

Appendix J

North Coast Basin Report

1 Basin Description

The North Coast Basin extends from the Columbia River to the southern Tillamook County line and consists of eight watersheds. Six watersheds drain to the Pacific Ocean: Necanicum, Nehalem, Tillamook Bay, Nestucca, Netarts/Sand Lake and Neskowin and two drain to the lower Columbia River: Lower Columbia and Lower Columbia-Clatskanie. The North Coast Basin includes most of Clatsop, Columbia and Tillamook counties and the major cities of Tillamook, Vernonia, Cannon Beach, Astoria and Rockaway Beach. The three largest bays of Tillamook, Nehalem and Netarts provide for economic and recreational opportunities in the region. Chief among them is commercial and recreational shellfishing with over 2.3 million pounds of oysters and clams harvested annually in Oregon. Other important aquatic resources include the freshwater streams that provide critical habitat for native salmon and drinking water for area residents. Finally, the beaches, lakes, streams and estuaries all provide numerous recreational (swimming, fishing, boating, etc.) opportunities throughout the region.

Forestry is the predominant land use in the subbasin covering nearly 95 percent of the landscape, with the Tillamook State Forest being the largest portion. Agricultural land use is a small portion of the basin with most of it occurring in the lower portions of the rivers and near the bays. The dairy industry makes up much of this use with dairies located in the lower Tillamook, Nestucca and Nehalem watersheds. Cities are generally located in the coastal plains, adjacent to rivers, bays or the ocean.

Table J-1: 2011 Land use and land cover for each subbasin in the North Coast.

Subbasin	Watershed Area (km ²)	% Urban/Roads	% Forest	% Cultivated	% Range/Forest Disturbance	%Other
Lower Columbia	847291	9.2	55.2	0.8	27.9	6.9
Lower Columbia-Clatskanie	771314	8.0	58.3	5.7	23.6	4.4
Necanicum	354954	13.0	52.1	0.0	31.4	3.6
Nehalem	2204689	5.3	61.2	1.1	31.3	1.0
Wilson-Trask-Nestucca	2448221	6.9	72.5	2.5	15.6	2.5



Figure J-1: Landuse in the the North Coast administrative basin.

1.1 Basin Contacts

Table J-2: Oregon DEQ basin contact.

Administrative Area	DEQ Basin Coordinator
North Coast	York Johnson: 503-801-5092: johnson.york@deq.state.or.us

2 Water Quality Impairments and TMDLs

2.1 Water Quality Impaired Stream Segments

Under section 303(d) of the Clean Water Act, states, territories and authorized tribes must submit lists of impaired waters. Impaired waters are those that do not attain water quality standards or support all designated uses. The law requires that states establish priority rankings for waters on the lists and develop Total Maximum Daily Loads (TMDLs) for these waters. Table J-3 identifies the number of North Coast Basin waterbody segments impaired by parameter from the 2012 Integrated Report and the number of segments with approved TMDLs. Sources: [ODEQ](#), [USEPA](#)

Table J-3: Number of impaired stream segments with and without a TMDL as identified in Oregon's 2012 Integrated Report and Assessment database

Parameter	Segments without a TMDL	Segments with a TMDL
Aquatic Weeds Or Algae	5	0
Biological Criteria	36	0
Chlorine	0	1
Dissolved Oxygen	32	0
E. Coli	1	20
Enterococcus	4	0
Fecal Coliform	5	56
Iron	2	0
pH	1	0
Sedimentation	0	2
Temperature	0	66
Turbidity	2	0

2.2 Total Maximum Daily Load Watershed Plans

The federal Clean Water Act requires that water pollutant reduction plans, called Total Maximum Daily Loads (TMDLs), be developed for water bodies that are listed in Category 5 of the Integrated Report (303(d) List). TMDLs describe the maximum amount of pollutants that can enter the river or stream and still meet water quality standards.

TMDLs take into account the pollution from major sources including discharges from industry and sewage treatment facilities, runoff from farms, forests and urban areas, and natural sources. TMDLs include a margin of safety to account for uncertainty, and may include a reserve capacity that allows for future discharges to a river or stream. DEQ typically develops TMDLs on a watershed, subbasin, or basin level and occasionally at the reach level depending on the type and extent of impairments.

The Water Quality Management Plan (WQMP) is the framework for TMDL implementation that is issued by Oregon along with the TMDL (Oregon Administrative Rules 340-042-0040(1)). The TMDL and WQMP serve as a multi-sector plan and provides the blueprint for TMDL related implementation activities. Table J-4 lists the TMDLs that have been approved in the North Coast Basin.

Table J-4: Approved TMDLs in the North Coast Basin and the impairments addressed by those TMDLs.

TMDL Document Name	Impairments Addressed
Nestucca Bay Watershed TMDL and WQMP	Bacteria (water contact recreation and shellfish harvesting), Sedimentation, Temperature
North Coast Subbasins TMDL and WQMP	Bacteria (water contact recreation and shellfish harvesting), Temperature
Tillamook Bay TMDL and WQMP	Bacteria (water contact recreation and shellfish harvesting), Temperature

3 Implementation Highlights

3.1 Section 319 Grants

Federal Section 319(h) funds are provided annually through the EPA to states for the development and implementation of each state’s Nonpoint Source Management Program. In Oregon a portion of 319 grant funding is “passed through” to support community or partner projects that address Oregon’s nonpoint source program priorities. Generally, DEQ requires grantees to report annually on the progress made implementing their grant project. This section highlights those outputs and accomplishments reported to DEQ in 2017. Note this section does not identify or include projects proposed and awarded a grant in 2017. Outputs and accomplishments for those projects will be reported to DEQ in future years once they have been implemented. For a listing of projects proposed and awarded a grant in 2017 see Section 3.6.2 of the main report.

