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 (km2)	% Urban/Roads	% Forest	% Cultivated	% Range/Forest Disturbance	%Other
Chetco	1591.808	4.5	78.1	0.2	16.4	0.9
Coos	1864.833	6.6	58.7	0.8	27.7	6.1
Coquille	2737.364	5.1	58.4	3.8	30.2	2.5
Sixes	1214.349	4.4	64.1	1.9	25.4	4.2
Smith	235.132	1.3	62.0	0.0	36.7	0.0

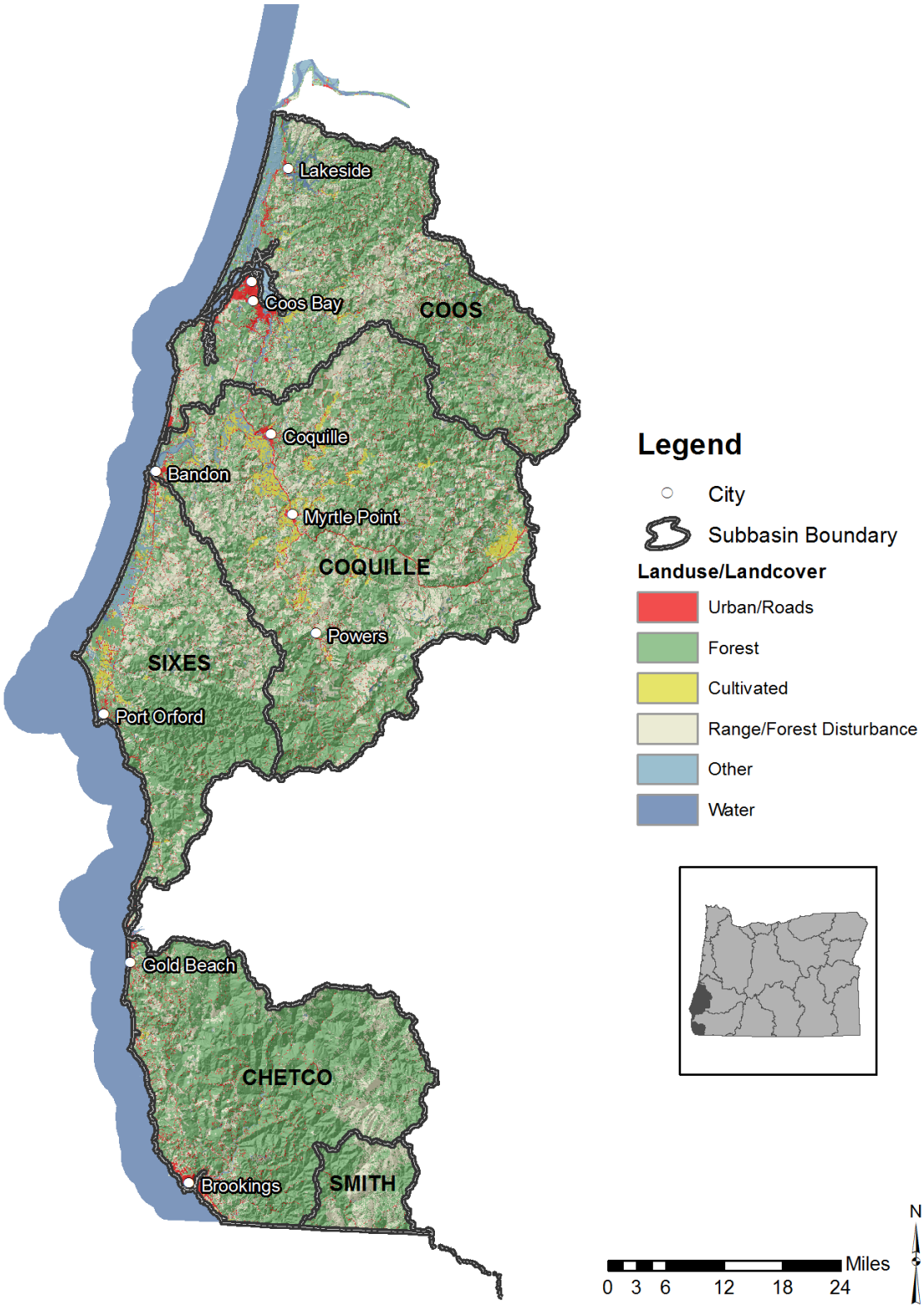

Figure O-1: Land use in the South Coast administrative basin.

1.1 Basin Contacts

Table O-2: Oregon DEQ basin contact.

