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POINTING FINGERS AT NONPOINT SOURCE POLLUTERS: HOW A COASTAL NONPOINT POLLUTION CONTROL PROGRAM COULD INFLUENCE FORESTRY PRACTICES IN OREGON'S COASTAL ZONE

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ABSTRACT

The Clean Water Act regulates the discharge of pollutants into waters of the United States. Despite nonpoint source pollution accounting for most water pollution, the Clean Water Act has few mechanisms to address such pollution. For coastal communities, this is of particular concern. Indeed, this concern facilitated a regulatory regime under the Coastal Zone Management Act and, subsequently, the Coastal Zone Act Reauthorization Amendments. These Acts use established coastal management programs as a regulatory vehicle to drive nonpoint source pollution mitigation in the coastal zone through the implementation of a Coastal Nonpoint Pollution Control Program. Oregon has an established coastal management program. However, it has yet to achieve full approval of its Coastal Nonpoint Program. Using Maine's and Washington's fully approved Coastal Nonpoint Programs as a framework, this Article proposes an avenue for Oregon to submit a fully approvable Coastal Nonpoint Program. Like Maine and Washington, Oregon's forest industry is paramount to its identity and economy. However, current timber industry practices have slowed Oregon's development of a Coastal Nonpoint Program. While Oregon first, and unsuccessfully, submitted its Coastal Nonpoint Program to NOAA and EPA for approval in 2015 and codified the Private Forest Accord in 2022, it has yet to take affirmative steps to develop an approvable Coastal Nonpoint Program. To that end, this Article is an instructive proposition to address the additional forestry-related management measures NOAA and EPA directed Oregon to adopt in their 2015 findings. Addressing these additional management measures is the threshold for the ultimate approval of Oregon's Coastal Nonpoint Program.

INTRODUCTION

In developed parts of the Western world, hardly, if ever, are we stricken with the fear of an inability to access a necessity of life. However, those adjacent to the Norriston Heights timber sale near Astoria, Oregon, experienced such fear in 2019 after the Oregon Department of Forestry agreed to harvest nearly seventy acres of state forestland near their property.[1] As local residents Jay and Renee Haladay articulated during the public comment period, this project had the potential to "make generational changes to the environmental balance of the area, cause landslides onto [Highway] 101 and [their] property, become a scar on the landscape for several generations, and potentially damage the sole source of water for [their] property (and those of [their] neighbors)."[2] Having experienced frequent years of drought and increased sediment in their water source, how would this timber sale affect this small coastal community? Although this Article does not provide a direct resolution to this question, it proposes a mechanism that could protect Oregon's coastal communities from state actions that affect coastal water resources—A Coastal Nonpoint Pollution Control Program.

Water is the most basic necessity of biological life. For humans, water is a source of existence. Water carries oxygen and nutrients through our bodies, helps lubricate joints, and protects vital organs and tissues.[3] In developed countries, access to water is often taken for granted. United States households, for example, collectively use approximately twenty-nine billion gallons of water daily.[4] However, this necessity is becoming less accessible to Oregon's coastal communities. The underlying geology of Oregon's coast makes access to groundwater impractical. Additionally, Oregon's coastal water resources are threatened by population growth; climate change causing prolonged droughts and decreased snowpack; and,

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1. Nicole Bales, *Residents Critical of State Over Norriston Heights Timber Sale*, THE ASTORIAN (Oct. 1, 2019), https://www.dailyastorian.com/news/local/residents-critical-of-state-over-norriston-heights-timber-sale/article_b6b2890a-e3d4-11e9-b765-ab741d368831.html [https://perma.cc/A8NC-8NHN].

2. Testimony from Jay Haladay on the Proposed Norriston Heights Timber Sale to the Oregon Board of Forestry, (July 24, 2019).

3. Allyn Wergin, *Water: Essential to Your Body*, MAYO CLINIC (July 22, 2020), https://www.mayoclinichealthsystem.org/hometown-health/speaking-of-health/water-essential-to-your-body#:~:text=Here%20are%20just%20a%20few%20important%20ways%20water%20works%20in%20your%20body%3A&text=Protects%20body%20organs%20and%20tissues,by%20flushing%20out%20waste%20products [https://perma.cc/R6JD-LMTH].

4. U.S. ENV'T PROT. AGENCY, *Start Saving*, https://www.epa.gov/watersense/start-saving [https://perma.cc/9Q3L-A3NP] (last visited Dec. 3, 2022).

not least notably, the State's coastal forest management. Therefore, to avoid the imminent consequences of water shortage on Oregon's coast, coastal forest management must significantly improve.

This Article uses a comparative framework to demonstrate how Oregon should develop a Coastal Nonpoint Pollution Control Program (Coastal Nonpoint Program) to reduce coastal nonpoint source pollution while preserving its coastal industries. Part I provides a background of Oregon's coastal waters, forestry, and associated nonpoint source pollution; Part II discusses federal deference in developing Coastal Nonpoint Programs; Part III examines Maine's and Washington's fully approved Coastal Nonpoint Programs; Part IV recommends a proposal for Oregon's Coastal Nonpoint Program that uses elements of Maine's and Washington's fully approved Coastal Nonpoint Programs; Part V identifies potential difficulties with developing and implementing a Coastal Nonpoint Program in Oregon; Part VI explains how the Private Forest Accord demonstrates Oregon's potential to submit an approvable Coastal Nonpoint Program; and this Article concludes by illustrating how a Coastal Nonpoint Program could be used to address other contemporary environmental issues in Oregon's coastal zone.

I. BACKGROUND

The Oregon Coast has little to no practical access to groundwater.[5] Generally, groundwater is accessed through wells drilled into aquifers that lay hundreds or thousands of feet below the Earth's surface.[6] In Oregon, west of the Cascade Range, the majority of aquifers are composed of pre-Miocene rock.[7] Pre-Miocene rock consists of volcanic, metamorphic, sedimentary, and igneous rock that form geologic formations up to 15,000 feet thick.[8] At these depths, water is frequently polluted and unusable.[9] When pre-Miocene aquifers fill, saltwater can intrude through fissures, faults, and pores, which contaminates the freshwater.[10] As sea levels rise,

5. *See* U.S. GEOLOGICAL SURVEY, GROUND WATER ATLAS OF THE UNITED STATES: HA 730-H IDAHO, OREGON, WASHINGTON, H12 (1994) [hereinafter GROUND WATER ATLAS].

6. *Aquifers and Groundwater*, U.S. GEOLOGICAL SURV'S WATER SCI. SCH. (Oct. 16, 2019), https://www.usgs.gov/special-topic/water-science-school/science/aquifers-and-groundwater?qt-sciencecenterobjects=0#qt-sciencecenterobjects [https://perma.cc/4H5E-EAU7].

7. GROUND WATER ATLAS *supra* note 5 at H26.

8. *Id.* at H12.