In 2017, there were 10 319 projects active that reported project outputs and accomplishments to DEQ. Combined the projects have a total grant budget of \$227,090. Table J-5 describes the projects and the reported outputs.

Table J-5: Project outputs reported in 2017 for Section 319 pass through grants.

Project Name	Grantee	Project Description	Reported Outputs
BYPP 2013-17	Tillamook Estuaries Partnership	Riparian Restoration	During the period covered by the grant 067-16 (July 2016-June 2017) the BYPP has developed 7 planting projects; 4 of which were implemented in 2017, and 3 of which will be implemented during the 2018 or 2019 seasons, funding permitting. In 2017, the BYPP implemented 6 planting projects along the Nehalem and Trask rivers as well as along direct-to-bay tributaries to Tillamook Bay and tributaries on the Nestucca River. These amounted to 2.4 miles of riparian area encompassing 19 acres. DEQ funds supported the implementation of 3 of these projects. During the summer of 2017 the BYPP is conducting maintenance activities along 8 miles of planting projects implemented between 2015 and 2017. These encompass approximately 45 acres. The 067-16 grant expired at the end of June and funds spent during the month of June were used to conduct the first round of maintenance activities on 8 of those acres.
Nestucca Riparian Restoration	Nestucca Neskowin Watersheds	Riparian Restoration	NNWC implemented new planting projects for 26 landowners along 2.5 miles of river and stream frontage and encompassing approximately acres. During the summer of 2017, NNWC conducted maintenance activities on sites planted during the 2015 through 2017 seasons which totaled over 23 acres along 6.5 miles of river and stream frontage.

Project Name	Grantee	Project Description	Reported Outputs
Upper Nehalem Rip Rest & WQ Monit. Project	Upper Nehalem Watershed Council	Riparian Restoration and volunteer temperature and turbidity monitoring	During this grant UNWC obtained permission to plant on four properties on the mainstem Nehalem between Mist and Birkenfeld as part of the Oregon Department of Agriculture's Strategic Implementation Area riparian reforestation strategy to reduce non-point source pollution from actively managed agricultural lands. Two projects were matched by the ODA (OWEB) in the Nehalem SIA area. The initial riparian plantings were installed in the spring of 2017 on the Armstrong and Johnson projects. In the summer UNWC and Col. River Youth Corp maintained the plantings and installed additional plantings in the fall on 2017. Under DEQ #038-15 a total of 10 projects were planted or maintained. A total stream length of 5.5 miles and 55 acres were treated. The majority of our projects are on TMDL listed reaches. Projects not on TMDL streams are associated with larger restoration projects, e.g. large wood placement and passage. UNWC watershed quality monitoring activities were conducted under approved DEQ Sample and Analysis Plan/s for temperature and turbidity.
Columbia Co. WSScale WQ Monit	Columbia SWCD	Volunteer Monitoring for temperature and bacteria	Open not reported
NORP Plant Purchase	Tillamook Estuaries Partnership	Riparian Plant Propagation	Since the past reporting period NORP has been busy with a large amount of transplanting younger first year seedlings into mostly gallon containers where they will grow a minimum of two to three years more before being moved to our restoration partners for out-planting. This required a large amount of soil and new potting containers. This DEQ grant supported those purchases from 7/31/17 - 9/30/17 including a budget amendment approved in December 2017 that moved \$272 from project management to supplies.
Backyard Planting Program 2015	Tillamook Estuaries Partnership	Riparian Restoration	Open not reported
NNWC Continued RIP Restoration	Nestucca Neskowin Watersheds	Riparian Restoration	Open not reported

Project Name	Grantee	Project Description	Reported Outputs
UNWC Regional Monitor Plan Supp	Upper Nehalem Watershed Council	Riparian Restoration and volunteer temperature and turbidity monitoring	Open not reported
Nestucca, Neskowin, Sand Lake Water Rip Rest Pgm	Nestucca, Neskowin and Sand Lake WSC	Riparian Restoration	Open not reported
BYPP 2016-17 - 16-22	Tillamook Estuaries Partnership	Riparian Restoration	Open not reported



Figure J-2: KW Price Post Plant April 2017

3.2 Clean Water State Revolving Fund (CWSRF)

The Clean Water State Revolving Fund loan program provides below market rate loans to public agencies for the planning, design and construction of various projects that prevent or mitigate water pollution. Eligible agencies include federally recognized Indian tribal governments, cities, counties, sanitary districts, soil and water conservation districts, irrigation districts, various special districts and intergovernmental entities. DEQ partners with Oregon communities to implement projects that attain and maintain water quality standards, and are necessary to protect beneficial uses. This section highlights the ongoing projects and the outputs and accomplishments reported to DEQ in 2017.

In 2017 there were no nonpoint source related Clean Water State Revolving Fund projects with reported outputs in the North Coast.

3.3 Source Water Protection Grants

The Oregon Health Authority regulates drinking water under state law and the Safe Drinking Water Act and works cooperatively with DEQ on source water protection efforts. Using the Drinking Water Revolving Loan Fund, OHA funds Source Water Protection Grants (up to \$30,000 per public water system) for source water protection activities, monitoring, and planning in Drinking Water Source Areas. In addition, loans are available for improving drinking water treatment, source water protection activities, or land acquisition in source areas. Oregon’s Infrastructure Finance Authority is responsible for administering these projects. The loan fund set-asides also fund five Drinking Water Protection positions at DEQ that provide technical assistance to public water systems and communities while they develop and implement strategies that reduce the risk within the delineated source water areas. This section highlights the ongoing projects and the outputs and accomplishments reported to DEQ in 2017.

