperatures of 21°C or more. This project builds on a high-priority restoration project at the confluence of each tributary to provide cover, habitat complexity, cool

water inputs, and valuable refugia habitat for juvenile salmonids during the summer months when temperatures in the mainstem reach critically high levels.

### **Other Quantifiable Benefits**

The Tillamook County Transportation System Plan (TSP) establishes the county's goals, policies, and action strategies for developing the transportation system. The TSP is intended to serve as a blueprint or master plan to guide transportation decisions to address both short- and long-term needs. The TSP discusses ongoing roadway maintenance needs and identifies improvements to enhance roadway safety, non-motorized travel (bicycles and pedestrians) and public transit service, and fish passage needs are coordinated with the ODFW. The process for preparing the Tillamook County Rural Transportation System Plan included local citizen participation, coordinated with local transportation service providers, and coordinated with federal, state, and local agencies. This comprehensive process was prepared with substantial public and stakeholder involvement. Through this plan Tillamook County, Lower Nehalem Watershed Council, Salmon Superhighway, Trout Unlimited, and ODFW identified two projects that met the goals to improve safety for transportation, improve fish passage, and provide capacity within the transportation system to accommodate rural underserved communities within the county.

This work, combined with other river restoration actions that rebuild ecosystems and natural infrastructure, delivers an influx of investment and job growth in our most underinvested communities. Along the Oregon Coast, structural unemployment has remained high over the last two decades as new industries such as health care and tourism have struggled to compensate for declining fishing and timber industries. Both the Great Recession and the pandemic related slowdown impacted families, in particular, BIPOC families in these rural tourism hubs. Restoration work supplies a direct counterbalance to these structural job issues by bringing family wage work in skilled trades for former loggers, heavy machine operators, and other blue-collar industries. In 2020, regional studies calculated that a new \$1.2 million investment in restoration that year created 29 full-time and 168 seasonal jobs on the coast.

### ***Evaluation Criterion B- Prior Restoration Planning and Stakeholder Involvement and Support***

B. The projects contained in this proposal were identified and prioritized through a two-year planning process that generated a "Strategic Action Plan" (SAP) for each watershed's coast coho population. The SAP processes were convened locally and facilitated by the Wild Salmon Center (WSC), which is a founding member of the "Coast Coho Partnership" (CCP), <https://coastcoho.org/>. The CCP is a small team of federal, state, and non-profit partners that began meeting in 2015 to support local watershed groups implementing the two federal recovery plans for Oregon's coast coho. The SAP development process convenes major public and private landowners, tribes, resource managers, NGOs, and other local stakeholders in a ten-step process. This process generates a "strategic framework" that maps and describes long-term (~30 year) restoration priorities and a short-term (4-6 year) project workplan, which is intended to jump-start implementation of the strategic framework. The projects contained in this proposal were selected from these short-term workplans. Project partners include Lower Nehalem Watershed Council, ODFW, USFS, The Nature Conservancy, Tillamook County Creamery Association, ODOT, Oregon Department of

Forestry, Department of Corrections, Confederated Tribes of Grand Ronde a community of five tribes (Kalapuya, Molalla, Umpqua, Chasta, and Rogue River), and NOAA-NMFS (high priority stratum for OC coho delisting).

**Prior Planning and Design:**

As previously stated, these projects have been identified and prioritized through a two-year planning process that generated a “Strategic Action Plan” (SAP) convened locally and facilitated by the “Coast Coho Partnership” (CCP). The CCP is a small team of federal, state, and non-profit partners that began meeting in 2015 to support local watershed groups. The Supplemental Materials provide maps and photos for the projects and includes the Data Management Plan. Each project has a 60% design, technical specifications document, basis of design document, and budget developed by certified engineers. All projects have the same regulatory permits to secure. Rather than list the same permits for each project, the permits are: NEPA, ESA, DEQ 401, County Land Use, Riparian Ordinance, FEMA Floodplain Cert, Joint Removal-Fill, Cultural Resource Survey-SHPO, ODFW & NOAA-fish salvage, and ODFW fish passage. In addition, all projects will be constructed during the approved in water work periods to protect aquatic resources.

ODFW’s Engineer will review all designs, in coordination with NOAA-NMFS engineers and the project manager, to ensure designs meet project goals and objectives before releasing funds for construction. These are high priority fish passage projects identified in each SAP watershed that will be a priority for implementation. The specific project phase and timelines are listed below and developed through the planning of these projects.

<b>Project Phase</b>	<b>Start-End Date</b>	<b>Milestones and Funding Source (Resource Legacy Funds-secure and pending; OWEB not applied for)</b>
Stakeholder Engagement	March 2021-March 2023	Meet with water rights holders, BLM and other stakeholders to select preferred alternatives and review designs (secure match)
Design	April 2023-March 2024	60% design completed, technical specifications, Preliminary Designs and Check-in status review.
Permitting	Jan-March 2024	Submit and secure all permits. Check-in status review
Construction (Year 2)	July-Sept 2024 and August-Oct 2025	Construction can only occur during in water work periods which forces a 2-year construction window.
Operation & Maintenance	July 2024-Dec 2025	Develop operation and maintenance manual for fish passage facility owners
Monitoring	Oct 2023-Dec 2025	Monitoring by sponsor per management plan.