9. *Id.*

10. *Id.*

saltwater intrusion contaminates deep wells and wells with significant enough withdrawal to be displaced by saltwater.[11] The few viable freshwater aquifers close to the surface along Oregon's Coast are similarly threatened by saltwater contamination.[12] Accordingly, groundwater along the Oregon Coast is unusable without expending an impractical amount of resources.[13] The limited availability of groundwater along Oregon's Coast requires dependence upon surface water of a quality and quantity sufficient to sustain human life.[14]

Population growth significantly taxes water supplies.[15] Nationally, between 1960 and 2008, coastal populations increased by forty million people.[16] This increase is 20% greater than the increase in the population of inland communities.[17] Consequently, eighty-seven million people, or nearly 30% of the United States' population, reside in coastal communities.[18] Population growth has been especially prevalent in the West. Over the last five years, the West has seen population growth consistently exceed 23%.[19] Although much of this growth has been in metropolitan areas, such as Seattle, Washington, and Portland, Oregon, the West's coastal regions have seen a comparable increase in population.[20] Oregon's Coast is no exception. Oregon has seen a consistent increase in

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11. *Id.*

12. *Id.*

13. *See* Paul Rogers, *Nations Largest Ocean Desalination Plant Goes Up Near San Diego; Future of the California Coast?*, THE MERCURY NEWS (May 29, 2014, 8:19 AM), https://www.mercurynews.com/2014/05/29/nations-largest-ocean-desalination-plant-goes-up-near-san-diego-future-of-the-california-coast [https://perma.cc/S7G4-FH2W].

14. *See* Kristian Foden-Vencil, *It's Dry on the Oregon Coast, Too*, OREGON PUBLIC BROAD. (Dec. 9, 2022, 5:00 AM), https://www.opb.org/article/2021/12/09/its-dry-on-the-oregon-coast-too [https://perma.cc/MZ7D-45D5].

15. United Nations, Water Scarcity, https://www.unwater.org/water-facts/water-scarcity [https://perma.cc/3EB9-3W4V] (last visited Dec. 5, 2022).

16. *Emergency Management Coastal Areas*, U.S. CENSUS BUREAU, https://www.census.gov/topics/preparedness/about/coastal-areas.html#:~:text=The%20coastal%20population%20grew%20by,2008%2C%20an%2084.3%25%20increase.&text=The%20overall%20population%20increased%20between,%25%20for%20non%2Dcoastal%20areas [https://perma.cc/7JM3-2Q98] (last visited Dec. 3, 2022).

17. *Id.*

18. *Id.*

19. *Annual Population Estimates: United States Population Growth by Region*, U.S. CENSUS BUREAU, https://www.census.gov/popclock/data_tables.php?component=growth [https://perma.cc/45T4-GYR4] (last visited Dec. 15, 2022).

20. *See Coastal Communities*, OR. CONSERVATION STRATEGY, https://www.oregonconservationstrategy.org/oregon-nearshore-strategy/coastal-communities [https://perma.cc/A7TJ-6ZQZ] (last visited Dec. 3, 2022).

coastal population, which makes up roughly 16% of the state's total population.[21] Access to Oregon's coastal surface water has not been commensurate to coastal population growth and increased climate variability.

Climate change directly affects the viability of water resources. According to the International Panel on Climate Change, human emissions of greenhouse gases are the leading cause of climate change.[22] The Pacific Northwest has experienced the ramifications of climate change firsthand. Since 1900, Pacific Northwest temperatures have increased by approximately two degrees Fahrenheit.[23] As a result, the region has experienced frequent droughts, reductions in its annual snowpack, recurrent algal blooms, and sea-level rise, all of which directly impact the quality and quantity of the region's freshwater resources.[24] These climate-related occurrences are projected upon, and disproportionately felt by, Oregon's coastal communities.

Along with impractical access to groundwater, population growth, and climate change, forest management poses a unique challenge to freshwater access on the Oregon Coast. On the Oregon Coast, nearly 50% of forests used for industrial purposes are publicly owned, meaning they are owned by the federal or state government.[25] There are two state-owned forests in Oregon's coastal zone that are commonly harvested,[26] the Tillamook State Forest and the Clatsop State Forest. [27] The rights to log Oregon's public forests are sold to private entities through a bidding process.[28] In Oregon, the highest bidder is allowed to log public forests, provided that the private entity complies with the Oregon Forest Practices Act (FPA).[29] Oregon's FPA regulates the forest industry's management and harvest of timber in

21. *See State Facts, Oregon*, NAT'L OCEANIC AND ATMOSPHERIC ADMIN. (Aug. 13, 2022), https://coast.noaa.gov/states/oregon.html [https://perma.cc/H5HZ-NX4Z].

22. INT'L PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014 SYNTHESIS REP. 5.

23. U.S. GLOB. CHANGE RSCH. PROGRAM, FOURTH NATIONAL CLIMATE ASSESSMENT 1041 (2018).

24. *Id.*

25. *See* Thomas A. Spies et al., *Cumulative Ecological and Socioeconomic Effects of Forest Policies in Coastal Oregon*, 17 ECOLOGICAL APPLICATIONS 5, 8 (2007).

26. *State Forests*, OR. DEP'T OF FORESTRY, https://www.oregon.gov/odf/working/pages/stateforests.aspx [https://perma.cc/J2N4-4FJE] (last visited Dec. 3, 2022).

27. *Id.*

28. *Timber Sales*, OR. DEP'T OF FORESTRY, https://www.oregon.gov/odf/working/pages/timbersales.aspx [https://perma.cc/UR9R-LDYF] (last visited Dec. 3, 2022).

29. OR. REV. STAT. § 530.059 (2021).

Oregon's forests.[30] Significantly, the Oregon Board of Forestry must consider the public interest when enforcing these statewide forest management and harvesting regulations.[31]

Oregon is the largest producer of softwood and plywood in the United States.[32] Covering just under 50% of Oregon's total acreage, forestry operations spread from its eastern hills, over the Cascade Range, and throughout its coastal zone.[33] Clearcutting—a harvest method that removes all trees from a forested area—is a common timber harvest method in Oregon's coastal zone.[34] The forest industry prefers clearcutting to ensure an expedited timeline for harvestable timber.

Oregon's coastal forests have two unique ecological characteristics that make them optimal for frequent clearcuts. First, Oregon's coastal forest regrowth rate exceeds that of other forested regions. Within twenty years of harvest, 70% of forests in Oregon's coastal mountain ranges see a return to semi-closed and closed canopy, which is 20% greater than non-coastal forests.[35] This regrowth is largely attributable to the meteorological characteristics of Oregon's coastal range, which include more precipitation, warmer winters, and cooler summers.[36] Second, Douglas-fir is the dominant species of tree in Oregon's coastal zone.[37] West of the Cascade Mountain Range in Oregon, eight in ten trees are Douglas-fir,[38] for which there is a constant economic incentive to harvest. Timber prices for Douglas-fir frequently command Northwest markets at the highest price per thousand board feet.[39] To control this market and maximize profits, timber harvesters prefer inexpensive harvest methods. Harvest methods are suggested as the most significant variable in logging costs and

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30. *Id.* § 527.710.

31. *Id.* § 530.055.

32. *Forestry and Wood Products*, BUS. OR., https://www.oregon.gov/biz/programs/homeareas/byboregon/targetIndustries/Pages/forestry.aspx [https://perma.cc/T26Y-UXTC] (last visited Dec. 3, 2022).

33. *See id.*

34. *Clearcutting*, MERRIAM-WEBSTER DICTIONARY (11th ed. 2003).

35. Todd A. Schroder et al., *Patterns of Forest Regrowth Following Clearcutting in Western Oregon as Determined from a Landsat Time-Series*, 243 FOREST ECOLOGY AND MGMT. 259, 270 (2007).

36. *Id.* at 261.

37. *When is Clearcutting the Right Choice?*, OR. FOREST RES. INST., https://oregonforests.org/clearcutting [https://perma.cc/XU5K-7YH3] (last visited Dec. 3, 2022).

