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"Fed" up with Acidification: "Trusting" the Federal Government to Protect the Tulalip Tribes' Access to Shellfish Beds

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**“FED” UP WITH ACIDIFICATION: “TRUSTING”
THE FEDERAL GOVERNMENT TO PROTECT THE
TULALIP TRIBES’ ACCESS TO SHELLFISH BEDS**

Jacqueline M. Bertelsen*

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I. INTRODUCTION

The Tulalip (pronounced Tuh'-lay-lup) Reservation, home of the Tulalip Tribes of Washington, is situated along the banks of the iconic Puget Sound, just north of Seattle, Washington.¹ The Tulalip and their ancestors have relied on the abundance of Puget Sound's waters for centuries.² The bounties of shellfish and salmon are integral to Tulalip culture.³ Since the arrival of European settlers, the Tulalip have struggled to maintain their rights to access these waters and harvest shellfish from the same beds as their ancestors.⁴

The Tulalip Tribes' identity is characterized by a cultural relationship with their lands.⁵ Their reliance on shellfish, like other tribal traditions and cultural practices, is derived from centuries of abundance from waters and beaches of Puget Sound.⁶ The potential loss of a fishery magnifies the destructive consequences of ocean acidification when viewed in the context of a culture with a "deeply ingrained relationship with the natural world," which is already strained by European conquest, imposition of the reservation system, and modernization.⁷

1. See Map of Washington Tribes, WASHINGTON TRIBES, <http://www.washingtontribes.org/default.aspx?ID=48> (last visited Apr. 3, 2016).

2. See *United States v. Washington (U.S. v. Washington D)*, 626 F. Supp. 1405, 1528–31 (W.D. Wash. 1985) (discussing history of the tribes comprising the Tulalip Tribes for purposes of determining the traditional and accustomed fishing grounds for the Tulalip Tribes); see also BURKE MUSEUM, *Salish Bounty: Traditional Native Foods of Puget Sound*, http://www.burkemuseum.org/salish_bounty (last visited April 1, 2016) [hereinafter *Salish Bounty*] (describing the traditional foods of Coast Salish peoples and discussing their revival of traditional food knowledge).

3. See *Salish Bounty*, *supra* note 2 ("Food is a blessing, gratefully and respectfully gathered and prepared, given and received with just as much gratification and respect.").

4. See generally Mariel Combs, Comment, *United States v. Washington: The Boldt Decision Reincarnated*, 29 ENVTL. L. 683 (1999) (discussing the court decisions defining treaty fishing rights of Northwest Indian Tribes who are signatories to the Stevens Treaties, see *infra* 0.0.).

5. See T.M. BENNETT ET AL., *Indigenous Peoples, Land, and Resources*, in CLIMATE CHANGE IMPACTS IN THE UNITED STATES: THE THIRD NATIONAL CLIMATE ASSESSMENT 301 (J.M. Melillo et al. eds., 2014).

6. See *id.* at 302; see also ROBERT L. GLICKSMAN, ET AL., CENTER FOR PROGRESSIVE REFORM, CLIMATE CHANGE AND THE PUGET SOUND: BUILDING THE LEGAL FRAMEWORK FOR ADAPTATION 14 (2011), http://www.progressivereform.org/articles/puget_sound_adaptation_1108.pdf.

7. BENNETT, *supra* note 5, at 298; see also Terrie Klinger et al., *Ecosystem Response to Ocean Acidification*, in NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, OAR SPECIAL REPORT, WASHINGTON SHELLFISH INITIATIVE BLUE RIBBON PANEL ON

Oysters and shellfish are not exclusively valuable to the Tulalip, however. The Pacific Northwest shellfish industry contributes over \$270 million to the state's economy annually.⁸ Consequently, when shellfish hatcheries experienced near total mortality of oyster larvae between 2005 and 2008, the state and tribes⁹ noticed.¹⁰ Experts initially suspected bacteria, but scientists determined that ocean acidification was to blame.¹¹ In 2011, the State of Washington launched the Washington Shellfish Initiative,¹² a collaborative effort involving agencies, tribes, and shellfish industry representatives with the goal "to restore and expand Washington's commercial, tribal, and native shellfish resources . . ."¹³ To further the Initiative objectives, then-Governor Christine Gregoire convened the Washington State Blue Ribbon Panel on Ocean Acidification to develop a comprehensive understanding of and response to ocean acidification.¹⁴