The dam and culverts have been inspected by Oregon engineers and are rated in ‘Poor’ or ‘Critical’ condition. The structural issues observed include, but are not limited to rusted inverts, open joints, cracking, distortion, and partial collapse of the structure. The condition of each culvert increases the risk of failure that will result in extreme damage to the roadway. Failure to replace will impact mobility and medium to high social disparity areas, isolate communities from emergency services, present a serious safety risk to the traveling public, and have a negative effect on climate resiliency. To allay this structural impairment and fish passage impact, we propose to use the following project planning and scoping process. Oregonians have demonstrated extensive and diverse support for community-based, habitat improvement work under the Oregon Plan. Participants in this effort include watershed councils, Soil and Water

Conservation Districts, Salmon-Trout Enhancement Program volunteers, industrial and private landowners and a variety of non-governmental organizations and individuals. Projects were selected over the two year planning phase including public and private landowner inputs as part of the CCP process described previously.

Up until relatively recent history, culverts and bridges were designed primarily for hydraulic conveyance of specific flood events with little thought to how the new structure could affect aquatic species living in the stream. In many cases, culverts sized strictly based on hydraulic area, will narrow the channel excessively resulting in increased velocity through the structure. The increased velocity becomes a barrier when fish can no longer swim upstream. In other cases, culverts were set too flat and over time, a height barrier is created when the culvert outlet erodes to its degraded stream grade, resulting in a perched culvert.

This project proposal involves Stream Simulation Design (Aquatic organism passage; AOP) as part of the scope of each project, the primary design philosophy is to make the channel inside a culvert or under a bridge simulate the characteristics and function of the adjacent natural channel so that it will present no more of an obstacle than the natural channel. This results in a structure that is generally wider than what was previously installed to accommodate a natural stream section through the structure. Culverts that pose a barrier to aquatic species will be replaced with newer culvert types that span 1.2 times the channel width and provide aquatic organism passage.

#### **Stakeholder Support for the Proposed Construction Project**

**(a) Stakeholder Support.** The SAP process recognizes that a plan is only as valuable as the extent to which a community is prepared to implement it. Accordingly, when considering where SAPs should be initiated, ODFW and the CCP place a premium on working with local teams that ensure diverse stakeholder participation and have demonstrated community support. When a local partner (“the convenor”) submits a proposal to engage a watershed in an SAP process, the CCP assesses whether the local team has representation from the major industrial landowners; local landowner groups (e.g., irrigation districts, soil and water conservation districts etc.); large state and federal landowners; NGO and advocacy groups; elected officials; and the general public. Once a watershed is accepted into the program, each meeting agenda dedicates a block of time for participants to discuss outreach priorities (both messaging and audience) and report back on their outreach activities.

All the projects were generated by these locally convened, multi-stakeholder planning teams, and, therefore, have a broad base of community support. In addition to local partners, WSC maintains regular contact with our federal congressional delegation, briefing them regularly on the status of SAPs, coastal issues and priorities, and funding needs for SAP implementation. Attached is a letter of support from Oregon’s coastal congressional members and letters from tribes and other stakeholders. Letters of Support are provided in the supplemental Attachments.

**(b) Inclusive Planning and Engagement.** ODFW and project partners are committed to the health of rural communities that depend on salmon for livelihoods and cultural vitality. These communities are feeling the worst effects of climate change, whether its Indigenous communities facing the loss of key food sources and cultural traditions or fishing, hunting, and recreation-based communities facing job losses, and a strained social fabric. Restoration work through barrier removal is a keyway to restore resilience in watersheds and rural communities, including those communities that have been historically underserved.

To ensure that members of rural communities are fully engaged in how these investments are made, our SAP (planning) process relies on a diverse team of local community members in each watershed. Tribal partners have been key stakeholders in the SAP processes as members of the CTCLUSI, Siletz, and Coquille Tribes have all been (and continue to be) active participants in the planning processes. While there's still much work to be done to support tribal communities' recovery from a century and half of broken treaties and loss of access to fish and game, the restoration of home watersheds with the help of federal resources is a key step along the way to reconciliation and honoring tribal sovereignty.

**(c) Community Outreach and Education.** Community outreach supporting the projects presented in this proposal will take place in two ways. First, the local project managers will publicize the projects in print media, on their respective websites, in social media, at public outreach events, and through presentations to resource managers and elected officials. Following project construction, managers will also host site project tours for funders, managers, elected officials, and local stakeholders. All these outreach opportunities will highlight the essential role of the diverse set of partners convened, including funders, landowners, and the local partnership that managed the work.