In 2017 there were two nonpoint source related Safe Drinking Water State Revolving Fund projects active that reported project outputs and accomplishments to DEQ. Combined the projects have a total budget of \$60,000. Table J-6 describes the projects and the reported outputs.

Table J-6: Nonpoint source Safe Drinking Water State Revolving Fund projects and outputs for 2017.

Project Name	Grantee	Project Description	Reported Outputs
Engineering study for highway spill diversion structures near springhead	Neah Kah Nie Water District (spring)	Engineering study for highway spill diversion structures near springhead. Addressing stormwater and potential sources of fine sediments	Water system contracted study with consultant who has delivered a draft feasibility study. Draft feasibility study has been reviewed and commented on by the District Board.
Develop forest inventory and drinking water source protection plan	Seaside Water Department	Develop a forest inventory and drinking water source protection plan in the South Fork Necanicum River watershed	City developed RFP for consultant services in 2017. A majority of work will occur in 2018

3.4 Drinking Water Provider Partnership Grants

Oregon DEQ participates in the Drinking Water Providers Partnership (DWPP) with USDA Forest Service Region 6, EPA Region 10, the U.S. Bureau of Land Management OR/WA Office, the Washington Department of Health, Geos Institute and WildEarth Guardians. Together, these partners coordinate a competitive grant solicitation and award program for environmental conservation and restoration projects in municipal watersheds across the Northwest. The Drinking Water Providers Partnership made the first of the annual awards in 2016 and most projects have a focus on nonpoint sources of pollution. The goal of the Partnership and the funding is to develop and support local partnerships to restore and protect the health of watersheds which communities depend upon for drinking water while also benefiting aquatic and riparian ecosystems, including the native fish that inhabit them. This section highlights the ongoing projects and the outputs and accomplishments reported to the DWPP in 2017.

In 2017 there were no active Drinking Water Providers Partnership projects with reported outputs in the North Coast.

3.5 OWEB Grant Funded Projects

The Oregon Watershed Enhancement Board (OWEB) is a state agency that provides grants to help Oregonians take care of local streams, rivers, wetlands, and natural areas. These grant projects often address nonpoint sources of pollution and are thus included in this report.

Based on the most recent data available in OWEB’s Oregon Watershed Restoration Inventory (OWRI) database, there were 37 OWEB funded projects completed in 2016 with a total cash and inkind budget of \$2,379,698. The bar graph in Figure J-3 shows the total cash and inkind budget for the different project types in each North Coast subbasin. Table J-7 describes the projects and the reported outputs.

Learn more about OWEB grant programs at <https://www.oregon.gov/OWEB/grants/Pages/grant-programs.aspx>.