Although the United States has expressed its willingness to honor its treaty obligations,¹⁵ to date neither the State of

OCEAN ACIDIFICATION, SCIENTIFIC SUMMARY OF OCEAN ACIDIFICATION IN WASHINGTON STATE MARINE WATERS 88 (2012), <https://fortress.wa.gov/ecy/publications/documents/1201016.pdf> [hereinafter OAR SPECIAL REPORT] (finding that ocean acidification "effects are likely to influence food web structure and function" of fisheries in the Pacific Northwest).

8. See NOAA FISHERIES SERVICE N.W. REGION, U.S. DEP'T OF COMM., NOAA SHELLFISH INITIATIVE FACTSHEET 1 (2012), http://www.westcoast.fisheries.noaa.gov/publications/aquaculture/noaa_shellfish_initiative_f_sheet_011312.pdf.

9. See generally Combs, *supra* note 4 (demonstrating that the Tulalip Tribes are not the only tribes who rely on shellfish in the Pacific Northwest for subsistence and cultural practices).

10. See Craig Welch, *Sea Change: Oysters Dying as Coast is Hit Hard*, SEATTLE TIMES (Sep. 11, 2013), <http://apps.seattletimes.com/reports/sea-change/2013/sep/11/oysters-hit-hard/>.

11. See *id.*

12. See Amanda M. Carr, "We Can Lead": Washington State's Efforts to Address Ocean Acidification, 3 WASH. J. ENVTL. L. & POL'Y 188, 207 (2013) (explaining that the Washington Shellfish Initiative was the first "regionally focused effort" under the NOAA National Shellfish Initiative); see also NOAA FISHERIES, *Implementation of the National Shellfish Initiative: Current Accomplishments and Key Actions for FY'13 1* (2013), http://www.nmfs.noaa.gov/aquaculture/docs/policy/fy13_accomp_actions_natl_shellfish_initiative.pdf.

13. Carr, *supra* note 12, at 207.

14. See *id.* at 207–08.

15. See U.S. SEC'Y OF INTERIOR, ORDER NO. 3335, REAFFIRMATION OF THE FEDERAL TRUST RESPONSIBILITY TO FEDERALLY RECOGNIZED INDIAN TRIBES AND INDIVIDUAL INDIAN BENEFICIARIES (Oct. 20, 2014) (stating that "the Federal trust responsibility to tribes is often fulfilled when the Department contracts with tribal governments to provide the Federal services owed under the trust responsibility.").

Washington nor the Environmental Protection Agency have applied the mechanisms available under the Clean Water Act to protect the Tulalip Tribes' treaty-guaranteed right to shellfish.¹⁶ Failure to take action in the near future may jeopardize the existence of any harvestable shellfish.¹⁷

Part I of this paper discusses the threat ocean acidification poses to the Tulalip Tribes' ability to practice and preserve its way of life. Part II examines the laws and legal structures, especially the Clean Water Act,¹⁸ that can simultaneously protect the Tulalip Tribes' right to harvest shellfish at "usual and accustomed"¹⁹ shellfish beds and the health of Puget Sound's waters as a whole.²⁰ Finally, Part III proposes actions that can be taken at the state, tribal, and federal levels. First, the Environmental Protection Agency (EPA) should develop criteria and water quality standards relevant to ocean acidification that can be applied throughout the country. In addition, the State of Washington should apply the current standards to its coastal waters so a workable Total Maximum Daily Load (TMDL)²¹ plan can be implemented. Second, the Tulalip Tribes of Washington should be granted full status²²

16. EPA 10, APPROVAL OF WASHINGTON STATE 2010 303(d) LIST, *Enclosure 2: EPA Review of Ecology's Analysis of Ocean Acidification Data and Information 1*, 6–8 (Dec. 21, 2012), http://www.epa.gov/region10/pdf/water/303d/washington/final_WA_303d_2010_approval_letter_enclosure_2.pdf (concluding "that Ecology has adequately addressed all statutory . . . and regulatory requirements . . . for excluding [Puget Sound] from Category 5 of its integrated report" despite finding that the pH levels were detrimental to supporting shellfish and other aquatic life); *see also infra* Section III.C.