Second, the CCP will promote these projects and the broader recovery effort underway through its website and storymap pages, which is designed to engage lay audiences in recovery and provide technical resources to managers and funders. The site describes the high potential for OC coho recovery (and de-listing) and what is required to achieve and sustain it. It will also include landing pages for the completed SAPs and feature case studies on the projects funded under this program. These will complement a story map on the site that ODFW developed to promote coast coho recovery and conservation planning. Finally, ODFW has staff dedicated to promoting our work and that of our partners on social media and in print media. In addition to featuring these projects across our multiple social media feeds, we will also circulate press releases for the annual projects. These will list the projects funded and feature quotes from local partners, agency leadership, and congressional members. ODFW and project partners will also include several of these projects in tours we routinely lead with agency leaders, major donors, foundation staff, the press, students, and interns.

### **Evaluation Criterion C— Project Implementation and Readiness to Proceed**

Designs will be engineered by Professional Engineers registered to practice in the State of Oregon. Each project will be implemented to improve fish passage and enhance aquatic connectivity. The project proposal will meet NOAA and ODFW Fish passage laws and administrative rules by removing each dam and restoring natural channel dimensions and placement of wood structures to facilitate hydraulic diversity and riparian habitat restoration through placement of native vegetation. All these projects contain potential risks for environmental impacts and compliance. These projects all contain Section 7 listed ESA species, will be federally funded, and will need to complete federal review and approval processes before construction. To mitigate these risks, these projects will include project managers that are familiar with the environmental compliance requirements and work with local contractors that are experienced with environmental regulations. ODFW will work with federal agencies on programmatic NEPA compliance under the ARBO II and Regional Programmatic Aquatic Restoration BiOP. This will reduce risks to project delivery timelines by streamlining Section 7 process and minimize the amount of anticipated take through pre-negotiated design criteria and

best management practices for aquatic habitat restoration and road/stream crossing replacements. All construction will be completed within 2 years to allow for environmental reviews and in-water work periods for the protection of fish and aquatic habitats within the Essential Fish Habitat areas. Anticipated state and local environmental applications and permit including local county permits will be expedited through project partnerships and programmatic approval.

To implement this project, we will submit an invitation to bid for contractual services through an open public contract process. This process will provide local contractors the opportunity to bid and secure financial support for each project. It is anticipated that eleven individual local contractors will be hired and provide local economic stimulus. We will follow procurement policy to ensure all applicable state rules are implemented during solicitation of these contractual services. Cost estimates were generated based on fair market value construction and contractual costs through an engineer scoping process and received from contractors associated with competitive bids on similar projects in western Oregon and Washington. If awarded this federal funding opportunity, programmed projects will be phased over two years to expedite completion of each project. All real property and right-of-way acquisition necessary for the project will be completed in a timely manner in accordance with 49 CFR part 24. The scheduling of projects listed will accomplish project milestones and deliverables in a timely manner to minimize constraints.

Designs have been completed up to the 60% phase through development of a Decision Support Document within each project. Preliminary survey work and hydraulic analyses have been completed with data collection, engineering design, cost estimating, report preparation, and construction support through local engineering. The proposed projects have multiple project elements along with several unknowns that will require an incremental design process and associated stakeholder review to get to bid-ready construction drawings. The RFP identifies the need to complete the bid-ready construction drawings by February 1, 2024 and ready for in-water work construction during July through September 2024 and August-October 2025. Supplemental materials and project timelines are included in the Attachments.

### **Assessment of Project Risks and Mitigation Strategies.**

Achieving the desired status for Oregon Coast salmon and steelhead will result in sustainable and thriving populations that support a healthier economy and stronger, more consistent fisheries. To accomplish these goals, individual populations require improvements in abundance, productivity, spatial structure, and/or diversity through reductions in risk associated with the environmental and physical barriers that are affecting the populations. Limiting factors are defined as biological, physical, or chemical conditions altered to such an extent by anthropogenic (i.e., human-related) activities that they impede achievement of population biological performance goals. This project proposal will help to manage risk from two limiting factors; impaired access to spawning and/or rearing habitat, and instream obstructions that prevent access to coldwater refuge and complex habitat stream reaches. The eleven fish passage projects will not only help achieve the benefits for the salmon, steelhead and trout covered by each project, they will also be beneficial to all other native fish species residing in these streams. Because our projects are spread across the Oregon Coast, we will disperse the climate and physical barriers risk spatially across a geographic area to protect life history expressions that will result in climate resilient stocks. ODFW experience with past problems observed with project risk are mostly timing



delays associated with environmental agency review of permits and technical construction delays that could be overcome with increased technical oversight and accountability. ODFW will manage this risk by using programmatic approval process in coordinating environmental reviews and establish contract agreements for each program that will include: 1) requiring grantees to provide pre-project assessments and prioritizations to the ODFW; 2) encourage grantees to address habitat limiting factors in the project watershed; 3) increase the requirements for technical oversight and accountability within contractual work.

