

# **Appendix O**

# **South Coast Basin Report**



# 1 Basin Description

The South Coast Basin is located in southwestern Oregon and consists of five subbasins: Coos, Coquille, Sixes, Chetco and a portion of the Smith. These subbasins are on the west side of the Siskiyou Mountains and contain over 1.9 million acres.

At the north end of the basin, the Coos and Coquille rivers headwater in the Coast Range and flow across relatively flat, low gradient, marine terraces to the Pacific Ocean. In the south portion, numerous coastal frontal streams headwater primarily in the Klamath Mountain Province and discharge directly to the ocean. Ports are maintained at Coos Bay, Bandon, Port Orford, Gold Beach and Brookings Harbor. Coos Bay provides deep draft access.

Habitats in the South Coast Basin are particularly diverse and include forest, grass and shrub lands, coastal redwood forest, and most of the world's habitat for Port Orford cedar. Flat, coastal terraces, extend from Bandon south to Cape Blanco and support unique shore pine forests, wetlands and cranberry bogs. Further south, the coastal headlands and off-shore rocks are among the most spectacular and pristine in Oregon.

Streams provide habitat for a wide variety of cold-water species including Coho and spring and fall Chinook salmon, summer and winter steelhead, multiple species of residential trout, amphibians, and other fish including Pacific lamprey, green sturgeon, white sturgeon, speckled dace and prickly sculpin. The basin's estuaries provide habitat for marine mammals, birds and a wide variety of fish.

The South Coast Basin contains several areas identified by the Oregon Department of Fish and Wildlife as core areas for the recovery of coastal Coho salmon and is comprised of two discrete evolutionarily significant units. The northern portion of the South Coast Basin is part of the Oregon Coast Coho Evolutionarily Significant Unit and the southern portion is part of the Southern Oregon/Northern California Evolutionarily Significant Unit. Coho salmon and green sturgeon are listed as threatened under the Endangered Species Act. Other species of concern include Pacific lamprey, steelhead, coastal cutthroat trout and Chinook salmon.

Forestry, ranching, agriculture, commercial and recreational fishing, and tourism drive the economy of communities in the basin. Flat marine terraces have largely been converted to cranberry or lily production. The Coos and Coquille valleys historically were large timber producers along with cattle and dairy industries. Commercial shellfish harvesting occurs in select South Coast Basin estuaries. Commercial and recreational fishing and boating have been an important economic resource for generations. The South Coast Basin also contains numerous lakes which provide fishing, boating, swimming and other recreational opportunities.

**Table O-1: 2011 Land use and land cover for each subbasin in the South Coast.**

Subbasin	Watershed Area (km <sup>2</sup> )	% Urban/Roads	% Forest	% Cultivated	% Range/Forest Disturbance	%Other
Chetco	1591808	4.5	78.1	0.2	16.4	0.9
Coos	1864833	6.6	58.7	0.8	27.7	6.1
Coquille	2737364	5.1	58.4	3.8	30.2	2.5
Sixes	1214349	4.4	64.1	1.9	25.4	4.2
Smith	235132	1.3	62.0	0.0	36.7	0.0