38. *Id.*

39. Joel Swanton, *Douglas Fir Log Prices Reach Record Highs in Pacific Northwest*, FOREST2MARKET (Dec. 5, 2017), https://www.forest2market.com/blog/douglas-fir-log-prices-reach-record-highs-in-pacific-northwest [https://perma.cc/F9NR-ANG8].

productivity.[40] Using harvest methods other than clearcutting can cost harvesters up to 38% more than clearcutting.[41] Accordingly, clearcutting, a harvest method that requires little monetary input, promises stable and consistent capital.[42]

Harvesting timber creates point source and nonpoint source pollution.[43] Point source pollution is a discrete, discernable conveyance of pollution into waters of the United States through mechanisms, such as a pipe, channel, or well.[44] Point source pollution is produced in forestry operations through practices like aerial spraying. As defined through common law, nonpoint source pollution is "pollution that does not result from the 'discharge' or 'addition' of pollutants from a point source."[45] Congress further refined this definition to classify nonpoint source pollution "as disparate runoff caused primarily by rainfall around activities that employ or cause pollutants."[46]

Road construction and use are the largest sources of nonpoint source pollution from forestry operations.[47] The Environmental Protection Agency (EPA) found that road construction contributed to approximately 90% of the total sediment load from forestry operations.[48] Construction of logging roads involves clearing debris, excavating land, and constructing drainage culverts and structures.[49] Eroded, exposed soil from the construction of these roads can accumulate in runoff.[50] Forest roads frequently erode because they are directly exposed to precipitation and constantly disturbed when used.[51] This erosion increases sediment load and turbidity in nearby streams and disturbs the greater watershed. Accumulation of sediment, along with other nonpoint source pollution associated with forestry operations, is not wholly addressed under the Clean Water Act.

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40. Bill Wilson & Louise Wilson, *An Economic Perspective on Clearcut Harvesting*, 77 THE FORESTRY CHRON. 467, 471 (2001).

41. *Id.*

42. *See id.*

43. *Nonpoint Source: Forestry*, U.S. EPA, https://www.epa.gov/nps/nonpoint-source-forestry [https://perma.cc/JGM7-QBTC] (last visited Dec. 3, 2022).

44. 33 U.S.C. § 1362(14) (2019).

45. Or. Nat. Res. Council v. U.S. Forest Serv., 834 F.2d 842, 849 n.9 (9th Cir. 1987).

46. United States v. Earth Sci., Inc., 599 F.2d 368, 373 (10th Cir. 1979).

47. *Nonpoint Source: Forestry*, *supra* note 43.

48. *Id.*

49. U.S. DEP'T OF AGRIC., FOREST SERVICE, FOREST ROAD CONSTRUCTION AND MAINTENANCE 24-29 (1992).

50. *See Nonpoint Source: Forestry*, *supra* note 43.

51. U.S. ENV'T PROT. AGENCY, NATIONAL MANAGEMENT MEASURES TO CONTROL NONPOINT SOURCE POLLUTION FROM FORESTRY 2-4 (2005).

While the National Pollution Discharge Elimination System (NPDES) has greatly reduced the amount of nonpoint source pollution, the Clean Water Act fails to adequately regulate nonpoint source pollution. Consequently, nonpoint source pollution remains responsible for most water pollution.[52] As addressed in the Final NPDES Storm Water Multi-Sector General Permit for Industrial Activities, "[d]ischarges from nonpoint source silvicultural activities, including harvesting operations are not required to be covered" under the Clean Water Act.[53] While the Clean Water Act does not adequately regulate nonpoint source pollution, regulation of nonpoint source pollution is not entirely absent from its regulatory framework. In fact, Section 319 of the Clean Water Act annually allocates funding to pre-approved state and local Nonpoint Source Management Programs.[54] These Programs dictate how the base and incremental funding is disbursed and implemented to reduce nonpoint source pollution.[55] However, as explained in more detail below, the National Oceanic and Atmospheric Administration (NOAA) and EPA withhold a large percentage of Section 319 funds from jurisdictions without fully approved Coastal Nonpoint Programs.[56] Accordingly, without a fully approved Coastal Nonpoint Program, a Nonpoint Source Management Program is incapable of categorically addressing nonpoint source pollution from forestry operations.

II. FEDERAL DEFERENCE IN DEVELOPING COASTAL NONPOINT PROGRAMS

The Coastal Zone Management Act was enacted in 1972. In enacting the Coastal Zone Management Act (CZMA), Congress determined that the preservation, protection, and restoration of resources in coastal zones for this and succeeding generations was an issue of national interest best achieved by employing principles of federalism.[57] To achieve this purpose, the CZMA develops a program that transcends involuntary imposition of federal standards by encouraging states to develop their own Coastal Management Plans. State coastal management programs were charged

52. *Basic Information about Nonpoint Source (NPS) Pollution*, U.S. EPA, https://www.epa.gov/nps/basic-information-about-nonpoint-source-nps-pollution [https://perma.cc/524X-TNLZ] (last visited Dec. 3, 2022).

53. 40 C.F.R. § 122.27(b) (2022).

54. 33 U.S.C. § 1329(d)(1) (1998).

55. *Id.* § 1329(h)(5)(D).

56. *See* OREGON DEP'T OF ENV'T QUALITY, OREGON'S NONPOINT SOURCE MANAGEMENT PROGRAM PLAN 22 (2022); *see also* discussion *infra* Section V.B.

57. 16 U.S.C. § 1452(1) (1992).

with managing nonpoint source pollution of coastal waters under the Coastal Zone Act Reauthorization Amendments of 1990.[58] However, a state can have a Coastal Management Plan independent of a Coastal Nonpoint Program. Once Coastal Management Plans are developed, states may create a Coastal Nonpoint Program that manages nonpoint source pollution in the coastal zone and, upon full approval, become eligible for additional federal funding for coastal zone management.[59]

A. Coastal Zone Management Act of 1972

The CZMA operates under the principles of voluntary state involvement and cooperative federalism.[60] State participation in coastal zone management planning is entirely voluntary, but, more importantly, federal standards or plans are not compulsory if states decline to volunteer.[61] A cooperative federalism framework is also a central principle of the CZMA. Through this framework, the federal government collaborates with the states to develop and implement Coastal Management Plans.

The CZMA coastal management program is administered by the Department of Commerce primarily through the NOAA Office of Ocean and Coastal Resource Management.[62] The Secretary of the Department of Commerce approves or disapproves a state's program based on its compliance with 16 U.S.C. § 1455. Before approving a Coastal Management Plan, the Secretary must find that "the State has developed and adopted a management program for its coastal zone" that complies with regulations the Secretary promulgated.[63] The Secretary must also find that "[t]he management program contains enforceable policies and mechanisms to implement the applicable requirements of the [state's] Coastal Nonpoint Pollution Control Program" to ensure the protection of the coastal zone and its waters.[64]

Congress expansively defined coastal zones and coastal waters under the CZMA. 16 U.S.C. § 1453 defines coastal zones as coastal waters and the contiguous shorelands, including the waters therein and thereunder. Congress expanded the coastal zone "to the extent necessary to control shorelands, the uses of which have a direct and significant impact on the

58. *Id.* § 1455b(a)(1).
59. *Id.* § 1454.
60. ALISON RIESER ET AL., OCEAN & COASTAL LAW 250 (West 4th ed. 2007).
61. *Id.*
62. *Id.*
63. 16 U.S.C. § 1455(d)(1) (2020).
64. *Id.* § 1455(d)(16).