#### **Evaluation Criterion D—Presidential and Department of the Interior Priorities**

**Climate Change:** The design techniques and plans employed in this project strategically increase system-wide resilience and connectivity to provide a full range of habitat conditions to meet the natural life history variations and adaptive strategies inherent in healthy aquatic species populations. These benefits will accrue not only to anadromous and resident aquatic species, but also provide some incremental improvement in whole watershed conditions. Climate change models indicate the likelihood of changing environmental conditions in the Lower Columbia and Oregon Coast. Specifically, the climate considerations that our project target by re-connecting aquatic corridors include: a) amelioration of potential higher summer stream temperatures and reduced fragmentation of fish and wildlife movement corridors by restoring bedload transport and functional removal of barriers; b) address impacts of increased peak flows and increased frequency and intensity of flood flows by re-connecting linear aquatic corridors which allow fish to move throughout the system to access flow velocity, temperature refugia, foraging and juvenile rearing habitats throughout the water year; c) address reduced aquatic species migratory corridors and habitat connectivity through systematic removal of instream barriers to ensure that fish upstream and downstream movement corridors are accessible for all life history forms in a broad variety of flow regimes throughout the year. This project will allow wild fish access to beaver modified habitats in multiple Oregon Coast tributaries. The project will provide access to localized riparian habitat within a stable vegetated corridor that serve as fringing wetland, shade, and foraging and cover for a variety of riparian dependent fish and wildlife species. As this multi-phase approach to fish passage and aquatic connectivity is completed, benefits to holistic ecosystem variability and adaptive life history strategies inherent in healthy aquatic species populations will be enhanced. Ecosystem processes and changing ocean conditions will dictate the sustainability of salmon and trout, however this project results in the removal of the physical barrier to fish migration and therefore contributes to solutions that can augment these changes. Thereby each project will provide wild fish passage to enhance ecosystem resilience in the Oregon Coast.

ODFW along with stakeholders has developed specific habitat-focused strategies and actions that could reduce risk from climate and ocean change. Many of the actions are also identified in the Final ESA Recovery Plan for Oregon Coast Coho Salmon (NMFS 2016) and are being implemented in the ESU to address primary and secondary limiting factors. To provide the greatest long-term benefit, these actions need to be targeted at locations that are most likely to support OC coho now and in the future. Therefore, climate change projections and considerations have been incorporated into the selection of these four project locations. This is particularly important in the southern half of the ESU, where summer temperature and flow conditions are most likely to become a primary limiting factor in the foreseeable future.

Barriers that block some salmon populations may be affected by climate change that drive mismatches between juvenile arrival timing and prey availability in the marine environment. This barrier removal project provides salmon benefits by opening access to critical habitat that will maintain phenological diversity and can contribute to metapopulation level resilience by reducing the risk of a complete mismatch in outmigration timing. These eleven projects will maintain and augment such life history diversity because the projects are located across a wide coastal geographic range, across populations from higher elevation and further inland streams, and result in populations that arrive in the estuary later to encounter distinct prey abundances between freshwater and marine habitats.

**Disadvantaged or Underserved Communities:** As American settlers of European descent began to appear in the Oregon Coast in the mid-1800s, the many rivers and tributary streams became important resource for them as they relied upon these rivers for water supply, trade, fish harvest, and irrigation water. Rural and coastal communities are one of the most underserved communities and rely on low-cost sources of food and resources. Production of salmon from Oregon Coast streams serve as a low cost and healthy source of food for many of the residents in Oregon communities. This project will provide low-income communities a source of food and economic stimulus through tourism and the fishery activities this project will help to sustain. Residents of the area rely on natural resources for food, income, and materials. The benefits of this project will provide a low-income resource to these underserved communities.

Oregon Coast rivers and its tributaries have long influenced the lives of the residents: human, fish, and wildlife alike. Since time immemorial, indigenous peoples have depended on these rivers for many resources including, but not limited to, fishing, trade, transportation, and water supply. Fish within these rivers including salmon, lamprey, steelhead, and cutthroat trout are also an essential component of tribal identity and culture. The Confederated Tribes of Grand Ronde, Confederated Tribes of Siletz Indians, Coquille Indian Tribe, and Cow Creek Band of Umpqua Tribe of Indians are highly invested in fisheries management within the Project area. Of primary importance to these tribes is restoration of all populations, and all species of anadromous and resident fish within the traditional lands. Cultural benefits for present and future generations by the Tribes contribute to fisheries management and research within the Basin and are partners in salmon and steelhead restoration efforts. Fish passage provided through this project will benefit the Tribes through increased harvest and cultural resources.

The Council on Environmental Quality’s interactive Climate and Economic Justice Screening Tool identified the following underserved communities in the project area.