Administrative Area	DEQ Basin Coordinator
South Coast Basin	Bryan Duggan: 541-269-2721 x234: duggan.bryan@deq.state.or.us
South Coast Basin	Heather Tugaw: 541-776-6091: tugaw.heather@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 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	2	3
Arsenic	4	0
Biocriteria	2	0
Biological Criteria	29	0
Chlorophyll a	3	2
Dieldrin	2	0
Dissolved Oxygen	36	1
E. Coli	28	0
Enterococcus	8	0
Fecal Coliform	50	0
Fish tissue, Mercury	2	0
Iron	4	0
pH	4	1
Phosphorus	0	1
Sedimentation	0	6
Temperature	115	4
Tissue - soft shell clam - arsenic	5	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(l)). 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.

TMDL Document Name	Impairments Addressed
Coquille River & Estuary Water Quality Report TMDL	Dissolved Oxygen
Garrison Lake TMDL	Aesthetics and Algal Growth
Tenmile Lakes TMDL	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 2019. Note this section does not identify or include projects proposed and awarded a grant in 2019. 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 2019 see Section 3.6.2 of the main report.

In 2019, there were five 319 projects active that reported project outputs and accomplishments to DEQ. Combined the projects have a total grant budget of $67,081. Table O-5 describes the projects and the reported outputs.

Table O-5: Project outputs reported in 2019 for Section 319 pass through grants.

Project Name	Grantee	Project Description	Reported Outputs
Coquille Stormwater Master Plan Update with Water Quality Implementation Plan	City of Coquille	City of Coquille TMDL WQIP development	The project was terminated in 2019 due to recipient's delaying action for additional funding. The grant funds for this project were re-assigned to the Coquille Mainstream Cold Water Refugia Monitoring Project and the South Fork Coquille River/Dement Creek Technical Assistance Project.
City of Mrytle Point TMDL Water Quality Implementation Plan	City of Mrytle Point	City of Mrytle Point TMDL WQIP development	The City has developed the RFP for contractor services in 2018, but has yet to hire a contractor to develop the WQIP document.
Coquille Mainstream Cold Water Refugia Monitoring Project	Coos Soil and Water Conservation District	Lower Coquille River tributary temperature monitoring	Coos SWCD made the project performance report available on 6/30/2019, which was compiled and processed the data collected in 2018. The SWCD has also amended the contract for additional funds of $5,500 for 2020 monitoring.
North Fork Coquille Watershed Riparian Restoration and Knotweed Project	Coquille Watershed Association	Riparian Restoration Planning	Coquille Watershed Association has completed the grant requirements, conducted final outreach to partners and landowners, identified a local control strategy for knotweed in the NF Coquille, and continued to seek additional funding for riparian invasive species control and implementation.
South Fork Coquille River/Dement Creek Technical Assistance Project	Coquille Watershed Association	Watershed planning for Dement Creek through WQ and habitat assessment	Coquille Watershed Association continued landowner outreach and conducted watershed water quality field assessments and data analysis for Dement Creek project in SF Coquille River. The project received additional $8,636 that was re-assigned 319 grant funds from the Coquille Stormwater Master Plan Update with Water Quality Implementation Plan.

Figure O-2: Coos SWCD's Caley Sowers checks on a temperature data logger in Alder Creek, Coquille River.

Figure O-3: Knotweed on steep slopes along middle Creek, NF Coquille River.

Figure O-4: New location of DEQ supported data logger in Dement Creek, South Fork Coquille River.

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 2019.

In 2019 there were two nonpoint source related Clean Water State Revolving Fund projects active that reported project outputs and accomplishments to DEQ. Combined the projects have a total budget of $265,000. Table O-6 describes the projects and the reported outputs.

Table O-6: Nonpoint source related Clean Water State Revolving Fund project outputs reported in 2019.

Project Name	Grantee	Project Description	Reported Outputs
2nd Street Green Street and Parking Lots and Brownfields	City of Coos Bay	The green parking lots project will implement low impact development with green infrastructure to improve management of stormwater runoff, improve water quality and reduce	In progress - loan signed for design only so that the city could bill for design and some loan requirements prior to

Project Name	Grantee	Project Description	Reported Outputs
Remediation and Land Revitalization		flooding downtown. The brownfield remediation of Engelwood School will reduce environmental contamination and safety risks, improve management of stormwater runoff, reduce floating debris during flooding events, improve water quality and protect waterways connected to Coos Bay.	construction. Loan will be amended to include construction at a later date.
South 4th Street Green Parking Lot	City of Coos Bay	The green parking lot project will implement low impact development with green infrastructure to improve management of stormwater runoff, improve water quality and reduce flooding downtown.	In progress - loan signed for design only so that the city could bill for design and some loan requirements prior to construction. Loan will be amended to include construction at a later date.

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 2019.

In 2019 there were no nonpoint source related Drinking Water Source Protection program 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 2019.

In 2019 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 $95,000. Table O-7 describes the projects and the reported outputs.

Table O-7: Drinking Water Providers Partnership projects and outputs for 2019.