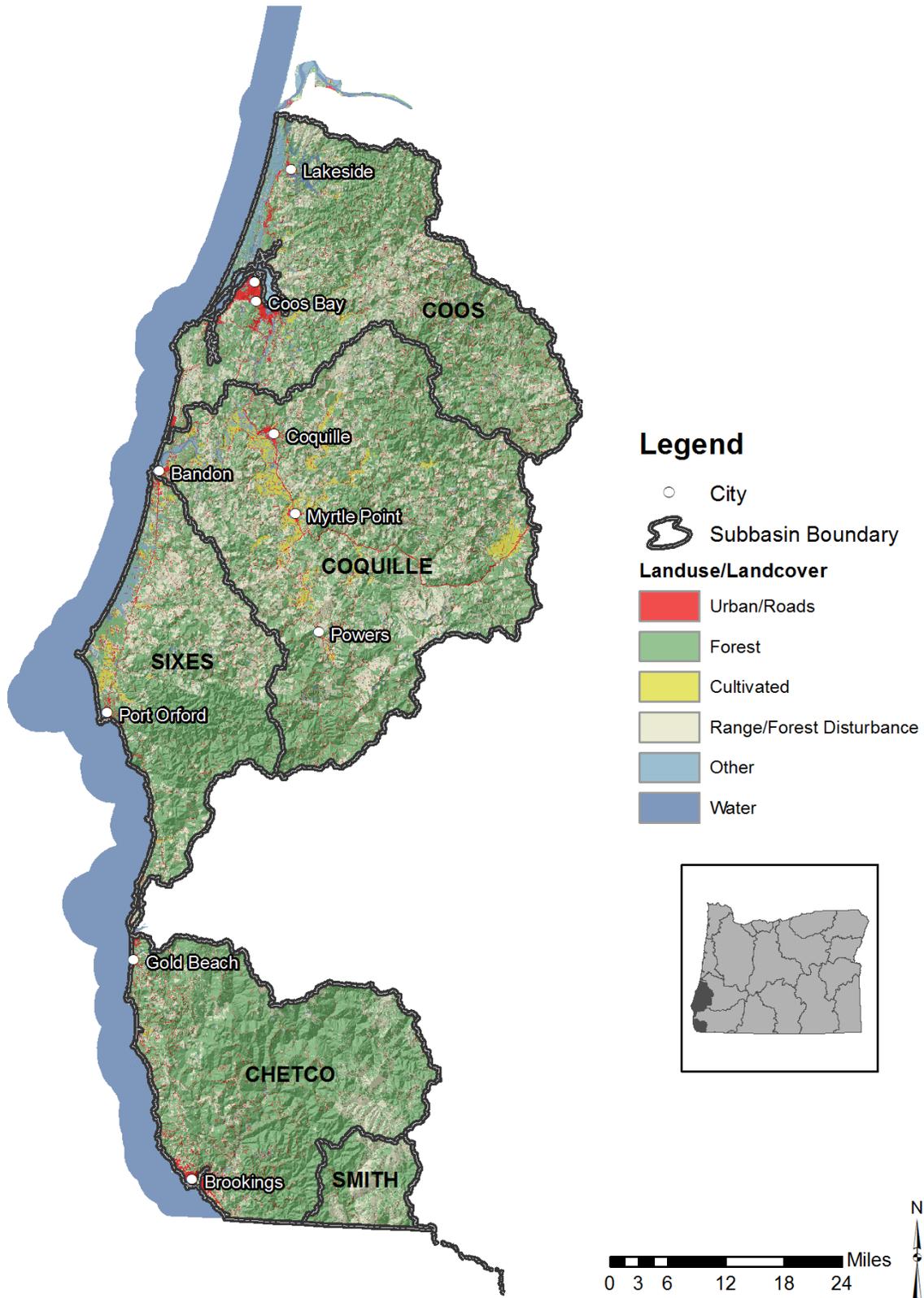


Figure O-1: Landuse in the the South Coast administrative basin.

## 1.1 Basin Contacts

**Table O-2: Oregon DEQ basin contact.**

Administrative Area	DEQ Basin Coordinator
South Coast	Bryan Duggan: 541-269-2721 x234: <a href="mailto:duggan.bryan@deq.state.or.us">duggan.bryan@deq.state.or.us</a>

# 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 O-3 identifies the number of South Coast Basin waterbody segments impaired by parameter from the 2012 Integrated Report and the number of segments with approved TMDLs. Sources: [ODEQ](#), [USEPA](#)

**Table O-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	3	5
Biological Criteria	29	0
Chlorophyll a	3	4
Dissolved Oxygen	30	1
E. Coli	28	0
Enterococcus	8	0
Fecal Coliform	50	0
Iron	3	0
pH	5	1
Phosphorus	0	1
Sedimentation	0	8
Temperature	110	4

## 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 O-4 lists the TMDLs that have been approved in the South Coast Basin.