17. *See* Jessica Aguirre, *How Climate Change Is Changing The Oyster Business*, NPR THE SALT (Aug. 02, 2012, 9:45 AM), <http://www.npr.org/blogs/thesalt/2012/08/01/157733954/how-climate-change-is-changing-the-oyster-business>; *see also* Reid Wilson, *Marine Industries at Risk on Both Coasts as Oceans Acidify*, WASHINGTON POST (July 30, 2014) <https://www.washingtonpost.com/blogs/govbeat/wp/2014/07/30/marine-industries-at-risk-on-both-coasts-as-oceans-acidify/>.

18. 33 U.S.C. §§ 1251–1387 (2012). For a detailed discussion of the Clean Water Act, *see infra* 0.0.

19. Treaty of Point Elliot, Jan. 22, 1855, art. V, 12 Stat. 927 [hereinafter Treaty of Point Elliot].

20. *See, e.g.*, 25 U.S.C. § 476 (2012).

21. *See infra* Section 0.0.0; 33 U.S.C. § 1342(5) (2012) ("The Administrator shall authorize a State, which he determines has the capability of administering a permit program which will carry out the objective of this Act [33 USCS §§ 1251 et seq.], to issue permits for discharges into the navigable waters within the jurisdiction of such State); 33 U.S.C. §1313(d)(1).

22. This paper argues that the treatment as states (TAS) provision of the Clean Water Act should be expanded to allow full tribal authority under section 303(d) of the Act. *Infra* Section III.C.3 & IV.B. Further, this author argues that tribal authority

for purposes of section 303(d)²³ of the Clean Water Act so that the Tribes can establish water quality standards and TMDL plans. Because of the Tulalip's treaty protected interest in off-reservation shellfish beds, the water quality standards and TMDL plans should be extended to waters affecting those shellfish beds, as well. In addition, the federal government should fully fund the programs established by the Tulalip to protect their rights to shellfish. Finally, the federal government should extend funding to programs administered by the State of Washington that address ocean acidification on a state-wide level.

II. TRIBAL TRADITIONS AND OCEAN ACIDIFICATION

Tulalip Bay was chosen as the location of the Tulalip Tribes' reservation because it ensured the tribes' access to culturally significant waters and beaches that were abundant with food and other resources.²⁴ For place-based tribes like the Tulalip, who are tied to their treaty-established lands, the movement or loss of native species threatens their cultural existence.²⁵ Shellfish are a culturally important resource, which if lost will result in the inability to pass down cultural practices and traditional knowledge to younger generations.²⁶

A. *The Tulalip Tribes of Washington*

The Tulalip Tribes of Washington are a federally recognized tribe comprised of Coast Salish peoples from the Puget Sound area of Washington State.²⁷ The Tulalip were united onto one

should extend beyond reservation borders to encompass traditional fishing grounds and shellfish, to which the tribe reserved the right to reenter and harvest in the Treaty of Point Elliot. *Infra* Section 0.0.

23. See *infra* Section 0.0.0.

24. See NW. INDIAN APPLIED RESEARCH INST., NATIVE PEOPLES: THE "MINER'S CANARY" OF CLIMATE CHANGE 9 (Debra McNutt ed., 2008), <http://nwindian.evergreen.edu/pdf/climatechangereport.pdf> [hereinafter MINER'S CANARY].

25. See *id.*; see also Randall S. Abate & Elizabeth Ann Kronk, *Commonality Among Unique Indigenous Communities: An Introduction to Climate Change and Its Impacts on Indigenous Peoples*, in CLIMATE CHANGE AND INDIGENOUS PEOPLES: THE SEARCH FOR LEGAL REMEDIES 3, 11 (Randall S. Abate & Elizabeth Ann Kronk eds., 2013) (stating that "legal rights possessed by [American] tribal nations were tied to the reservations. . . . As a result, American tribal nations now have a strong legal interest in the land upon which they reside.").