coastal waters, and to control those geographical areas . . . affected by or vulnerable to sea level rise."[65] Congress' vague definition of "coastal zone" allows states to determine the extent to which such a definition needs to be applied to protect coastal resources, including freshwater.[66] The CZMA also protects coastal waters, which are generally defined in this section.[67] Coastal waters are defined in a way that includes waters with both fresh and saltwater properties, such as rivers, estuaries, lagoons, and ponds.[68]

The CZMA demands protection for coastal resources beyond coastal waters and requires land developments to minimize the impact on coastal communities.[69] Resources are broadly defined under the CZMA and include resources of national significance.[70] Resources of national significance are coastal wetlands, beaches, barrier islands, estuaries, fish and wildlife habitat, and, importantly, any area determined to be of substantial value.[71] Areas of substantial value are not uniform across coastal states. Rather, areas of substantial value are geographically dependent and often correlate with resource availability and need. The CZMA provides additional protections to coastal communities. Congress found that the management of coastal development was integral to the protection of human life.[72] Furthermore, coastal development should minimize the loss of life and property resulting from improper development in flood-prone, geologically hazardous, and erosion-prone areas.[73] More specifically, areas that are threatened by improper land development, as well as land subsidence, saltwater intrusion, and destruction of natural resources, should be protected from certain forms of land use.[74]

B. Coastal Zone Act Reauthorization Amendments of 1990

The Coastal Zone Act Reauthorization Amendments (CZARA) were enacted by Congress on November 5, 1990.[75] A central purpose of the

65. *Id.* § 1453(1) (1992).
66. LINDA A. MALONE, ENVIRONMENTAL REGULATION OF LAND USE § 2:5 (2020).
67. 16 U.S.C. § 1453(3).
68. *Id.*
69. *See id.* § 1453(2).
70. *Id.*
71. *Id.*
72. *Id.* § 1452(2)(B) (1992).
73. *Id.*
74. *See id.*
75. *Id.* § 1455b.

CZARA was to use state management programs to address nonpoint source pollution affecting water quality in coastal areas.[76] Congress found that "[s]tate management programs under the Coastal Zone Management Act of 1972 are among the best tools for protecting coastal resources . . . particularly in improving coastal zone water quality."[77] Since codification, the CZARA has required state's to develop Coastal Nonpoint Programs after a state's management program has been approved pursuant to the CZMA.[78] Within thirty months of the management plan's approval, states must develop and submit a Coastal Nonpoint Program to the Secretary for approval.[79] The Coastal Nonpoint Program must establish management measures to restore and protect coastal waters affected by nonpoint source pollution by working with state and local authorities.[80] Therefore, the Coastal Nonpoint Program must be developed in coordination with state and local water quality programs and state management plans developed under the CZMA.[81]

Section 6217 establishes a tiered approach to managing nonpoint source pollution through a Coastal Nonpoint Program. First, the Coastal Nonpoint Program must establish an identification process that records land uses contributing to the degradation of coastal waters.[82] This identification process involves identifying critical coastal areas, which are "areas adjacent to coastal water . . . within which any new land uses or substantial expansion of existing land uses shall be subject to management measures in addition to those provided under subsection (g)."[83]

Next, states are required to implement management measures to restore and protect coastal waters affected by nonpoint source pollution. Management measures are "economically achievable measures for the control of the addition of pollutants from existing and new categories and classes of nonpoint sources of pollution, which reflect the greatest degree of pollutant reduction achievable through the application of the best available nonpoint pollution control practices . . . ."[84] Management

76. *See* COASTAL ZONE ACT REAUTHORIZATION AMENDMENTS OF 1990, Pub. L. No. 101-508, § 6202(a)(8), 104 Stat. 1388-299 (1990).

77. *Id.*

78. 16 U.S.C. § 1455b(a)(1).

79. *Id.*

80. *Id.*

81. *Id.* (Often, existing state and local nonpoint source management programs receive funding to address nonpoint source pollution under Section 319(h) of the Clean Water Act. These programs provide a foundation upon which states can develop individualized management measures). *See* 33 U.S.C. § 1329(h).

82. 16 U.S.C. § 1455b(b)(2).

83. *Id.*

84. *Id.* § 1455b(g)(5).

measures were further interpreted by EPA's administrative guidance. This guidance identified five main sources of nonpoint source pollution, including urban; agricultural; marinas; hydromodification, including shoreline and stream channel modification; and forestry.[85] If these baseline management measures fail to achieve necessary water quality standards and designated uses, the state must move to the third tier of management.[86] The third tier requires states to identify and establish additional management measures to bring polluted waters into compliance with state water quality standards.[87]

If a Coastal Nonpoint Program meets the requirements of Section 6217, the program is jointly approved by NOAA and EPA.[88] If NOAA and EPA find a Coastal Nonpoint Program has met some but not all of the requirements under Section 6217, they may issue a conditional approval.[89] Conditional approval requires a state to further develop its Coastal Nonpoint Program and implement the conditions necessary to meet the state water quality standards. In response, a state may independently select and implement additional management measures to meet state water quality standards.[90] Therefore, a state developing a Coastal Nonpoint Program, like Oregon, can independently curate management measures to mitigate the effects of nonpoint source pollution on coastal water quality.

III. MAINE'S AND WASHINGTON'S FULLY APPROVED COASTAL NONPOINT PROGRAMS

As of early 2023, Oregon has not achieved full approval of its Coastal Nonpoint Program.[91] Failing to meet the conditions of NOAA's and EPA's 1998 conditional approval has continued unregulated nonpoint source pollution and cost Oregon millions of dollars in federal coastal zone

85. U.S. ENV'T PROT. AGENCY, EPA-840-B-92-002, GUIDANCE SPECIFYING MANAGEMENT MEASURES FOR SOURCES OF NONPOINT POLLUTION IN COASTAL WATERS 1-7 (1993).

86. 16 U.S.C. § 1455b(b)(3).

87. *Id.*

88. *Id.* § 1455b(c)(1)(A).

89. *Coastal Nonpoint Pollution Control Program*, NAT'L OCEANIC AND ATMOSPHERIC ADMIN., https://coast.noaa.gov/czm/pollutioncontrol [https://perma.cc/SQ3V-LBEJ] (last visited Dec. 5, 2022).

90. 16 U.S.C. § 1455b(b)(3).

91. *See Coastal Water Quality: Progress Towards Approval*, OR. COASTAL MGMT. PROGRAM, https://www.oregon.gov/lcd/OCMP/Pages/Water-Quality.aspx [https://perma.cc/5DP4-HGFY] (last visited Dec. 13, 2022).

management funding.[92] This section addresses two states that have achieved full approval of their Coastal Nonpoint Programs—Maine and Washington.[93] To be approved, these programs were submitted within thirty months of the Coastal Management Plan approval and developed in coordination with state and local water quality plans and programs.[94] The section following this explains how certain elements of Maine's and Washington's Coastal Nonpoint Programs should inform the development of Oregon's Coastal Nonpoint Program.