**Table O-4: Approved TMDLs in the South Coast Basin and the impairments addressed by those TMDLs.**

<b>TMDL Document Name</b>	<b>Impairments Addressed</b>
Coquille River TMDL	Dissolved Oxygen
Garrison Lake TMDL	Aesthetics and Algal Growth
Tenmile Lakes TMDL and WQMP	Algae, Aquatic Weeds, Sedimentation
Upper South Fork Coquille TMDL and WQMP	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 four 319 projects active that reported project outputs and accomplishments to DEQ. Combined the projects have a total grant budget of \$42,440. Table O-5 describes the projects and the reported outputs.

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

<b>Project Name</b>	<b>Grantee</b>	<b>Project Description</b>	<b>Reported Outputs</b>
North Fork Coquille Watershed Riparian Restoration and Knotweed Project	Coquille Watershed Association	The objective of this project are to develop a Riparian Restoration Plan that addresses riparian improvements along the NF Coquille River in order to improve water quality. The project will develop a landowner database, conduct outreach and education on riparian conditions and noxious weeds, map potential restoration projects and develop a NF Coquille Riparian Restoration Plan with implementation strategies.	Project outputs for 2017 include a draft NF Coquille Riparian Restoration Plan and landowner outreach materials for dissemination.
Coquille Water Quality Implementation Plan and Stormwater Outreach Project	City of Coquille	This project is to assist the City of Coquille in developing their Water Quality Implementation Plan (WQIP) prior to the release of the Coquille TMDL in late 2018, early 2019. The city will identify 303(d) pollutant sources, draft load reduction strategies and develop a WQIP matrix for city properties. The project will also assist the city in developing a WQIP for the City's stormwater facilities, including a matrix for TMDL reporting. The project will also develop and disseminate outreach and education materials to raise awareness about stormwater best management practices, and draft an adoptable City of Coquille Post Construction Stormwater Management Municipal Code to improve stormwater quality within the City boundaries.	No progress reported.

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Project Name	Grantee	Project Description	Reported Outputs
Coquille Mainstem Cold Water Monitoring Project	Coos Soil and Water Conservation District	This project is conducting summer stream temperature monitoring within the lower Coquille River mainstem and select tributary locations in order to identify cold water refugia locations for migrating salmonids. The project will characterize the distribution of summer cold water refugia in the lower Coquille River. The project consists of a study design, outreach, monitoring, and reporting.	Task1. Study Design: identified and mapped deployment locations; drafted Sample and Analysis Plan; and procurement of temperature data loggers and equipment. Task2. Outreach: secured access for 16 sites. Task3: Monitoring: Conducted temperature logger audits and collected one season of water temperature data for lower Coquille River.
Coos Biocriteria Assessment and Evaluation, Phase 2	Coos Watershed Association	Project objectives are to monitor biological criteria, macroinvertebrate population response to restoration projects within the Coos River Subbasin.	2017 Project outputs include: updated DEQ-approved sampling and Analysis Plan, collected macroinvertebrate samples from all test sites, and submitted 2016 sample results to DEQ for PREDATOR analysis.



**Figure O-2: Coos Watershed Project leader, Alexa Carleton demonstrates method of checking inside of D-net for clinging critters and transferring specimens directly from net into jar of ethanol.**

## **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 was one nonpoint source related Clean Water State Revolving Fund project active that reported project outputs and accomplishments to DEQ. Combined the projects have a total budget of \$2,200,000. Table O-6 describes the project and the reported outputs.

**Table O-6: Nonpoint source related Clean Water State Revolving Fund project outputs reported in 2017.**

Project Name	Grantee	Project Description	Reported Outputs
6th Avenue Culvert Replacement project	City of Coos Bay	Coos Bay submitted a \$2.2 million loan application in 2016 and started navigating the permit process to prepare for implementation. The project proposed replacing a failing box culvert to allow fish passage to an estuary area that provides sheltering and rearing habitat for salmon protected by the Endangered Species Act. The culvert replacement includes stream bank restoration in addition to stormwater controls designed to treat runoff. The project includes stormwater management planning, a stormwater development ordinance, stream restoration, stormwater treatment retrofit involving green infrastructure with an education and outreach component, installation of a stormwater treatment control at a centralized trash disposal facility, and the development of a pet waste education program.	In 2017 the project outputs included mobilizing for construction, removal of contaminated soils from the work site, and beginning to clear the operations and laydown site. The project was 38% complete at the end of 2017. It's slated to be completed by the end of 2018.