26. See MINER'S CANARY, *supra* note 24.

27. See THE TULALIP TRIBES, ABOUT US, <http://www.tulaliptribes-nsn.gov/Home/>

reservation by the Treaty of Point Elliot,²⁸ and later agreed to merge into a single tribe under the Indian Reorganization Act of 1934.²⁹ For centuries the peoples comprising the Tulalip Tribes have relied on salmon, shellfish, berries, and roots available in and around the Puget Sound waters for subsistence and cultural practices.³⁰

Puget Sound is the second largest estuary in the United States.³¹ It is a “deep, fjord-like . . . estuary” carved by glaciers near the end of the last ice age.³² Tulalip Bay is located on the Eastern shore of Puget Sound.³³ Tulalip is a Coast Salish word meaning “small-mouthed bay,” which describes the shape of the bay and also refers to its “nearly landlocked nature.”³⁴

The area’s natural resources were of central importance to the native populations and vital to their cultural foundations.³⁵ The tidal wetlands and estuarine scrub-shrub wetlands provided access to shellfish, fish, grasses, and wildlife.³⁶

WhoWeAre/AboutUs.aspx (last visited Apr. 1, 2016); *see also* Coll-Peter Thrush, *The Lushootseed Peoples of Puget Sound*, in AMERICAN INDIANS OF THE PACIFIC NORTHWEST UNIVERSITY OF WASHINGTON DIGITAL COLLECTIONS, <http://content.lib.washington.edu/aipnw/thrush.html> (last visited Apr. 1, 2016) (explaining the Salishan language family). Coast Salish refers to groups who speak languages from the Salishan language family and most Coast Salish tribes in Puget Sound spoke different dialects of Lushootseed and were united by place and shared cultural traits. *Id.*

28. *See* Treaty of Point Elliot, *supra* note 19; *see also* *U.S. v. Washington I*, 626 F. Supp. 1405, 1527 (W.D. Wash. 1985). The signatories to the Treaty were “chiefs, headmen and delegates of the Dwamish, Suquamish, Sk-kahl-mish, Sam-ahmish, Smalh-kamish, Skope-ahmish, St-kah-mish, Snoqualmoo, Skai-wha-mish, N’Quentl-ma-mish, Sk-tah-le-jum, Stoluck-wha-mish, Sno-ho-mish, Skagit, Kik-i-allus, Swin-a-mish, Squin-ah-mish, Sah-ku-mehu, Noo-wha-ha, Nook-wa-chah-mish, Mee-see-qua-guilch, Cho-bah-ah-bish, and other allied and subordinate tribes and bands of Indians occupying certain lands situated in said Territory of Washington.” Treaty of Point Elliot, *supra* note 19. The Treaty merely relegated the signatories to the same reserved lands. *Id.* at arts. 3–4. These signatories, thus, shared land and resources.

29. *See* Indian Reorganization Act, 25 U.S.C. §§ 461-79.

30. *See* BURKE MUSEUM, *supra* note 2; MINER’S CANARY, *supra* note 24.

31. *See* OAR SPECIAL REPORT, *supra* note 7, at 30.

32. *See id.*

33. *See* WASHINGTON TRIBES, *supra* note 1.

34. *See* THE TULALIP TRIBES, *Who We Are*, <http://www.tulaliptribes-nsn.gov/Home/WhoWeAre.aspx> (last visited Apr. 1, 2016) [hereinafter *Who We Are*] (“The Salish word for Tulalip is dx^wlilap.”).

35. KURT FRESH ET AL., IMPLICATIONS OF OBSERVED ANTHROPOGENIC CHANGES TO THE NEARSHORE ECOSYSTEMS IN PUGET SOUND, 4, 7–9 (2011–13) http://www.pugetsoundnearshore.org/technical_papers/implications_of_observed_ns_change.pdf.