A. Maine's Coastal Nonpoint Program

In 1998, NOAA and EPA conditionally approved Maine's Coastal Nonpoint Program.[95] Their findings indicated that Maine had failed to provide "justification to support a categorical exclusion of forestry from its coastal nonpoint pollution program."[96] As such, NOAA and EPA conditioned full approval of Maine's Coastal Nonpoint Program on its implementation of forestry management measures in accordance with Section 6217.[97] NOAA and EPA required these management measures to be implemented within three years of the 1998 findings and include enforcement policies and mechanisms to ensure compliance.[98]

The conditional approval of Maine's Coastal Nonpoint Program found that forestry was a major land use in Maine, including in Maine's coastal zone.[99] Over 90% of Maine's forested land is privately owned.[100] Accordingly, the majority of timber harvest occurs on land parcels that are 5,000 acres or larger while only 25% occurs on land parcels smaller than 100 acres.[101] In its conditionally approved submission, Maine identified more than seven waterbodies that were impaired due to forestry operations.[102] Of those waterbodies, six surface waterbodies were in river basins that drained into tidal waters, which included Lombard Lake, Keg

92. *Coastal Water Quality: Consequences of Program Disapproval*, OR. COASTAL MGMT. PROGRAM, https://www.oregon.gov/lcd/OCMP/Pages/Water-Quality.aspx [https://perma.cc/KX9R-9EC2] (last visited Dec. 5, 2022).

93. *Id.*

94. 16 U.S.C. § 1455b(a)(1).

95. U.S. ENV'T PROT. AGENCY & NAT'L OCEANIC AND ATMOSPHERIC ADMIN., FINDINGS FOR THE MAINE COASTAL NONPOINT PROGRAM § 3 (1998).

96. *Id.*

97. *Id.*

98. *Id.*

99. *Id.*

100. *Id.*

101. *Id.*

102. *Id.*

Lake, Nash Lake, Damariscotta Lake, Bottle Lake, and Nequasset Pond.[103] These surface waters total just over 6,000 acres of water.[104] However, this paled in comparison to the 26,000 acres of state lakes impaired by forest practices within the larger management zone NOAA and EPA recommended.[105]

On July 8, 2003, NOAA and EPA found that Maine had satisfied all conditions of approval and fully approved its Coastal Nonpoint Program.[106] Two elements of Maine's forestry regulations, policies, and voluntary measures were of particular importance in the full approval of its Coastal Nonpoint Program.[107] First, Maine's Forest Practices Act (FPA) provides a comprehensive mechanism for identifying and mapping forest operations.[108] Under Maine's FPA, landowners intending to clearcut over two acres are required to notify the State's forest service.[109] In addition, the FPA requires any clearcut over twenty acres to develop a harvest plan.[110] These harvest plans must include justification for the clearcut, soil erosion assessments, and a map of the clearcut and separation zones.[111] Clearcuts over seventy-five acres are required to submit a summary of how water quality will be protected.[112] Clearcuts of this size also require a meeting with the Bureau Forester to comprehensively review the harvest plan.[113]

Second, Maine established two formal interagency agreements.[114] The first formal agreement, a Memorandum of Understanding (MOU), exists between Maine's Department of Environmental Protection (DEP) and Maine's Department of Conservation Bureau of Forestry.[115] The MOU regulates forestry in Maine's organized territories and provides the structure for enforcement, inspections, technical assistance, and education in those territories.[116] This structure is intended to increase compliance

103. *Id.*
104. *Id.*
105. *Id.*
106. U.S. ENV'T PROT. AGENCY & NAT'L OCEANIC & ATMOSPHERIC ADMIN., MAINE COASTAL NONPOINT PROGRAM NOAA/EPA DECISIONS ON CONDITIONS OF APPROVAL 1 (2003).
107. *See id.*
108. *Id.* at 4.
109. *Id.*
110. *Id.*
111. *Id.*
112. *Id.*
113. *Id.*
114. *Id.* at 6.
115. *Id.*
116. *Id.*

with the forestry laws Maine's DEP administers.[117] The MOU authorizes Maine's Forest Rangers to take action for violations that involve minor or potentially severe environmental damage.[118]

Maine's second formal interagency agreement exists between Maine's Forest Service Fire Control Division and the Land Use Regulation Commission.[119] This agreement regulates "timber harvesting and road building in Maine's unorganized territories."[120] The primary foundation of this agreement is to enforce three levels of violations.[121] These violations include noncompliant road building and unlawful harvesting in zones protected by land-use regulations.[122] The severity of punishment pursuant to a violation is assessed based on the violation's level of environmental damage.[123] At the least severe, guidance and education are provided to the landowners and loggers to minimize the prospect of future environmental damage.[124] At the most severe, the District Ranger is informed, and a complaint is filed with the Land Use Regulation Commission, which is responsible for enforcement.[125]

Maine's FPA, two formal interagency agreements, and other forestry management measures led NOAA and EPA to conclude that Maine had demonstrated its ability to ensure implementation of the forestry management measures pursuant to Section 6217.[126]

B. Washington's Coastal Nonpoint Program

On June 15, 2020, NOAA and EPA found that Washington had satisfied all conditions previously identified in their 1998 conditional approval of its Coastal Nonpoint Program.[127] In its 1998 findings, NOAA and EPA required Washington to develop and revise management measures in critical coastal areas that continually failed to meet water

117. *Id.*
118. *Id.*
119. *Id.*
120. *Id.*
121. *Id.*
122. *Id.*
123. *Id.*
124. *Id.*
125. *Id.*
126. *Id.* at 4-7.
127. U.S. ENV'T PROT. AGENCY & NAT'L OCEANIC & ATMOSPHERIC ADMIN., NOAA/EPA DECISIONS ON CONDITIONS FOR THE WASHINGTON COASTAL NONPOINT PROGRAM 1 (2020) [hereinafter NOAA/EPA WASHINGTON DECISIONS].

quality standards.[128] Further, NOAA and EPA found it necessary for Washington to adopt additional management measures to address nonpoint source pollution from forestry.[129] Upon review in 2020, NOAA and EPA issued a proposed decision that Washington had satisfied these conditions by implementing additional management measures.[130]

Following NOAA's and EPA's 1998 conditional approval, Washington adopted additional management measures for forestry.[131] Washington addressed the inadequacy of the baseline forestry management measures required under Section 6217 by amending its forest practices rules and establishing robust monitoring programs.[132] In 1999, Washington issued the Forests and Fisheries Report (FFR) to determine the impact of these managerial inadequacies on water quality.[133] The FFR was promulgated through the involvement of a diverse collection of stakeholders, including timber industry representatives, federal agencies, state agencies, and tribal governments. The FFR was central to the revision of forest practices to protect Washington's coastal water resources.[134]

Following the adoption of the FFR, Washington's forestry practices rules experienced widespread transformation. These transformations added protections for streams and waterways from pollution associated with road construction and use.[135] The FFR requires additional practices to reduce increased sediment load from road construction and use in adjacent waterways.[136] Pursuant to this requirement, the State established road maintenance and abandonment plans.[137] These plans require maintenance measures for roads in use, including keeping drainage structures and water crossings functional, ensuring water from roads and ditches does not flow directly into streams or other waterbodies, maintaining drainage during and after use, and diverting runoff to the forest floor before it enters

128. U.S. ENV'T PROT. AGENCY & NAT'L OCEANIC & ATMOSPHERIC ADMIN., FINDINGS FOR THE WASHINGTON COASTAL NONPOINT PROGRAM (1998).

129. *Id.*

130. NOAA/EPA WASHINGTON DECISIONS, *supra* note 127, at 46.

131. *Id.*

132. *Id.*

133. *Id.* at 48.