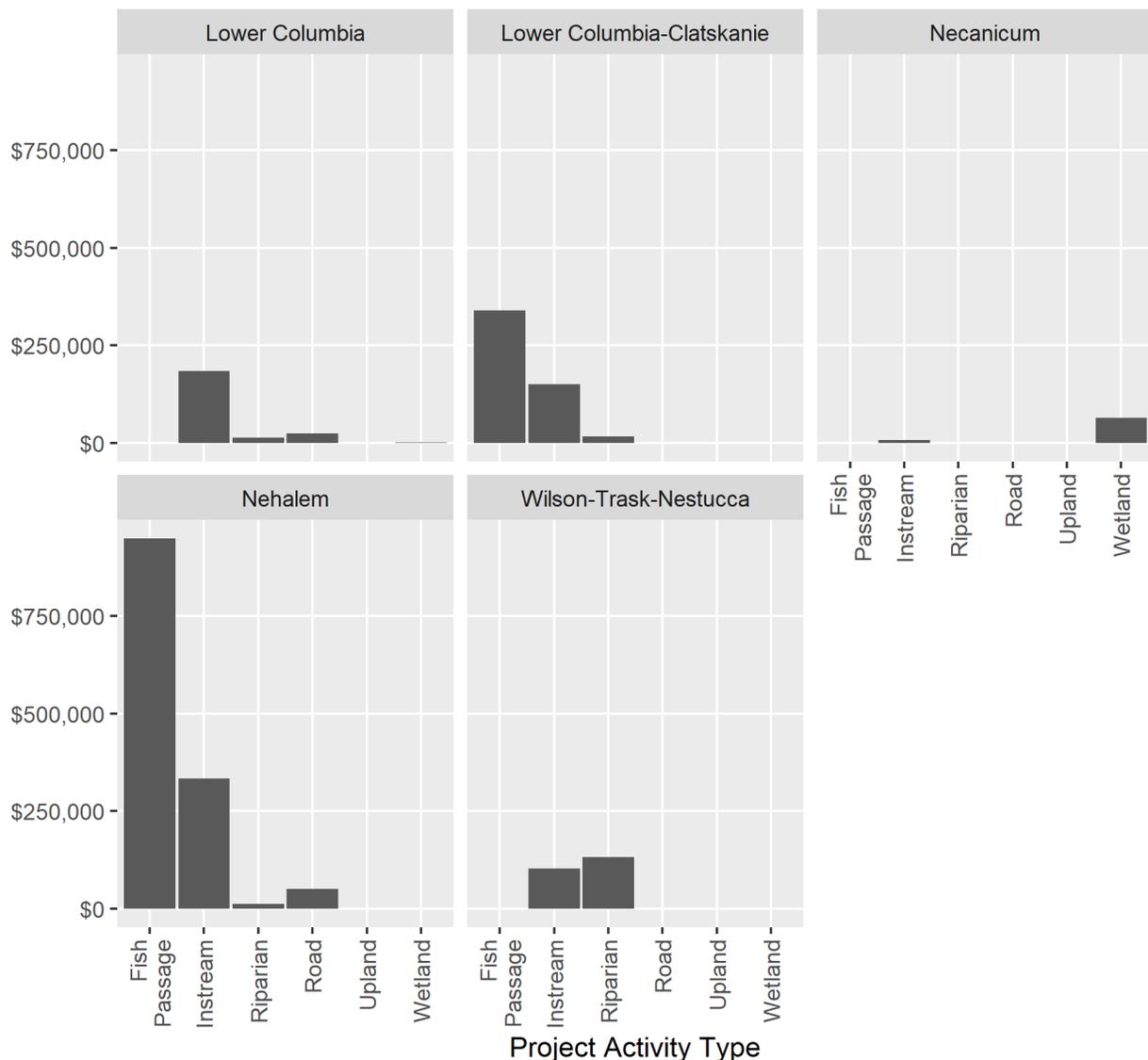


Figure J-3: Cash and inkind dollars spent in each subbasin for different project types completed in 2016, the most recent year data is available in OWEB's OWRI database.

Table J-7: OWEB grant funded projects completed in 2016, the most recent year data is available in the OWEB OWRI database.

Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Lower Columbia	Milton Creek Large Woody Debris	Instream	Large wood placed	City of St. Helens, OWEB, Scappoose Bay Watershed Council	3.2 miles of stream treated (instream activities), 12 pools expected to be created by channel structure placement treatments, 70 habitat structures placed in channel
Lower Columbia	Klaskanine Ridge Combo 2016	Instream, Road	Large wood placed; Stream crossings with log fills/culverts removed and not replaced	ODF	8 habitat structures placed in channel, 2.1 miles of stream treated (instream activities), 24 pools expected to be created by channel structure placement treatments, 13 stream crossings improved for peak flow passage
Lower Columbia	Alder Lagoon Riparian Restoration	Riparian, Wetland	Riparian treated for non-native or noxious plant species; Riparian shrubs or herbaceous vegetation planted/reseeded; Wetland vegetation planted; Wetland treated for non-native or noxious plant species	City of Astoria, Community Volunteers, North Coast Watershed Association, Northwest Youth Corps, OWEB, Tillamook Estuaries Partnership	2 acres treated (riparian activities), 0.25 linear stream miles treated (riparian activities), 1 acre treated (wetland activities)

Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Lower Columbia	Road Crew - Christians Lane 2016	Road	Permanent cross-drains added above stream crossings	ODF	2 non-stream crossings improved for surface drainage
Lower Columbia-Clatskanie	Clatskanie River Fish Passage Improvement Phase II	Fish Passage	Culverts/structures/fords replaced with open bottom arch culverts	Columbia County Road Department, Columbia SWCD, OWEB, USFWS	1 road/stream crossing improved for fish passage, 1 mile of fish habitat made accessible due to road/stream crossing improvements (e.g. improvement or removal of culverts and other structures), 1 mile of habitat opened-previously inaccessible for both adults and juveniles
Lower Columbia-Clatskanie	Tallman's Culvert Replacement	Fish Passage	Culverts/structures/fords replaced with culverts placed embedded or flat	Biohabitat, Clatskanie PUD, Columbia SWCD, Contech, NRCS, ODFW, OWEB, Private Landowners	0.9 miles of habitat previously accessible for adults and juveniles- access improved, 1 road/stream crossing improved for fish passage, 0.9 miles of fish habitat made accessible due to road/stream crossing improvements (e.g. improvement or removal of culverts and other structures)

Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Lower Columbia-Clatskanie	Clatskanie River Floodplain Restoration	Instream , Riparian	Rootwads placed; Side channels reconnected to stream or access improved; Riparian treated for non-native or noxious plant species; Riparian trees planted: conifer and hardwood; Riparian shrubs or herbaceous vegetation planted/reseeded	Aquatic Contracting, Columbia SWCD, Lower Columbia River Watershed Council, ODFW, OWEB, Private Landowners	16 habitat structures placed in channel, 1.15 miles of stream treated (instream activities), 16 pools expected to be created by channel structure placement treatments, 1.15 linear stream miles treated (riparian activities), 14 acres treated (riparian activities)
Necanicum	Forest Lake RV Park Dike Breach	Instream , Wetland	Main stream channel modified / created; Wetland vegetation planted; Wetland treated for non-native or noxious plant species; Existing open water wetland (>6 ft. deep) improved	Carex Consulting, Jubitz Family Foundation, Necanicum Watershed Council, ODFW, Oregon Wildlife Heritage Foundation, OWEB, Private Landowners, Teevin & Fischer Quarry, LLC, Trout Unlimited	0.01 miles of stream treated (instream activities), 0.7 acres treated (wetland activities)

Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Nehalem	Recreation 2016	Fish Passage	Culverts/structures/fords removed and not replaced; Culverts/structures/fords replaced with open bottom arch culverts	ODF	3 road/stream crossings improved for fish passage, 0.27 miles of fish habitat made accessible due to road/stream crossing improvements (e.g. improvement or removal of culverts and other structures), 0.27 miles of habitat opened-previously inaccessible for juveniles, accessible for adults
Nehalem	Little Grand Rapids LWD Enhancement	Instream	Large wood placed	Lower Nehalem Watershed Council, ODFW, OWEB, Weyerhaeuser Columbia Timberlands, LLC	14 habitat structures placed in channel, 14 pools expected to be created by channel structure placement treatments, 1 mile of stream treated (instream activities)
Nehalem	Rock Creek Salmon Anchor Habitat Restoration	Instream	Large wood placed	ODF, ODFW, ODOT, Oregon Parks & Recreation Department, OWEB, Stimson Lumber Company, Upper Nehalem Watershed Council, Weyerhaeuser Company	5 miles of stream treated (instream activities), 38 habitat structures placed in channel, 38 pools expected to be created by channel structure placement treatments