36. *Id.* at 4 (“Estimations from surveys between 1850 and 1890 suggest that there

Approximately fifty types of shellfish were historically consumed by Coast Salish peoples.³⁷ The archaeological record shows that the native populations living in Puget Sound had diverse diets and knowledge of more than 280 plants and animals.³⁸ The Coast Salish connection to the resources and natural processes supporting the ecosystem facilitated prosperity.³⁹ Modern Coast Salish continue to acknowledge the connection between the local environment and their culture.⁴⁰ In short, the Coast Salish, including the Tulalip Tribes of Washington, are closely tied to the waters and shores of Puget Sound because of the abundance of resources and their cultural connections.⁴¹

The importance of Puget Sound's natural resources was reflected in the everyday lives of the Coast Salish. The Coast Salish were hunters, fishers, gatherers, and traders.⁴² Traders used shells as currency.⁴³ Gatherers collected a wide variety of berries, roots, and shellfish.⁴⁴ Fisherman took sturgeon and many species of salmon.⁴⁵ Due to the abundance of resources in the waters and on the shores of Puget Sound, the Coast Salish were one of the few hunter-gatherer societies who utilized permanent dwellings.⁴⁶ They constructed plank houses from cedar; however, temporary encampments were used as they moved through territory with the seasons to hunt, fish, and gather food.⁴⁷

were approximately 29,500 ha of tidal wetland, including 12,000 ha of estuarine emergent marsh, 6000 ha of estuarine scrub-shrub wetland, and 11,500 hectares of tidal-freshwater wetlands. Crabs, clams, oysters, mussels, forage fish, kelp, eelgrass, salmon, and abalone are just a few of the species that used these nearshore habitats for part or all of their life histories.”).

37. BURKE MUSEUM, *Traditional Coast Salish Foods*, http://www.burkemuseum.org/sites/default/files/reviving_traditional_food_knowledge.pdf (last visited April 12, 2016).

38. *Salish Bounty*, *supra* note 2.

39. FRESH ET AL., *supra* note 35, at 4.

40. *Id.*

41. *Id.*

42. *See generally* Thrush, *supra* note 27.

43. TULALIP TRIBAL GOV'T., VOL. NO. 2, TULALIP TRIBES: CULTURAL HISTORY POWERS TODAY'S PROGRESS 12 (2011), <http://www.tulaliptribes-nsn.gov/Portals/0/pdf/TulalipBrochure.pdf>.

44. Thrush, *supra* note 27; BURKE MUSEUM, *supra* note 36.

45. Hibulb Cultural Center, *About the Tulalip Tribes* 8 (2011), http://www.hibulb.culturalcenter.org/assets/pdf/press_kit.pdf [hereinafter *About the Tulalip Tribes*].

46. *Who We Are*, *supra* note 34.

47. THE TULALIP TRIBES, *Who We Are: Heritage*, <http://www.tulaliptribes-nsn.gov/>

The Puget Sound Coast Salish communities maintained strong connections by arranged marriages between villages.⁴⁸ While these relationships stimulated trading, they also provided opportunities for dances, storytelling, and potlatch, which perpetuated spirituality and traditional knowledge and transmitted tribal history.⁴⁹ The Coast Salish belief system is closely tied to daily tribal life. They view themselves as caretakers of the earth.⁵⁰

Traditional stories give order and reason to daily life and demonstrate, as well as preserve, cultural values.⁵¹ Coast Salish storytelling is characterized by incomplete human figures with human and animal qualities.⁵² While exact stories vary from tribe to tribe, or even village to village, a common theme of the central “changer figure” is present.⁵³ The idea that these animal-human figure permutations are nascent to the human form demonstrates the powerful relationship the Coast Salish have with the natural world.⁵⁴ For example, the First Salmon Ceremony, which is performed after the first salmon harvest of the season, is based on a legend from the distant past when “animals could become people and people could become animals.”⁵⁵ The salmon offered themselves as food to the tribe and, out of respect to the salmon, the people cleaned the river banks and threw the bones of the consumed fish back into the river.⁵⁶ As a result, the fish returned year

Home/WhoWeAre/Heritage.aspx (last visited May 3, 2016).

48. *About the Tulalip Tribes*, *supra* note 45.

49. TULALIP TRIBAL GOV'T., *supra* note 43, at 11 (explaining that Potlatch is a feast that functioned as a public display of generosity to mark important occasions, to compete for social status, and to take responsibility for others).

50. *United States v. Washington (U.S. v. Washington II)*, 384 F. Supp. 312, 351 (W.D. Wash. 1974).

51. *About the Tulalip Tribes*, *supra* note 45, at 7.

52. THE TULALIP TRIBES, *The People of the Salmon*, <http://www.tulaliptribes-nsn.gov/Home/Government/Departments/HibulbCulturalCenter/PeopleoftheSalmon.aspx> (last visited Apr. 1, 2016) [hereinafter *People of the Salmon*].