Community(ies)	Race/Ethnicity	Poverty Rate	Low Income %	Annualized Unemployment Rate
3 Tribes (41071030502-41041951800)	American Indian	78	90	90
Tillamook County (41057960700)	Hispanic/Latino White American Indian	42	80	46

Rural Coast (41057960800- 41057960200)	Hispanic/Latino White American Indian	79	82	75
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**Tribal Benefits:** The Oregon Coast is a largely rural and historically resource-dependent region dotted with numerous underserved communities, including many on lands of the Confederated Tribes of Siletz Indians, Confederated Tribes of Grand Ronde, the Cow Creek Band of Umpqua Tribe of Indians, the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians. Steep reductions in timber harvest on federal lands since the 1990s, coupled with significant declines in commercial and Tribal fisheries, have precipitated a slow transition from resource-based economies to those that rely on income from recreation and transfer payments. (Transfer payments— e.g., unemployment, welfare, social security, and government subsidies—are the primary source of personal income in many coastal communities). These projects will help restore culturally valuable resources and sustainable fish populations for each of these tribal nations.

**Evaluation Criterion E—Performance Measures Task B: Construction ONLY.**

**Socioeconomic Performance Measures.** The communities along the Oregon coast are highly dependent on salmon runs and healthy watersheds to support the local economy. Coho salmon fisheries, specifically, were once a pillar of coastal economies and helped define the culture and character of its communities. Over the long-term the most essential indicator used by the CCP and our local partners is whether coho populations can support recreational, commercial, and subsistence fisheries.

In the near term, the fish passage projects contained in this proposal will generate several important benefits to the community, and there are several indicators that can help us gauge the socioeconomic impacts. First, removing the dams at Parrott Creek and Highland Ditch and restoring the historic stream channel alignments will protect people, property, infrastructure, and agriculture from frequent and devastating flood events. In addition, undersized or failing culverts and diversion dams exacerbate flooding, erode banks and levees, and cause road failures. Economic and social consequences to the community include loss of agricultural lands and farm infrastructure, and reduced access to priority areas for timber landowners, land managers, emergency responders, recreationalists, and residents. The Cook Creek culvert barriers, for example, flow under roads that provide access to firefighting crews, timber production, and the public. By replacing the culverts before they fail, the community will be spared an emergency road closure and possible longer-term lane restrictions and weight limits on a temporary fix before a permanent fix can be installed. Local construction crews will likely be selected to correct these and the other barriers in this proposal. Money spent in local communities provides stability for small businesses and helps promote regional economic stability. The other benefits will be measured by miles of stream connectivity, acres of restored floodplain/riparian habitat and wetlands, number of hazards removed, miles of road and levee protected, and dollars spent on local contractors.

**Sustainability Performance Measures.** When devising the SAP process, ODFW and the CCP adopted several guiding principles. Among these, the partners sought to ensure that the process:

1) gives greater weight to restoration strategies that restore watershed function (over those that simply boost fish production); 2) incorporates projected water temperatures, instream flows, and landward migration zones (estuaries) using downscaled climate models; and 3) generates projects that have a high assurance of success in the context of potentially dynamic watershed conditions resulting from climate change. Consequently, all the projects contained in the SAPs meet these sustainability objectives.

In addition to including projects with socioeconomic benefits, maximizing these sustainability objectives became a key consideration in selecting the projects for this proposal, which will increase floodplain-channel interaction, improve water quality, and jump start biological processes like macro-invertebrate production in critical rearing areas. All the projects will increase longitudinal connectivity, restoring the transport and sorting of sediments and wood. Restoration of these functions will not only pass fish but substantially reduce the risk of culvert failures and the numerous ecological, social, and economic impacts they can cause. This is especially relevant to the Crook Creek project. The Nehalem River and Tillamook River projects incorporate large wood structures to restore lateral hydrologic connectivity, improve water temperatures, retain spawning gravel, and promote pool and cover development. These restoration strategies generate significant improvements in watershed function and promote the system's long-term capacity to produce and maintain critical habitats; in effect "helping the system to help itself." Consequently, we are confident that each project provides a high degree of long-term sustainability. It should also be noted that sustainability (or "longevity" as it is described in the SAPs) was one of the criteria used in evaluating the projects considered during SAP development. One of the primary considerations used in testing a project's sustainability was the potential for a project to withstand changes in watershed condition resulting from climate change (for example, higher peak flows for LWD projects and the extent of landward migration due to sea level rise for the habitat restoration projects). In part because of their capacity to improve watershed function, each of the projects will increase the system's resilience to changing watershed conditions resulting from climate change.

**Fish Passage Implementation and Monitoring.** Each SAP contains a chapter on Monitoring and Evaluation that includes short-term measures of success (called "implementation metrics") and longer-term indicators, which evaluate the cumulative impacts of project implementation over time. Both the SAPs' metrics and indicators meet NOAA's Tier I Guidance for fish passage barrier removal projects (section 3.1). The implementation metrics proposed in the SAP are: 1) the number of barriers converted from unconnected to connected and made accessible to fish passage, 2) the acres of tidal wetland / slough and non-tidal areas reconnected, and 3) miles of habitat reconnected. To align with the parameters from NOAA's Guidance that are not included in the SAPs, we will require project managers to provide (as appropriate for the project type): pre and post project data on site passability metrics (channel width, channel gradient, and jump height), passage limitations by life stage (e.g., spawning, summer rearing, winter rearing), and/or the presence or absence of target fish species.