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Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Nehalem	Upper North Fork Large Wood Placement	Instream	Large wood placed	Lower Nehalem Watershed Council, ODF, ODFW, OWEB	1.4 miles of stream treated (instream activities), 7 habitat structures placed in channel, 7 pools expected to be created by channel structure placement treatments
Nehalem	McDonald Slough Reconnection Project	Instream, Fish Passage	Rootwads placed; Tidegate replaced or modified	Confluence Consulting, DEQ, Lower Nehalem Watershed Council, Nehalem Marine, ODFW, OWEB, Pacific Shellfish Institute, Port of Nehalem, Private Landowners	1 pool expected to be created by channel structure placement treatments, 4 habitat structures placed in channel, 0.5 miles of stream treated (instream activities), 1.5 miles of fish habitat made accessible by the removal of barriers other than at road/stream crossings, 1.5 miles of habitat opened-previously inaccessible for both adults and juveniles, 1 non-road crossing barriers improved for fish passage

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Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Nehalem	Oak Ranch Salmon Passage and Habitat Restoration	Instream , Fish Passage	Large wood placed; Culverts/structures/fords replaced with open bottom arch culverts	Columbia County Road Department, ODFW, OWEB, Upper Nehalem Watershed Council	1.5 miles of stream treated (instream activities), 14 habitat structures placed in channel, 14 pools expected to be created by channel structure placement treatments, 1 road/stream crossing improved for fish passage, 1.5 miles of fish habitat made accessible due to road/stream crossing improvements (e.g. improvement or removal of culverts and other structures), 1.5 miles of habitat opened-previously inaccessible for juveniles, accessible for adults
Nehalem	Bergsvik 13 2016	Instream , Road	Large wood placed; Road obliterated, decommissioned, or vacated; Structures replaced to meet 50+ year flow requirements; Stream crossings with log fills/culverts removed and not replaced	ODF	30 pools expected to be created by channel structure placement treatments, 10 habitat structures placed in channel, 0.4 miles of stream treated (instream activities), 12 stream crossings improved for peak flow passage

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Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Nehalem	Younger Riparian Restoration	Riparian	Riparian trees planted: conifer and hardwood	Columbia River Youth Corps, OWEB, Private Landowners, Upper Nehalem Watershed Council	12.6 acres treated (riparian activities), 0.75 linear stream miles treated (riparian activities)
Nehalem	Green Olive 2016	Road	Permanent cross-drains added above stream crossings	ODF	2 non-stream crossings improved for surface drainage
Nehalem	Moonlight Drive 2016	Road	Road obliterated, decommissioned, or vacated; Stream crossings with log fills/culverts removed and not replaced	ODF	4 stream crossings improved for peak flow passage
Nehalem	Saddle Up 2016	Road	Permanent cross-drains added above stream crossings	ODF	2 non-stream crossings improved for surface drainage
Nehalem	Sterling Silver 2016	Road	Permanent cross-drains added above stream crossings	ODF	4 non-stream crossings improved for surface drainage
Nehalem	Swede Retreat 2016	Road	Permanent cross-drains added above stream crossings	ODF	2 non-stream crossings improved for surface drainage

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Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Wilson-Trask-Nestucca	East Beaver Creek Restoration	Instream , Riparian	Large wood placed; Riparian trees planted: conifer and hardwood; Road relocated outside RMA or stream banks	BLM, Ecotrust, Nestucca Watershed Council, ODFW, OWEB, Stimson Lumber, Tillamook County Public Works, USFS	5 pools expected to be created by channel structure placement treatments, 5 habitat structures placed in channel, 0.5 miles of stream treated (instream activities), 0.5 linear stream miles treated (riparian activities), 4.9 acres treated (riparian activities)
Wilson-Trask-Nestucca	Mill Creek Habitat Enhancement Project	Instream , Riparian	Large wood placed; Riparian fencing	Johnson Family Foundation, North Coast Salmon & Steelhead Enhancement Fund, ODFW, OWEB, Port of Tillamook Bay, Tillamook Bay Watershed Council, Tillamook SWCD	0.9 miles of stream treated (instream activities), 17 habitat structures placed in channel, 12 pools expected to be created by channel structure placement treatments, 0.38 linear stream miles treated (riparian activities), 1.9 acres treated (riparian activities)

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Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Wilson-Trask-Nestucca	Fitch Rd Planting Project	Riparian	Riparian trees planted: conifer and hardwood	DEQ, Nestucca, Neskowin, and Sand Lake Watersheds Council, Private Landowners, Tillamook Estuaries Partnership	0.1 linear stream miles treated (riparian activities), 0.3 acres treated (riparian activities)
Wilson-Trask-Nestucca	Hancock Planting Project 2016	Riparian	Riparian trees planted: conifer	DEQ, Nestucca, Neskowin, and Sand Lake Watersheds Council, Private Landowners, Tillamook Estuaries Partnership	0.1 linear stream miles treated (riparian activities), 1.1 acres treated (riparian activities)
Wilson-Trask-Nestucca	Sanchez	Riparian	Riparian treated for non-native or noxious plant species; Riparian fencing; Riparian trees planted: conifer and hardwood	DEQ, OWEB, Private Landowners, Tillamook Estuaries Partnership, Tillamook SWCD	7.8 acres treated (riparian activities), 2 linear stream miles treated (riparian activities)