134. *Id.*

135. *Id.*

136. *Id.*

137. Boyd Norton, *Simplified Road Maintenance and Abandonment Plan Goals*, SMALL FOREST LANDOWNER NEWS (Jan. 20, 2015), https://sflonews.wordpress.com/2015/01/20/simplified-road-maintenance-and-abandonment-plan-goals [https://perma.cc/DDX2-Y2D7]; WASH. ADMIN. CODE § 222-24-050 (2001).

waterbodies.[138] Additionally, abandoned or "orphaned" roads—roads inoperable since 1974—must be recorded; categorized as posing, or not posing, a threat to public resources including freshwater; and submitted to the state for inventory.[139]

Washington also established monitoring programs to monitor water pollution in a diverse range of fresh waterbodies throughout its coastal zone.[140] These rivers and streams are monitored through Washington's Ambient Monitoring Program.[141] Within the coastal zone, the Ambient Monitoring Program includes a network of thirty-seven permanent stations and three stations that periodically rotate between watersheds.[142] These stations are generally located near the mouth of a river or major tributary to monitor pollutants from sources upstream.[143] The pollutants associated with forestry that are routinely measured are pH, temperature, bacteria, dissolved oxygen, and water clarity.[144]

Additionally, Washington developed effectiveness monitoring that uses data from its Ambient Monitoring Program to ensure stakeholders remain accountable to the public. As part of the Washington's TMDL and watershed pollution control programs, effectiveness monitoring is employed after nonpoint source pollution controls are implemented.[145] Multiple stakeholders evaluate the adequacy of the nonpoint source pollution controls in reducing water pollution and propose how such controls can be improved.[146] This multi-stakeholder initiative has completed approximately fifty peer-reviewed monitoring and effectiveness studies and has several additional studies planned.[147] These studies observe the effectiveness of riparian buffering strategies and road management and construction in protecting water quality and riparian resources.

After Washington amended its forest practices rules and established robust monitoring programs, NOAA and EPA concluded that these

138. WASH. STATE DEP'T OF NAT. RES., SMALL FOREST LANDOWNER CHECKLIST RMAP 2 (2014).
139. *Id.*
140. NOAA/EPA WASHINGTON DECISIONS, *supra* note 127, at 50.
141. *Id.* at 51.
142. *Id.*
143. *Id.*
144. *Id.*
145. *Id.* at 52.
146. *Id.*
147. NOAA/EPA WASHINGTON DECISIONS, *supra* note 127, at 53.

additional management measures were sufficient to meet the requirements of Section 6217.[148]

IV. A PROPOSAL FOR OREGON'S COASTAL NONPOINT PROGRAM USING ELEMENTS OF MAINE'S AND WASHINGTON'S FULLY APPROVED COASTAL NONPOINT PROGRAMS

On January 30, 2015, NOAA and EPA disapproved Oregon's Coastal Nonpoint Program.[149] The unmet condition that barred approval of Oregon's program was its failure to implement additional management measures for forestry practices to achieve and maintain water quality standards and protect Oregon's designated water uses.[150] NOAA and EPA imposed four additional forestry-related management measures on Oregon.[151] First, Oregon must protect riparian areas for medium-sized and small fish-bearing streams and non-fishing bearing streams.[152] Second, Oregon must ensure adequate stream buffers for the application of herbicides, particularly on non-fish-bearing streams.[153] Third, Oregon must protect high-risk landslide areas.[154] Lastly, Oregon must address the impacts of active and abandoned forest roads.[155] The following proposal uses a comparative framework to address the final two of the four additional forestry-related management measures NOAA and EPA imposed on Oregon. Maine's Coastal Nonpoint Program provides a framework to protect high-risk landslide areas that adversely impact water quality in Oregon's coastal zone. Washington's Coastal Nonpoint Program is a framework to address forest roads that adversely impact water quality in Oregon's coastal zone.

148. *See* U.S. ENV'T PROT. AGENCY & NAT'L OCEANIC & ATMOSPHERIC ADMIN., DOCKET FOR PROPOSED FINDING THAT WASHINGTON HAS SATISFIED ALL CONDITIONS OF APPROVAL ON ITS COASTAL NONPOINT PROGRAM (2020).

149. *See* U.S. ENV'T PROT. AGENCY & NAT'L OCEANIC & ATMOSPHERIC ADMIN., NOAA/EPA FINDING THAT OREGON HAS NOT SUBMITTED A FULLY APPROVABLE COASTAL NONPOINT PROGRAM (2015).

150. *Id.* at 3.

151. *Id.* at 4.

152. *Id.*

153. *Id.*

154. *Id.*

155. *Id.*

A. How Oregon Should Use Maine's Coastal Nonpoint Program as a Framework to Protect High-Risk Landslide Areas that Affect Oregon's Coastal Water Resources

Oregon's Coastal Nonpoint Program's regulatory and enforcement provisions should be similar to Maine's to protect high-risk landslide areas that adversely impact water quality in Oregon's coastal zone. In their 2015 findings, NOAA and EPA expressed uncertainty about the ability of Oregon's Forest Practices Act (FPA) amendments and voluntary program to address degraded water quality in landslide-prone areas.[156] To protect coastal waters from the effects of landslides associated with forestry operations, Oregon should amend its FPA and, like Maine, implement a formal interagency agreement.

Just as Maine's FPA addresses inadequate harvest plans, Oregon's FPA should address the impacts of landslides on water quality. Following the conditional approval of Oregon's Coastal Nonpoint Program in 1998, Oregon amended its FPA to require hazardous landslide areas to be recorded and addressed in harvesting plans if the areas pose a risk to public safety.[157] However, rather than addressing the potential adverse impacts on water quality or designated uses resulting from landslides, these amendments merely address the dangers such landslides pose to loss of life and property.[158] Consequently, forestry operations, including road construction, may continue as long as they do not pose a risk to life or property.[159] Therefore, Oregon should amend its FPA to address the impacts of landslide hazards on water quality and designated water uses.

Oregon would also benefit from a formal interagency agreement akin to Maine's interagency agreement. Once Oregon amends its FPA, it should facilitate a formal agreement between the Oregon Department of Environmental Quality (DEQ) and the Oregon Department of Forestry (ODF) to protect high-risk landslide areas. Through such an agreement, DEQ and ODF should strive to meet three objectives, including (1) developing a scientifically rigorous process for categorizing high-risk landslide areas, (2) developing a voluntary program that incentivizes best management practices, and (3) establishing a monitoring program, which would be an effective means of understanding and addressing current inadequacies.

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156. *Id.* at 11-12.
157. *Id.* at 11.
158. *Id.*
159. *Id.*

First, Oregon should develop a scientifically rigorous process for categorizing high-risk landslide areas. A formal interagency agreement would double the administrative capacity needed to survey and record high-risk landslide areas and provide Oregon with verifiable landslide field review. As recommended in NOAA's and EPA's conditional approval, this field review should be conducted by trained staff. Foresters from ODF should work with environmental experts from DEQ to detect, screen, and record slope instability. Slope instability should be based on high-risk factors, such as geology, geography, slope, root cohesion, and potential land use.

Second, a formal interagency agreement would aid in the development of a voluntary program that incentivizes best management practices in forestry operations. These best management practices could include increased stream buffers; standardized road design, construction, and maintenance; and required riparian restoration measures upon the conclusion of harvest. However, NOAA and EPA did not foreclose the possibility of these practices limiting or even prohibiting harvest in high-risk landslide areas. NOAA and EPA's conditional approval went so far as to propose "employing no-harvest restrictions around high-risk areas."[160] High-risk landslide areas could be identified using the DEQ and ODF process described in the previous paragraph. Thereafter, no-harvest restrictions could be enforced in areas that are categorized, pursuant to the high-risk factors, as high-risk.