Monitoring will be conducted through both basin-wide programmatic monitoring programs as well as efforts specific to the replaced culverts. Fundamental pre- and post-project monitoring will be conducted by a combination of local agency personnel as well as watershed council staff and volunteers and will include:

- Fish presence/absence through a combination of summer and/or winter snorkeling and/or electrofishing. Adult spawner presence (and possibly abundance) will be recorded by foot surveys.
- Longitudinal profile and/or an as-built survey of the stream crossing reach to verify fish passage requirements (i.e., maximum 6” jump height for juvenile salmonids) are satisfied.
- Photopoint monitoring will occur for 3 years following construction. Josephine County routinely assesses and monitors bridges and will continue to do so.
- Physical habitat data (<https://odfw.forestry.oregonstate.edu/freshwater/inventory/methods.html>) will be utilized to update the current habitat condition of the stream reach affected by the culvert replacement. ODFW collected habitat data in 2008 and 1998, respectively, which will be used to determine habitat quality for fish habitat. Contemporary habitat survey data will also be collected by ODFW staff that conducted a “Level II” survey in 2020 which will serve as a benchmark for assessing habitat quality.
- Cross section monuments will be established upstream and downstream of the stream crossing to monitor any change to the stream channel.

January 31, 2023

Re: Nehalem River - Gallagher Slough Tide Gate Project

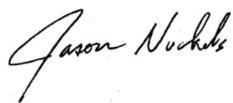
Dear Review and Selection Committee,

The Oregon Chapter of The Nature Conservancy (TNC) offers our strongest support for the Lower Nehalem Watershed Council's Nehalem River - Gallagher Slough Tide Gate Project. Not only does this project address a critical limiting factor for salmon recovery, lack of access to off channel habitats, but also aims to improve the working lands while enhancing habitat for migratory birds and other aquatic species.


Much of the tide gate infrastructure along the West Coast is reaching its maximum life expectancy. In Oregon, approximately 1,000 tide gates have been inventoried and much of this infrastructure needs repairs or upgrades to meet modern fish passage standards. To lessen impacts on salmon and other species, these aging tide gates and ones utilizing old technology must be retrofitted to be fish passage compliant or completely replaced at considerable expense to the landowner. Removing, repairing, and replacing tide gates can allow regular water exchange, increased connectivity for fish, and improved water quality while remaining compatible with current land uses.

The Conservancy is invested the restoration of tidal wetlands and working landscapes along the Oregon Coast and this project supports the Conservancy's mission of conserving the lands and waters on which all life depends. We are pleased to commit \$10,000 to support the data collection and analysis work necessary to inform the engineering designs for this project.

Sincerely,



Jason Nuckols  
Estuary Projects Manager  
The Nature Conservancy, Oregon

**From:** BUFFINGTON Mark W Mark.W.BUFFINGTON@odot.oregon.gov   
**Subject:** US101, MP46 Gallagher Slough Tide Gates Replacement  
**Date:** January 18, 2023 at 3:14 PM  
**To:** Casey Storey CStorey@tillamook.com  
**Cc:** GILLETTE Allen Allen.GILLETTE@odot.oregon.gov, Zac Mallon info@nehalemwatershed.org, KEARNS Richard A Richard.A.KEARNS@odot.oregon.gov, WILLIAMS Virginia L Virginia.L.WILLIAMS@odot.oregon.gov

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Hi Casey.

I understand from the description of the current tide gates at Gallagher slough, that they will need replacing soon. I also understand that you will be seeking a grant to fund the replacement of the tide gates. ODOT has no objection to the replacement of the tide gates as long as the attachment to the ODOT structure is approved by ODOT bridge section engineer. ODOT will not take any ownership or maintenance of the tide gate at this location, but I do support the replacement of the tide gates and recognize the environmental benefits.

As you move forward with design, please engage with ODOT permit staff (Richard and Virginia - copied) and they will take the project through the ODOT approval process.

Please let me know if I can be of further assistance regarding this matter.

Thanks,

Mark Buffington  
ODOT District 1 Manager - North Coast  
350 W Marine Dr  
Astoria, OR 97103  
Office:503-325-7222  
Cell: 503-969-1778  
Fax: 503-325-1314  
[Mark.W.Buffington@odot.oregon.gov](mailto:Mark.W.Buffington@odot.oregon.gov)



March 15, 2023

Hooked on Heroes Oregon provides Hunting and Fishing memories for disabled Veterans, Children that are facing life challenges and Law Enforcement victims that need a moment of kindness.

This project provides the opportunity for these individuals to go enjoy the outdoors and have a little bit of peace.