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Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Wilson-Trask-Nestucca	WY H15-09 Beaver Creek Knotweed Treatment 2015-16	Riparian	Riparian treated for non-native or noxious plant species	Beaver Water District, Cascade Pacific RC&D, Lincoln SWCD, Nestucca, Neskowin, and Sand Lake Watersheds Council, Private Landowners, Tillamook County, Tillamook SWCD	2.99 acres treated (riparian activities), 3.19 linear stream miles treated (riparian activities)
Wilson-Trask-Nestucca	WY H15-09 Farmer Crk & Nestucca R Knotweed Treatment 2015-16	Riparian	Riparian treated for non-native or noxious plant species	Cascade Pacific RC&D, Lincoln SWCD, Nestucca, Neskowin, and Sand Lake Watersheds Council, ODOT, Private Landowners, Tillamook SWCD	2.43 acres treated (riparian activities), 0.69 linear stream miles treated (riparian activities)

Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Wilson-Trask-Nestucca	WY H15-09 Lower Little Nestucca River Knotweed Treatment 2015-16	Riparian	Riparian treated for non-native or noxious plant species	Cascade Pacific RC&D, Lincoln SWCD, Nestucca, Neskowin, and Sand Lake Watersheds Council, Private Landowners, Tillamook SWCD	2.18 linear stream miles treated (riparian activities), 2.07 acres treated (riparian activities)
Wilson-Trask-Nestucca	WY H15-09 Lower Trask River Knotweed Treatment 2015-16	Riparian	Riparian treated for non-native or noxious plant species	Cascade Pacific RC&D, ODOT, Private Landowners, Tillamook SWCD	0.62 linear stream miles treated (riparian activities), 2.5 acres treated (riparian activities)
Wilson-Trask-Nestucca	WY H15-09 Nestucca River near Three Rivers Knotweed Treatment 2015-16	Riparian	Riparian treated for non-native or noxious plant species	Cascade Pacific RC&D, Lincoln SWCD, Nestucca, Neskowin, and Sand Lake Watersheds Council, ODFW, Private Landowners, Tillamook SWCD	0.6 linear stream miles treated (riparian activities), 3.12 acres treated (riparian activities)

Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Wilson-Trask-Nestucca	WY H15-09 Sand Creek Knotweed Treatment 2015-16	Riparian	Riparian treated for non-native or noxious plant species	Cascade Pacific RC&D, Lincoln SWCD, Nestucca, Neskowin, and Sand Lake Watersheds Council, Private Landowners, Tillamook SWCD	0.65 acres treated (riparian activities), 0.93 linear stream miles treated (riparian activities)
Wilson-Trask-Nestucca	WY H15-09 Upper Trask River Knotweed Treatment 2015-16	Riparian	Riparian treated for non-native or noxious plant species	Cascade Pacific RC&D, ODFW, Private Landowners, Tillamook County Public Works, Tillamook SWCD	0.29 linear stream miles treated (riparian activities), 0.73 acres treated (riparian activities)
Wilson-Trask-Nestucca	WY H15-09 Hebo Three Rivers Knotweed Treatments 2015-16	Upland	Upland treated for non-native or noxious plant species	Cascade Pacific RC&D, Nestucca, Neskowin, and Sand Lake Watersheds Council, Private Landowners, Tillamook County, Tillamook SWCD	0.02 acres treated (upland activities)

Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Wilson-Trask-Nestucca	WY H15-09 Neskowin Creek Knotweed Treatment 2015-16	Upland	Upland treated for non-native or noxious plant species	Cascade Pacific RC&D, Neskowin Valley School, Nestucca, Neskowin, and Sand Lake Watersheds Council, Tillamook SWCD	0.05 acres treated (upland activities)
Wilson-Trask-Nestucca	WY H15-09 Pacific City Knotweed Treatment 2015-16	Upland	Upland treated for non-native or noxious plant species	Cascade Pacific RC&D, Nestucca, Neskowin, and Sand Lake Watersheds Council, Private Landowners, Tillamook SWCD	0.06 acres treated (upland activities)
Wilson-Trask-Nestucca	WY H15-09 Upper Nestucca Knotweed Treatment 2015-16	Upland	Upland treated for non-native or noxious plant species	Cascade Pacific RC&D, Nestucca, Neskowin, and Sand Lake Watersheds Council, Private Landowners, Tillamook County Public Works, Tillamook SWCD	0.01 acres treated (upland activities)

3.6 TMDL Implementation Highlights

TMDL implementation actions taken by Designated Management Agencies (DMAs) or third parties are described in the table below. Most of these actions were summarized from annual reports submitted by DMAs to DEQ in calendar year 2017.

Table J-8: TMDL implementation activities reported in 2017 by Designated Management Agencies or third parties.