### 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 no nonpoint source related Safe Drinking Water State Revolving Fund projects with reported outputs in the South Coast.

### 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 two Drinking Water Providers Partnership projects active that reported project outputs and accomplishments to the DWPP. Combined the projects have a total budget of \$98,879. Table O-7 describes the projects and the reported outputs.

**Table O-7: Drinking Water Providers Partnership projects and outputs for 2017**

<b>Project Name</b>	<b>Grantee</b>	<b>Project Description</b>	<b>Reported Outputs</b>
Floras Creek Drinking Water Protection (2016)	Curry Soil and Water Conservation District	This project will protect and improve Langlois Water District’s Floras Creek municipal water system through riparian fencing, weed control, planting, road inventory/reconstruction, and large wood addition to the stream channel.	Partners completed outreach to landowners (~60% of the catchment area land owners are involved), site design work, and implementation including fencing, invasive species removal, bank stabilization, grazing area management, road restoration, and riparian plantings.
Floras Creek Drinking Water Protection (2017)	Curry Soil and Water Conservation District	The Curry Soil and Water Conservation District and South Coast Watershed Council are improving in-stream, riparian, and uplands habitat in the town of Langlois’ source watershed. They are placing large wood structures in 2 miles of Floras Creek, treating invasive species on 44 acres along the creek, and treating priority segments of forest road to reduce erosion.	Project partners completed initial project planning.



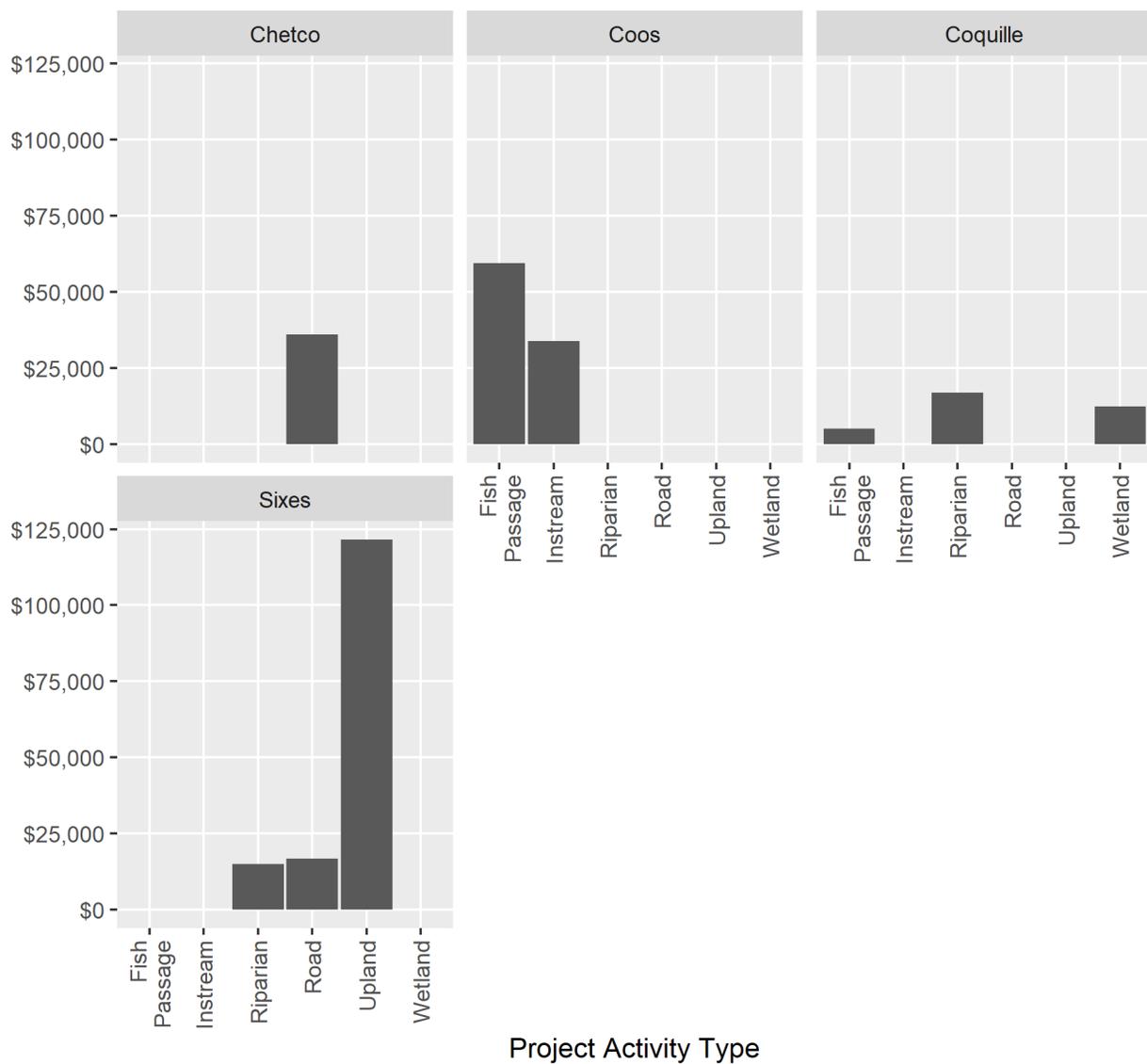
**Figure O-3: Flores Creek bank stabilization and fencing**