Lastly, as NOAA and EPA suggested, a formal interagency agreement between DEQ and ODF should facilitate the establishment of a sustainable monitoring program.[161] This monitoring program should record compliance with the FPA amendments that regulate high-risk landslide areas, which could be achieved by delegating monitoring obligations to certain agencies based on proximity to field stations and existing laboratories. More importantly, a monitoring program should assess the efficacy of the best management practices in reducing the number of landslides that impact water quality. Oregon's DEQ has turbidity standards under its TMDL provisions that address water quality standards for turbidity.[162] Monitoring high-risk landslide areas using those established standards should provide guidance on specific practices that would reduce turbidity currently causing TMDL impairments.

A formal interagency agreement between DEQ and ODF would contribute to efficiency in administering Oregon's Coastal Nonpoint

160. *Id.* at 14.
161. *Id.*
162. OAR § 340-041-0036 (2021).

Program. This agreement would provide for Oregon's expeditious implementation of NOAA's and EPA's required additional management measures, and, subsequently, provide grounds for Oregon to receive long-awaited federal coastal management funding. Oregon should employ such funding to develop voluntary best management practices and a robust landslide monitoring program.

B. How Oregon Should Use Washington's Coastal Nonpoint Program as a Framework to Address Forest Roads that Affect Oregon's Coastal Water Resources

Oregon should use three aspects of Washington's approved Coastal Nonpoint Program to achieve full approval of its Coastal Nonpoint Program. First, Washington's Coastal Nonpoint Program should be used as a template to inventory Oregon's forest roads. Second, Washington's Coastal Nonpoint Program should provide guidance on how to implement regulatory enforcement of Oregon's management measures. Lastly, Washington's Coastal Nonpoint Program should facilitate Oregon's development of a tiered water quality monitoring program.

In their 2015 findings, NOAA and EPA determined Oregon was unable to effectively inventory and monitor its legacy forestry roads.[163] This finding was based on the voluntary nature of reporting legacy roads and the lack of sufficient monitoring of legacy roads.[164] Legacy roads are roads that were constructed before the Forest Practices Act requirements were implemented in 1971 and have not been maintained or used since their construction.[165] These roads affect Oregon's water quality because they were not constructed pursuant to standards that minimized environmental impact.[166] Many of these roads were constructed near or through streams, which continue to deposit sediment into surface waterbodies in Oregon's coastal zone.[167]

Washington's road maintenance and abandonment plans provide a framework for creating an inventory of legacy roads in Oregon. Referred to as "orphaned roads" in Washington's guidance, these roads are required to be inventoried and submitted to the state after they are voluntarily reported.[168] Oregon should mimic this process but further incentivize

163. *Id.* at 8.
164. *Id.* at 9-10.
165. *Id.* at 7-8.
166. *Id*.
167. *Id.*
168. WASH. STATE DEP'T OF NAT. RES., supra note 138.

reporting legacy roads that concerned NOAA and EPA in its conditional approval through monetary or regulatory credits. This incentivized approach would encourage legacy roads in forested areas to be reported. Upon receiving these reports, the state should categorize legacy roads as posing, or not posing, a threat to public resources; account for legacy road proximity to community freshwater supplies; and submit these findings to the state for inventory. Upon submission, the state should take action beyond recording where potential harms exist, it should enforce its management measures. If the road may potentially be used in the future, these management measures should include maintenance and repair. If the roads are neither in use nor expected to be used in the foreseeable future, restorative actions should be employed to promote vegetative regrowth and reduce sediment loads in nearby waterways.

Washington's effectiveness and ambient monitoring programs provide guidance on how to ensure the progress and accountability of Oregon's stakeholders to the public. Oregon's ambient monitoring program should use multiple water quality monitoring stations throughout the coastal zone. Oregon should begin by collecting baseline data at each monitoring station to provide a starting point for long-term water quality trends. These monitoring stations should then periodically measure rivers and major tributaries for pollutants associated with forestry, including pH, dissolved oxygen, temperature, bacteria, and water clarity or turbidity. As the state progresses in reducing the pollution of waterways from forestry operations, management measures should adapt, and the acceptable level of pollutants should periodically decrease to further improve coastal water quality.

Oregon should use this ambient data to monitor the effectiveness of enforcing its management measures. Through systematic water quality monitoring, stakeholders, including state agencies, the forest industry, and tribes would be accountable to the public and each other. Accountability among stakeholders could be achieved by using this data to develop peer-reviewed monitoring and effectiveness studies. This monitoring program would foster public support for water quality management and index the sufficiency of management measures addressing forestry roads that impact water quality.

V. POTENTIAL DIFFICULTIES WITH DEVELOPING AND IMPLEMENTING A COASTAL NONPOINT PROGRAM IN OREGON

There are potential difficulties with developing and implementing a Coastal Nonpoint Program in Oregon. First, the cooperation with and political influence of Oregon's timber industry could be pivotal in the

development of Oregon's Coastal Nonpoint Program. Second, implementing such an interdisciplinary and multifaceted program with Oregon's strained state budget could pose a significant challenge. However, these difficulties could be overcome with stakeholder negotiation and the federal funding Oregon is currently relinquishing.

A. Cooperation with Oregon's Timber Industry

Arguably, Oregon's timber industry has the greatest political, economic, and social influence in the state. Oregon's forest industry accounts for nearly 3% of statewide employment and directly provides Oregonians with more than 60,000 jobs.[169] The timber industry's largest lobbying groups donate hundreds of thousands of dollars to Oregon's politicians and are routinely involved in Oregon's legislative processes.[170] However, regulations that follow a multi-stakeholder report, like Washington's FFR, may provide Oregon with a solution. By involving state agencies and tribal leaders, the timber industry could negotiate for tax or other incentives to reduce nonpoint source pollution and sediment loads in streams that result from landslides and roads. The timber industry's cooperation is essential to providing Oregon with an opportunity to develop a fully approvable Coastal Nonpoint Program, and the Private Forest Accord may exemplify the timber industry's willingness to cooperate.[171]

B. Implementing Oregon's Coastal Nonpoint Program

Once developed, implementing Oregon's Coastal Nonpoint Program would be most effective with additional federal funding. Oregon's inability to develop an approved Coastal Nonpoint Program has resulted in a 30% reduction in federal funding each fiscal year since 2015.[172] This amounts to nearly $1.2 million annually, and, as of early 2019, the total loss of funding was $2.6 million.[173] The DEQ's Nonpoint Source Program

169. *Oregon's Forest Economy*, OR. FOREST RES. INST., https://oregonforests.org/economics [https://perma.cc/DG5D-GYTH] (last visited Dec. 5, 2022).

170. *Who Regulates Oregon's Logging Industry? Answer: The Logging Industry*, OR. WILD (Oct. 24, 2019), https://oregonwild.org/about/blog/who-regulates-oregons-logging-industry-answer-logging-industry [https://perma.cc/65KX-LB8K].

171. *See* discussion *infra* Section VI.

172. *Coastal Water Quality: Consequences of Program Disapproval*, *supra* note 92.