TMDL	DMA or Third Party	Reported Actions
Nestucca Bay TMDLs	USDI Fish & Wildlife Service	This upland site has degraded conditions due to past agricultural uses and lacked native plant species. This project was designed to provide a vegetated buffer between refuge property restored for Silverspot butterfly and adjacent agricultural lands. The site encompasses 0.6 adjacent to the Nestucca Estuary.
Nestucca Bay TMDLs	Oregon Parks and Recreation Dept.	The State Park site had degraded estuarine conditions with an abundance of invasive, non-native plants . This project involved weed removal, native riparian vegetation planting, and the first year of maintaining new vegetation.
Nestucca Bay TMDLs	Nestucca Neskowin Sand Lake Watersheds Council	This project occurs within a salmon-bearing stream in an area surrounded by agricultural and rural residential land uses. This project constructed a bridge in place of a fish passage barrier culvert on Jewell Creek, a tributary to Sand Creek, the primary direct-to-bay tributary in the Sand Lake estuarine watershed.
Nestucca Bay TMDLs	Oregon Parks and Recreation Dept.	This State Park site had degraded estuarine conditions with an abundance of native shore pine in an area that should be dominated by herbaceous species instead of this tree species. This project involved mechanical removal of shore pine trees to release native riparian vegetation.
Nestucca Bay TMDLs	USDA Forest Service - Hebo Ranger District	This project occurs within a stream above anadromous distribution that supports resident cutthroat trout and other native fishes. A relict concrete culvert on decommissioned road 8530 was removed. This culvert was on Muletail Creek a tributary of the Nestucca River.
Nestucca Bay TMDLs	Nestucca Neskowin Sand Lake Watersheds Council	This project occurs within a salmon-bearing stream in an area surrounded by agricultural and rural residential land uses. This project constructed a bridge in place of a fish passage barrier culvert on Boulder Creek, a tributary to the Nestucca River.
Nestucca Bay TMDLs	Stimson	This project replaced a 24" culvert in a Small Type F tributary of Horn Creek, a tributary of the Nestucca River. The new structure is a aluminized pipe arch 73"x55"x45'.
Nestucca Bay TMDLs	Oregon Parks and Recreation Dept.	This State Park site had degraded estuarine conditions with an abundance of invasive, non-native plants . This project involved weed removal, native riparian vegetation planting, and the first year of maintaining new vegetation.

TMDL	DMA or Third Party	Reported Actions
Nestucca Bay TMDLs	USDA Forest Service - Hebo Ranger District	This project occurs within a salmon-bearing stream in an area surrounded by National Forest. Two undersized culverts were removed from Forest Service Road 2283. These culverts were on an unnamed tributary of Buelah Creek in the Nestucca River Watershed.
Nestucca Bay TMDLs	Stimson	This project replaced a 24" culvert in a Small Type F tributary of Horn Creek, a tributary of the Nestucca River. The new structure is a aluminized pipe arch 73"x55"x45'.
Nestucca Bay TMDLs	Stimson	This project replaced a 36" culvert in a Small Type F tributary of Horn Creek, a tributary of the Nestucca River. The new structure is a aluminized pipe arch 73"x55"x30'.
Nestucca Bay TMDLs	Stimson	This project replaced a 24" culvert in a Small Type F tributary of Horn Creek, a tributary of the Nestucca River. The new structure is a aluminized pipe arch 63"x55"x40'.
Nestucca Bay TMDLs	Oregon Parks and Recreation Dept.	This State Park site had degraded riparian conditions with an abundance of invasive, non-native plants . This project involved mechanical removal of English Ivy, blackberry, English holly and other invasive, non-native plants.
North Coast Subbasins TMDLs	Lower Nehalem Community Trust	This project acquired a 4.6 acre parcel with riparian and tidally-influenced wetland habitats in the Nehalem Estuary watershed.
North Coast Subbasins TMDLs	Lower Nehalem Watershed Council	The Jetty Creek Fish Passage project Natural Fish Bypass Channel component constructed a 375 foot natural fishway bypassing the City of Rockaway Beach's municipal raw-water impoundment and water treatment facility. The purpose of the project was to restore fish passage and access to 1.8 miles of coho and 1.2 miles of cutthroat spawning and rearing habitat. Jetty Creek is the primary surface water source for the City of Rockaway Beach's municipal water treatment plant. Fish passage on Jetty Creek has historically been blocked by a low head dam just upstream of the streams confluence with Nehalem Bay. The dam creates the necessary water surface elevation to support the City of Rockaway Beach's raw water storage impoundment and drinking water withdrawal but also limits fish passage and impairs stream processes (including transport of stream bed material and organic matter). The dam structure was the only remaining fish passage barrier on mainstem Jetty Creek, upstream and downstream barriers having been addressed over the last 10 years. Additionally, the Jetty Creek Fish passage project moved the City's intake upstream of the raw water impoundment, installed a fish screen at the point of diversion and expanded the storage capacity of the impoundment (See additional project components).
North Coast Subbasins TMDLs	Lower Nehalem Community Trust	This project acquired a 2.1 acre property with tidally-influenced wetland habitats in the Nehalem Estuary watershed.