### 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 18 OWEB funded projects completed in 2016 with a total cash and inkind budget of \$316,687. The bar graph in Figure O-4 shows the total cash and inkind budget for the different project types in each South Coast subbasin. Table O-8 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 O-4: 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 O-8: 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
Chetco	Dewald Ranch Road Sediment Abatement	Road	Culverts added at locations other than above stream crossings; Road durable rocking or quality hard road rocking prior to haul; Structures replaced to meet 50+ year flow requirements	Curry SWCD, OWEB, Private Landowners, Swanson Ecological Services, LLC	5 non-stream crossings improved for surface drainage, 36 stations improved by rocking for surface drainage, 6 stream crossings improved for peak flow passage
Coos	Stulls Falls Fish Passage Improvements	Fish Passage	Engineered barrier bypass or fishway installed (other than fish ladders)	Blue Ridge Timber Cutting, Coos Watershed Association, ODF, ODFW, Private Landowners, Trout Unlimited	1 non-road crossing barriers improved for fish passage, 60 miles of fish habitat made accessible by the removal of barriers other than at road/stream crossings, 60 miles of habitat previously accessible for adults and juveniles- access improved
Coos	West Fork Millicoma Passage Improvements- Elk Creek	Fish Passage	Engineered barrier bypass or fishway installed (other than fish ladders)	Coquille Indian Tribe, DSL, ODF, ODFW, OWEB	6 miles of habitat previously accessible for adults and juveniles- access improved, 1 non-road crossing barriers improved for fish passage, 6 miles of fish habitat made accessible by the removal of barriers other than at road/stream crossings

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Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Coos	West Fork Millicoma Passage Improvements- W. Fk. Millicoma R	Fish Passage	Engineered barrier bypass or fishway installed (other than fish ladders)	Coquille Indian Tribe, DSL, ODF, ODFW, OWEB	9 miles of fish habitat made accessible by the removal of barriers other than at road/stream crossings, 9 miles of habitat previously accessible for adults and juveniles- access improved, 1 non-road crossing barriers improved for fish passage
Coos	Buck Creek Wood Placements	Instream	Large wood placed; Road obliterated, decommissioned, or vacated	Blue Ridge Timber Cutting, Coos Bay Timber Operators, Coos Watershed Association, ODF, ODFW, OWEB	0.3 miles of stream treated (instream activities), 6 pools expected to be created by channel structure placement treatments, 10 habitat structures placed in channel
Coos	Deer Creek Headwaters Timber Sale No. 341-16-18	Riparian	Voluntary riparian tree retention	ODF	0.46 linear stream miles treated (riparian activities), 3.14 acres treated (riparian activities)
Coos	Eleven Creek Headwaters Timber Sale No. 341-16-16	Riparian	Voluntary riparian tree retention	ODF	7.64 acres treated (riparian activities), 1.66 linear stream miles treated (riparian activities)