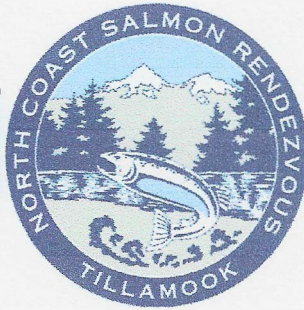
Hooked on Heroes Oregon is pleased to support Oregon Department of Fish and Wildlife's grant request to the National Fish and Wildlife Foundation – America the Beautiful Challenge for the bundle of projects for "Reconnecting fish passage to recover Oregon Coast coho in the Nehalem Watershed. These projects have been a popular tourist destination for angling, bird watching, and nature viewing in Tillamook County for 30 years and is in desperate need of upgrades to maintain continued use and safety. The projects will provide a fishing pier with the only barrier free bank angling access in Tillamook County and will be used by disabled anglers targeting trout, salmon, and sturgeon. Proposed upgrades to the site will provide even greater angling access for the disabled community.

We strongly support ODFW plans to remove non-native plants (e.g. English ivy, reed canary grass, and Himalayan blackberry) and plant additional native species in previously disturbed areas. Likewise, upgrades to the informational kiosks will provide visitors with key information regarding estuarine ecosystems, native wildlife, and risks associated with a rapidly changing climate.

Please support this request and help ODFW construct a new ecologically friendly and climate resilient facility for the use and enjoyment by Tillamook County citizens and visitors.

Gary Stover  
Hooked on Heroes Oregon





**NORTH COAST SALMON & STEELHEAD  
ENHANCEMENT FUND, INC.**

March 14, 2023

ATBC Program:

North Coast Salmon and Steelhead Enhancement Fund (NCSSEF) is pleased to support Oregon Department of Fish and Wildlife's grant request to the National Fish and Wildlife Foundation – America the Beautiful Challenge for "Reconnecting fish passage for Oregon Coast coho salmon in the Nehalem Watershed". These projects will help to improve fishing and coho salmon restoration along the Oregon coast and underserved communities that rely on this salmon resource. The projects have been a popular tourist destination for angling, bird watching, and nature viewing in Tillamook County for 30 years and is in desperate need of upgrades to maintain continued use and safety. Proposed upgrades to the site will provide even greater angling access for the disabled community.

We strongly support ODFW plans to remove non-native plants (e.g., English ivy, reed canary grass, and Himalayan blackberry) and plant additional native species in previously disturbed areas. Likewise, upgrades to the informational kiosks will provide visitors with key information regarding estuarine ecosystems, native wildlife, and risks associated with a rapidly changing climate.

Please support this request and help ODFW construct a new ecologically friendly and climate resilient facility for the use and enjoyment by Tillamook County citizens and visitors.

Respectively

President  
NCSSEF

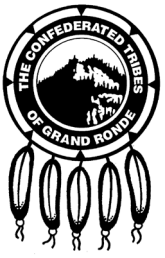
March 15, 2023

Nestucca Anglers is pleased to support Oregon Department of Fish and Wildlife's grant request to the National Fish and Wildlife Foundation – America the Beautiful Challenge for the bundle of projects to “Reconnecting fish passage to restore Oregon Coast coho salmon in the Nehalem Watershed. These projects will restore important salmon fishing to our community and improve fish passage that will result in resilient salmon populations along the coast. The Whiskey Creek dam and Tuffy Dam sites have been a popular tourist destination for angling, bird watching, and nature viewing in Tillamook County for 30 years and is in desperate need of upgrades to maintain continued use and safety. Proposed upgrades to the site will provide even greater angling access for the disabled community.

We strongly support ODFW plans to remove non-native plants (e.g. English ivy, reed canary grass, and Himalayan blackberry) and plant additional native species in previously disturbed areas. Likewise, upgrades to the informational kiosks will provide visitors with key information regarding estuarine ecosystems, native wildlife, and risks associated with a rapidly changing climate.

Please support this request and help ODFW construct a new ecologically friendly and climate resilient facility for the use and enjoyment by Tillamook County citizens and visitors.

Ron Byrd  
Nestucca Anglers (President)



## The Confederated Tribes of the Grand Ronde Community of Oregon

Natural Resources  
Phone (503) 879-2424  
1-800 422-0232  
Fax (503) 879-5622

47010 SW Hebo Road  
Grand Ronde, OR 97347

March 16, 2023

Rachel Dawson  
Program Director, National Programs  
National Fish and Wildlife Foundation  
1133 Fifteenth Street NW, Suite 1000  
Washington, DC 20005

Dear Ms. Dawson,

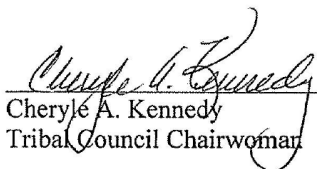
The Confederated Tribes of Grand Ronde's Natural Resources Department (Tribe) is pleased to support Oregon Department of Fish and Wildlife's (ODFW) grant request to the National Fish and Wildlife Foundation – America the Beautiful Challenge for reconstruction of the Tillamook Tidewater Wildlife Viewing and Barrier Free Fishing Pier.

The site proposed by ODFW is a popular location for Tribal & non-Tribal anglers, bird watchers and nature viewers for over 30 years and is in need of repairs in order for continued use due to safety concerns. This pier is Tillamook County's only barrier free bank access and allows disabled Tribal and non-Tribal members to target species like trout, salmon and steelhead; the proposed repairs will enhance the access further.