Project Name	Grantee	Project Description	Reported Outputs
North Fork Coquille River - Woodward Creek	Coquille Watershed Association	The Coquille Watershed Association is working to protect and restore the municipal watershed of the City of Myrtle Point. The project will identify road segments on public and private lands for sediment reduction and invasive plant assessments within the Woodward Creek drainage. Through the inventory, they will identify and prioritize road improvement, drainage upgrades, road decommissioning, weed treatment, and riparian restoration projects. Funding will also be used to organize and lead coordination meetings between the partners and landowners to facilitate the future implementation of restoration projects identified this year.	In 2019 restoration work continued for three fish bearing streams. CWA held landowner meetings to plan out sediment proofing the bottom valley road (with the timber company and managers). In addition, boulder exclusion devices were installed and work continued on noxious weed and road surveys in the watershed (surveys will inform additional restoration actions). CWA also held several tours for partners in 2019. CWA applied for an OWEB grant for implementation ($273k). Results expected 4/20.
Floras Creek Drinking Water Protection Project - Phase III	Curry Soil and Water Conservation District and the South Coast Watershed Council	The Floras Creek Drinking Water Protection Project is a multi-year partnership between the Curry Soil and Water Conservation District and the South Coast Watershed Council to protect and improve water quality and fisheries habitat within the water supply watershed of Langlois Water District. In 2019 DWPP funded the inventory of gullies and other sediment sources, the treatment of approximately 2.25 miles of high priority gullies, and surfacing of a road to decrease sediment delivery to the watershed.	This is an ongoing project that has received multiple years of funding from the DWPP. 2019 tasks included continued riparian enhancement through removal of invasives (e.g. English ivy on the mainstem of Floras Creek), site preparation and release; replacing section of non-functional riparian fence and preparation for interplanting; sediment abatement road inventory; and a small fish passage and sediment abatement road project. Work continued on developing project plans for restoration and abatement, and public outreach including a project tour.

Figure O-5: Restoration work in Langlois' drinking water source area included new riparian fence adjacent to Floras Creek. Photo Credit: Matt Swanson, Curry SWCD.

Figure O-6: Restoration site on Woodward Creek after Log Placement. Photo Credit: Melaney Dunn, Coquille Watershed Association.

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 19 OWEB funded projects completed in 2018 with a total cash and in-kind budget of $2,041,743. The tables below summarize reported outputs for different project activities in each South Coast subbasin.

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

Table O-8: Summary of OWEB grant funded fish passage projects completed in 2018, the most recent year data is available in the OWEB OWRI database.

Subbasin	Fish Passage Crossing improvement (Number of treatments)	Fish Passage Non-crossing improvement (Number of treatments)
Coos	1	1
Sixes	2	NA

Table O-9: Summary of OWEB grant funded instream projects completed in 2018, the most recent year data is available in the OWEB OWRI database.

Subbasin	Instream habitat: Large wood placement (Number of treatments)
Coos	116
Coquille	28

Table O-10: Summary of OWEB grant funded riparian projects completed in 2018, the most recent year data is available in the OWEB OWRI database.

SubbasinActual	Voluntary riparian tree retention (Acres)	Voluntary riparian tree retention (Miles)
Coquille	10.2	1.9

Table O-11: Summary of OWEB grant funded riparian projects completed in 2018, the most recent year data is available in the OWEB OWRI database.

Subbasin	Riparian fencing (Length of treatment)
Coquille	0.1

Table O-12: Summary of OWEB grant funded riparian projects completed in 2018, the most recent year data is available in the OWEB OWRI database.

Subbasin	Riparian invasive plant control (Length of treatment)	Riparian vegetation planting (Area treated)	Riparian vegetation planting (Stream sides treated)
Coquille	NA	0.2	1
Sixes	0.3	2.6	2

Table O-13: Summary of OWEB grant funded upland projects completed in 2018, the most recent year data is available in the OWEB OWRI database.

Subbasin	Upland erosion control (Acre)	Upland erosion control (Number of treatments)
Coos	0	NA
Sixes	68	39

Table O-14: Summary of OWEB grant funded upland projects completed in 2018, the most recent year data is available in the OWEB OWRI database.

Subbasin	Nutrient/manure management (Acre)	Off-channel livestock or wildlife watering (Number of treatments)	Upland fencing (Acre)
Coos	3	NA	NA
Sixes	NA	1	0.2

Table O-15: Summary of OWEB grant funded upland projects completed in 2018, the most recent year data is available in the OWEB OWRI database.

Subbasin	Upland tree planting (Area treated)	Upland vegetation planting (Area treated)
Sixes	0.2	0.2

Table O-16: Summary of OWEB grant funded instream projects completed in 2018, the most recent year data is available in the OWEB OWRI database.

Subbasin	Wetland improvement (Area treated)	Wetland vegetation planting (Area treated)
Chetco	2.5	2.5