173. *Id.* On November 2, 2021, Northwest Environmental Advocates filed a complaint in the United States District Court that estimated the total loss of funding to be

and the Department of Land Conservation and Development's Coastal Management Program are most affected by this reduction in funding.[174] Additionally, this reduction in funding furloughed two staff positions and suspended planning grants for municipal governments in Oregon's coastal zone.[175] An annual increase to the current coastal management budget of $1.2 million could make a seemingly unimplementable Coastal Nonpoint Program implementable.[176]

VI. THE PRIVATE FOREST ACCORD DEMONSTRATES OREGON'S POTENTIAL TO SUBMIT AN APPROVABLE COASTAL NONPOINT PROGRAM

On February 10, 2020, after decades of fierce political, social, and legal battles, twelve timber companies, thirteen environmental conservation groups, and Oregon's largest small woodlands organization signed a Memorandum of Understanding (MOU).[177] Oregon's Legislature, with near unanimity, memorialized the MOU in Senate Bill 1602 and developed the foreground for the Private Forest Accord Report.[178] The motivation for the Private Forest Accord Report was long awaited harmony—to balance economic and environmental interests while "avoid[ing], minimiz[ing], and mitigat[ing] the effects of timber harvest, stand management, road system management, and other activities regulated under the Oregon Forest Practices Act."[179]

With this goal in mind, the Private Forest Accord Report was presented to the Oregon State Legislature and Oregon Board of Forestry on February 2, 2022.[180] The Private Forest Accord Report was "presented in conjunction with SB 1501, SB 1502, and HB 4055," a collection of bills intended to codify the provisions of the Report.[181] Senate Bill 1501, Senate Bill 1502, and House Bill 4055 were signed into law by Governor Brown on March 17, 2022.[182] While the Private Forest Accord Report is a significant step in meeting the additional management measures required

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$8,171,040. Complaint at 22, Northwest Env't Advoc. v. U.S. Nat'l Marine Fisheries Serv., No. 3:21-cv-01591 (D. Or. 2021).

174. *Coastal Water Quality: Consequences of Program Disapproval*, *supra* note 92.

175. *Id.*

176. *See id.*

177. PRIVATE FOREST ACCORD REPORT 4 (2022).

178. S.B. 1602, 80th Legis. Assemb. (Or. 2020).

179. Private Forest Accord Report, *supra* note 177, at 6.

180. *Id.* at 3.

181. *Id.*

182. S.B. 1501, 81st Leg. Assemb. (Or. 2022); S.B. 1502, 81st Leg. Assemb. (Or. 2022); H.B. 4055 81st Leg. Assemb. (Or. 2022).

by NOAA and EPA, uncertainty about its sufficiency remains. Of greatest significance, the Private Forest Accord Report is by no means law. The Private Forest Accord Report was used to develop Oregon's Private Forest Accord legislation, through Senate Bill 1501 and 1502, and it primarily acts as a directive for the Oregon Board of Forestry to use as it develops administrative regulations.[183]

The Private Forest Accord Report and related legislation demonstrates Oregon's potential to meet NOAA and EPA's recommended additional management measures. First, the Private Forest Accord Report recommends the Board of Forestry develop a stream classification system that is related to the timber harvest regulations.[184] Riparian protection will also be furthered by additional management of riparian areas that are within the expanded buffer zones along fish-bearing and non-fish-bearing streams.[185] Second, in addition to memorializing the MOU, Senate Bill 1602 mandates larger stream buffers for the aerial application of herbicides.[186] Senate Bill 1602 also precludes aerial spraying near a water source or headwater, a management measure NOAA and EPA recommended.[187] Third, the Forest Accord regulates timber harvest on steep, landslide-prone slopes.[188] Senate Bill 1501 directs Oregon's Department of Forestry to facilitate the development and application of landslide modeling.[189] Lastly, Senate Bill 1501 takes the preliminary step of assessing and cataloging forest roads through the creation of the Small Forestland Owner Investment Stream Habitat Program.[190] This Program provides grants for small forestland owner projects that mitigate the risks to natural resources arising from the construction, use, and maintenance of forest roads.[191] To be eligible for this Program, small forest owners must have on file with the Forestry Department a road condition assessment that includes an assessment of all the roads, abandoned roads, and culverts, located on the land for which the grant is sought.[192] Each of these management measures directly correlates to the additional forestry-related

183. S.B. 1501; S.B. 1502.
184. Private Forest Accord Report, *supra* note 177, at 13.
185. *Id.* at 20-26.
186. S.B. 1602.
187. *Id.*
188. *See* S.B. 1501.
189. *Id.*
190. *Id.*
191. *Id.*
192. *Id.*

management measures recommended by NOAA and EPA in their 2015 disapproval of Oregon's Coastal Nonpoint Program.[193]

NOAA and EPA could approve Oregon's Coastal Nonpoint Program pursuant to the Forest Accord legislation. However, it is unfair to equate such a likelihood with certainty. As mentioned above, much of the Forest Accord provisions remain voluntary, which would offer NOAA and EPA reasonable grounds to again decline Oregon's submission. Indeed, apart from the limited grant programs under Senate Bill 1501 and tax credits for small forestland owners under Senate Bill 1502,[194] there is little incentive, less a requirement, for forest owners to engage in the management measures suggested by NOAA and EPA. Therefore, coupled with the difficulties of implementing a Coastal Nonpoint Program described in the preceding section, the Private Forest Accord remains a mere indication of Oregon's potential to submit an approvable Coastal Nonpoint Program.

CONCLUSION

Although forestry practices associated with timber sales like Norriston Heights remain the primary concern for Oregon's coastal water resources, a Coastal Nonpoint Program has the potential to address additional contemporary issues. For example, the proposed Port of Coos Bay Multimodal Terminal Project, a project requiring hydromodification and bayside terminal construction, would also be subject to nonpoint source pollution management measures.[195] Management measures imposed on this Multimodal Terminal Project could prevent pollutants from hydromodification, such as increased sediment load from shoreline erosion, and pollutants from terminal construction, such as runoff containing oil, grease, and heavy metals, from entering Oregon's coastal waters. While developers and industry may be poised to oppose Oregon's Coastal Nonpoint Program, the Private Forest Accord is a testament to the

193. *See* discussion *infra* Section IV.

194. S.B. 1501; S.B. 1502.

195. The Port of Coos Bay Multimodal Terminal Project will cost around $1.33 billion, of which approximately $400 million will be used to deepen the channel by eight feet and widen the channel by one-hundred fifty feet and approximately $600 million will be used to develop the proposed 167-acre terminal site. *See Channel Modification Project: The Importance of a Wider and Deeper Channel*, OR. INT'L PORT OF COOS BAY, https://www.portofcoosbay.com/channel-deepening [https://perma.cc/6GNC-523B] (last visited Dec. 5, 2022); *See also* David Rupkalvis, *Port Signs MOU to Bring Shipping Container Facility to Coos Bay*, THE WORLD NEWSPAPER (Sept. 2, 2021), https://theworldlink.com/news/local/port-signs-mou-to-bring-shipping-container-facility-to-coos-bay/article_46399ec2-0f40-11ec-9101-2b5d29d7c8d5.html [https://perma.cc/PG6Y-DXKC].

potential for stakeholders to move beyond pointing fingers to reach a collectively beneficial result. Accordingly, to mitigate the impacts of nonpoint source pollution while preserving its coastal industries Oregon has one regulatory mechanism well within reach—a Coastal Nonpoint Pollution Control Program.