ODFW plans to remove non-native plants (English ivy, reed canary grass, and Himalayan blackberry) and replant native species that were lost in the area due to previous disturbances. ODFW also plans to upgrade information kiosks to include information about estuarine ecosystems, native wildlife, and risks associated with a rapidly changing climate. The Tribe has a cultural connection to native plants and supports reintroduction of native plants to previously disturbed ecosystems when possible.

The Tribe has a collaborative working relationship with ODFW and desires to continue building upon the partnership to achieve restoration goals. We support the proposed project and look forward to future work ODFW does for the community.

Sincerely,

  
Cheryl A. Kennedy  
Tribal Council Chairwoman

Cc: Kelly Dirksen, Fish and Wildlife Program Manager

**Tillamook Anglers**

PO Box 334  
Tillamook, OR 97141  
503-842-0250



**Whiskey Creek Volunteer Fish Hatchery**  
7660 Whiskey Creek Road  
Tillamook, OR 97141  
503-812-2555  
[ecamachotillanglers@gmail.com](mailto:ecamachotillanglers@gmail.com)

March 16, 2023

RE: ATBC Program

To Whom It May Concern:

The Tillamook Anglers are pleased to support Oregon Department of Fish and Wildlife's grant request to the National Fish and Wildlife Foundation – America the Beautiful Challenge for "Reconnecting fish passage for Oregon Coast salmon in the Nehalem Watershed". The bundle of projects provide fish passage and restoration for Coho salmon along the Oregon coast that are a valuable resource to the community. The projects have been a popular tourist destination for angling, bird watching, and nature viewing in Tillamook County for 30 years and is in desperate need of upgrades to maintain continued use and safety. Proposed upgrades to the site will provide even greater angling access for the underserved and burdened community.

We strongly support ODFW plans to provide fish passage, remove unwanted dams, and remove non-native plants (e.g. English ivy, reed canary grass, and Himalayan blackberry) and plant additional native species in previously disturbed areas. Likewise, upgrades to the informational kiosks will provide visitors with key information regarding estuarine ecosystems, native wildlife, and risks associated with a rapidly changing climate.

Please support this request and help ODFW construct a new ecologically friendly and climate resilient facility for the use and enjoyment by Tillamook County citizens and visitors.

Sincerely,

A handwritten signature in black ink that reads "James C. Skaar". The signature is written in a cursive, slightly slanted style.

James C. Skaar, Board President  
Tillamook Anglers



## TILLAMOOK COUNTY PARKS DEPARTMENT

P.O. BOX 633  
GARIBALDI, OR 97118

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*Land of Cheese, Trees and Ocean Breeze*

### MELISSA RONDEAU, PARKS OFFICE MANAGER

mrondeau@co.tillamook.or.us  
OFFICE: (503) 322-8443 EXT. 3  
FAX: (503) 322-0212

March 14, 2023

National Fish and Wildlife Foundation  
America the Beautiful Challenge

RE: Letter of support for Oregon Department of Fish and Wildlife's grant request for the Reconnecting fish passage for Oregon Coast coho salmon in Nehalem Watershed.

To Whom It May Concern:

The Tillamook County Parks Department is happy to lend support to the Oregon Department of Fish and Wildlife's grant request to the National Fish and Wildlife Foundation – America the Beautiful Challenge for reconnecting fish passage at four locations in the Nehalem Watershed. These projects will provide resilient fish populations along the Oregon Coast that are critical for human and marine mammal resources. The projects are important for the recovery and delisting of Oregon Coast coho salmon that our community relies on for economic and cultural resources. These projects have been a popular tourist destination for angling, bird watching, and nature viewing in Tillamook County for 30 years and is in dire need of upgrades to maintain continued use and safety. Proposed upgrades to the site will provide greater angling access for the disabled community.

We strongly support ODFW's plans to provide fish passage at four locations, assist private landowners to complete projects that would not be possible without further financial support, and remove non-native plants (i.e., English ivy, reed canary grass, and Himalayan blackberry) and plant additional native species in previously disturbed areas. Likewise, upgrades to the informational kiosks will provide visitors with key information regarding estuarine ecosystems, native wildlife, and risks associated with a rapidly changing climate.

Please support this request and help ODFW construct a new ecologically friendly and climate resilient watershed for the use and enjoyment of Tillamook County citizens and visitors.

Thank you for your consideration.

A handwritten signature in black ink that reads "Melissa Rondeau". The signature is written in a cursive, flowing style.

Melissa Rondeau  
Tillamook County Parks Department

## Attachment B

### Photos of project locations



Figure 1. Tuffy Dam cross sectional view of project during low flow.



Figure 2. Tuffy Dam upstream view of dam, fishladder, and water diversion screen.



Figure 3. Cross sectional view of Whiskey Creek Dam to be removed.





Figure 4. Whiskey Creek Dam during low flow (top) and high flow (bottom) to be removed.



Figure 5. Gallagher Slough tide gates (5) to be replaced with a muted tidal regulator gate.