TMDL	DMA or Third Party	Reported Actions
North Coast Subbasins TMDLs	Upper Nehalem Watershed Council	This project occurred within a salmon-bearing stream in an area surrounded by forestry land use. This project placed 15 large wood structures (6-9 logs each) along a one mile reach of Archibald Creek, a tributary to Oak Ranch Creek, which flows into the Nehalem River.
North Coast Subbasins TMDLs	Lower Nehalem Community Trust	This project acquired a 2.3 acre parcel adjacent to existing conservation properties in the Nehalem Estuary watershed. The parcel includes upland grassland habitats and creekside riparian habitats.
North Coast Subbasins TMDLs	Upper Nehalem Watershed Council	This project occurred within a salmon-bearing stream in an area surrounded by forestry land use. This project constructed a bridge in place of a fish passage barrier culvert on Archibald Creek, a tributary to Oak Ranch Creek, which flows into the Nehalem River.
North Coast Subbasins TMDLs	Lower Nehalem Community Trust	This project occurred within riparian, wetland and in-stream habitats on a privately-held conservation property. This project was a voluntary program to control invasive plant species and establish a variety of native vegetation . The work was conducted on an approximately 1.0 acre portion of the conservation property.
North Coast Subbasins TMDLs	Oregon Dept. of Forestry-Forest Grove	This project occurred within a salmon-bearing stream in an area surrounded by forestry land use. This project constructed a fish-passable pipe arch culvert in place of a fish passage barrier culvert on an unnamed tributary of Lousignont Creek. Lousignont Creek is a tributary to the Nehalem River.
North Coast Subbasins TMDLs	Lower Nehalem Community Trust	This project acquired three taxlots totaling 5.2 acres adjacent to existing conservation properties. The parcels include upland grassland habitats in the Nehalem Estuary watershed.
Tillamook Bay TMDLs	Tillamook County	This was a large-scale tidal wetland project (550 acres) with a primary Community goal of flood reduction. However, because it removed levees surrounding an historical tidal wetland, constructed new tidal channels and reconnected historical tidal channels and sloughs, it also is expected to have substantial habitat enhancement benefits. Activities included levee removal, contaminated and uncontaminated fill removal, tidegate and culvert removal, ditch filling, large wood structure installation, rip rap removal, tidal channel excavation, and tidal channel reconnection. The scope, scale and cost of this project made it impractical to break the project down into its component parts but it entailed numerous restoration techniques and too many partners to fully capture.
Tillamook Bay TMDLs	Tillamook Bay Watershed Council	By removing a large notch from Skookum Dam, this project restores fish passage and natural stream function between Fawcett Creek and Skookum Lake, as well as approximately two miles of headwater stream habitat above the lake.

TMDL	DMA or Third Party	Reported Actions
Tillamook Bay TMDLs	The Nature Conservancy	This is the final phase of restoration activities at this project site. This project restores historically abundant and currently rare tidal spruce swamp. In this phase, a variety of native shrubs, trees and herbaceous species were planted throughout the site. Previous project activities include ditch filling, stream channel relocation, tidal channel excavation, and large wood placement in the floodplain and channels.
Tillamook Bay TMDLs	Oregon Dept. of Forestry-Tillamook	This project occurs within a salmon-bearing stream in an area surrounded by forestry land use. This project constructed an open-bottomed pipe arch in place of a fish passage barrier culvert on an unnamed tributary of Ben Smith Creek. Ben Smith Creek is a tributary to the Wilson River in the Tillamook Bay Watershed.
Tillamook Bay TMDLs	Garibaldi Forest Management LLC.	This project occurs on a road where it crosses an ephemeral tributary to a salmon-bearing stream. Forestry is the predominant land use in the area. This project corrected damage associated with road/culvert failure and modified the road and the replacement culvert to minimize potential for future storm-related failures.
Tillamook Bay TMDLs	City of Garibaldi	This project occurs within a fish-bearing stream in an area with municipal, residential land use. The project occurs on Whitney Creek, a direct-to-bay tributary to Tillamook Bay in the City of Garibaldi. An old, undersized culvert was a barrier to juvenile fish passage. The project replaced the existing culvert with a bridge.
Tillamook Bay TMDLs	Oregon Dept. of Forestry-Tillamook	This project occurs within a salmon-bearing stream in an area surrounded by forestry land use. This project placed large wood along an approximately 0.1 mile reach of Ben Smith Creek, a tributary of the Wilson River.
Tillamook Bay TMDLs	Lower Nehalem Watershed Council	The Jetty Creek Fish Passage Project Fish Screen Component transferred the City of Rockaway Beach's point of diversion for their two municipal water rights upstream of the raw water impoundment on Jetty Creek and partnered with Oregon Department of Fish and Wildlife's Screen Program to install a fish screen at the intake. Additionally, the Jetty Creek Fish passage project constructed a natural bypass channel around the impoundment to restore fish passage and expanded the storage capacity of the impoundment (See additional project components).
Tillamook Bay TMDLs	Lower Nehalem Watershed Council	The Jetty Creek Fish Passage Project Impoundment Improvements component expanded the storage capacity of the City of Rockaway Beach's municipal raw-water storage impoundment, lined the impoundment to prevent loss to groundwater, and improved the City's intake at their water treatment plant.

TMDL	DMA or Third Party	Reported Actions
Tillamook Bay TMDLs	Tillamook Estuaries Partnership	This project occurs within a salmon-bearing stream in an area surrounded by agricultural, rural residential and forestry land uses. This project constructed a bridge in place of a fish passage barrier culvert on Mapes Creek, a tributary to the Kilchis River.
Tillamook Bay TMDLs	Oregon Dept. of Forestry-Tillamook	This project occurs within a salmon-bearing stream in an area surrounded by forestry and rural residential land uses. This project constructed a bridge in place of a failed, fish passage barrier culvert on Prouty Creek, a tributary to the Miami River in the Tillamook Bay Watershed.
Tillamook Bay TMDLs	Oregon Dept. of Forestry-Forest Grove	This project occurs within a salmon-bearing stream in an area surrounded by forestry land use. This project removed (vacated) two fish passage barrier culverts on an unnamed tributary of to the South Fork Wilson River in the Tillamook Bay Watershed. A road re-alignment in 2016 allowed approximately 100 ft. of road (and two culverts) to be vacated in 2017.
Tillamook Bay TMDLs	Oregon Dept. of Forestry-Tillamook	This project occurs within a salmon-bearing stream in an area surrounded by forestry land use. This project constructed a bridge in place of a fish passage barrier culvert on Waldron Creek, a tributary to the Miami River in the Tillamook Bay Watershed.