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Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Coos	Eleven Creek No. 3 Timber Sale No. 341-15-42	Riparian	Voluntary riparian tree retention	ODF	8.72 acres treated (riparian activities), 0.65 linear stream miles treated (riparian activities)
Coos	Lower West Glenn Timber Sale No. 341-16-13	Riparian	Voluntary riparian tree retention	ODF	21.05 acres treated (riparian activities), 1.35 linear stream miles treated (riparian activities)
Coos	Millicoma Overlook Timber Sale No. 341-15-40	Riparian	Voluntary riparian tree retention	ODF	0.24 linear stream miles treated (riparian activities), 0.54 acres treated (riparian activities)
Coquille	Big Creek-Huff Culvert Removal	Fish Passage	Culverts/structures/fords removed and not replaced	Coos County Planning Department, Coos Forest Patrol Agency, Coquille Watershed Association, ODF, ODFW, OWEB, Private Landowners	1 road/stream crossing improved for fish passage, 0.08 miles of habitat opened-previously inaccessible for juveniles, accessible for adults, 0.08 miles of fish habitat made accessible due to road/stream crossing improvements (e.g. improvement or removal of culverts and other structures)

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Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Coquille	Camp Myrtlewood Riparian Habitat Improvement	Riparian	Riparian trees planted: conifer and hardwood; Other riparian vegetation management	Camp Myrtlewood (Church of the Brethren), Coquille Watershed Association, OWEB, Wild Rivers Land Trust	12 acres treated (riparian activities), 0.75 linear stream miles treated (riparian activities)
Coquille	Leslie Wetland Log Cribs	Wetland	Wetland vegetation planted; Existing shrub/scrub wetland improved	Coquille Watershed Association, ODFW, OWEB, Private Landowners, Trout Unlimited	2 acres treated (wetland activities)
Sixes	Azevedo-Kreutzer AgWQ Restoration	Riparian	Livestock stream access/crossing created or improved; Riparian fencing; Off-channel watering sites developed	BLM, Curry SWCD, National Fish and Wildlife Foundation, ODA, OWEB, Private Landowners	1.13 acres treated (riparian activities), 0.57 linear stream miles treated (riparian activities)
Sixes	New River Ag WQ Management - Brown Offstream Water and Sediment Abatement	Road	Road durable rocking or quality hard road rocking prior to haul; Structures replaced to meet 50+ year flow requirements; Off-channel watering sites developed	Curry SWCD, OWEB, Private Landowners	4 stations improved by rocking for surface drainage, 2 stream crossings improved for peak flow passage
Sixes	New River Ag WQ Management - Donaldson Offstream Water and Gully Stabilization	Upland	Off-channel watering sites developed; Gully/grade stabilization	Curry SWCD, ODA, OWEB, Private Landowners	33.5 acres treated (upland activities)

Subbasin	Project Name	Project Type	Project Description	Participants	Reported Outputs
Sixes	New River Ag WQ Management - Smith Gully Stabilization	Upland	Gully/grade stabilization	Curry SWCD, OWEB, Private Landowners	43.1 acres treated (upland activities)
Sixes	New River Ag WQ Management - Wahl Gully Stabilization	Upland	Gully/grade stabilization	Curry SWCD, OWEB, Private Landowners	469.4 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 O-9: TMDL implementation activities reported in 2017 by Designated Management Agencies or third parties.**

TMDL	DMA or Third Party	Reported Actions
Tenmile Watershed Sedimentation and Nutrients TMDLs	Tenmile Lakes Basin Partnership	Two riparian enhancement projects implemented with 3 miles of exclusion fencing, 10 acres of riparian habitat improved native plantings, and 100 cubic yards of high sediment risk removed. Assisted the City of Lakeside with boat access for site assessment, ownership questions, and location access.