53. NATIVE LANGUAGES OF THE AMERICAS: LUSHOOTSEED INDIAN LEGENDS, MYTHS, AND STORIES, *Lushootseed/Puget Sound Salish Mythological Figures*, <http://www.native-languages.org/lushootseed-legends.htm> (last visited Apr. 1, 2016).

54. *Id.*; TULALIP TRIBAL GOV'T., *supra* note 43, at 11–12.

55. Hibulb Culture Center, *The Story of the Salmon Ceremony* as adapted from Bernie Hobin Kia-Kai, <http://www.hibulbculturalcenter.org/Legends/Value-4/>; NATIVE LANGUAGES OF THE AMERICAS: LUSHOOTSEED INDIAN LEGENDS, *supra* note 51.

56. *Id.*

after year.⁵⁷

The arrival of European settlers caused changes in the ecosystem and diminished access to lands and waters, which inhibited Coast Salish from collecting traditional foods.⁵⁸ Smallpox and other diseases nearly wiped out the native populations.⁵⁹ The Coast Salish Tribes in Puget Sound entered into the Treaty of Point Elliot⁶⁰ in 1855, hopeful that the agreement would guarantee their way of life.⁶¹ However, the reservation system imposed a new diet that was not suited to the tribes' cultural needs.⁶² Polluted shellfish beds, depleted fish runs, and loss of access to lands caused a dramatic change in lifestyle.⁶³ For a people whose traditions and cultural practices guided where, when, and what to eat, a struggle to maintain cultural values ensued.⁶⁴

Under the Indian Reorganization Act of 1934, the federal government encouraged the tribes living on the Tulalip Reservation to formally merge and set up a single government representing the entire reservation.⁶⁵ As a result, the tribes agreed to be known as the Tulalip Tribes of Washington.⁶⁶ The Tulalip are the successors in interest to the Snoqualmie, Snohomish, Skykomish, and other signatory tribes to the Treaty of Point Elliot.⁶⁷ On November 23, 1935, the members of the Tulalip Tribes adopted a constitution and bylaws in accordance with Section 16 of the Indian Reorganization Act of June 18, 1934.⁶⁸

57. *Id.*

58. *Salish Bounty*, *supra* note 2.

59. *U.S. v. Washington II*, 384 F. Supp. 312, 352 (W.D. Wash. 1974).

60. Treaty of Point Elliot, *supra* note 19.

61. *Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n*, 443 U.S. 658, 667 (1979).

62. *People of the Salmon*, *supra* note 52.

63. *Salish Bounty*, *supra* note 2.

64. *Id.*

65. Indian Reorganization Act, 25 U.S.C. § 476.

66. *Who We Are*, *supra* note 34.

67. THE TULALIP TRIBES, <http://www.tulaliptribes-nsn.gov/> (last visited Apr. 1, 2016).

68. CONST. AND BYLAWS FOR THE TULALIP TRIBES OF WASHINGTON (1936) <https://www.loc.gov/law/help/american-indian-const/PDF/36026319.pdf>; Indian Reorganization Act, 25 U.S.C. § 476.

B. Ocean Acidification's Impact on the Tulalip Tribes of Washington

Industrialization and deforestation have resulted in a forty percent increase in atmospheric carbon dioxide (CO₂) levels.⁶⁹ The earth's deep ocean waters absorb atmospheric carbon, which helps alleviate the high levels of atmospheric carbon and, to some degree, the effects of climate change.⁷⁰ Decades of absorbing elevated levels of atmospheric carbon, has resulted in a progressive decrease of the ocean's pH level.⁷¹ This progressive decrease in pH is called ocean acidification.⁷² Atmospheric carbon is the principal cause of ocean acidification in the open-ocean waters of the North Pacific.⁷³ Coastal waters in the Pacific Northwest are some of the most acidified in the world.⁷⁴ Because carbon is stored in the depths for decades and emissions continue to increase, the acidification of Puget Sound's deep waters will continue to escalate.⁷⁵

Several factors are behind the acidification of waters along the Washington coast, Puget Sound, and the estuarine habitats that are so important to shellfish.⁷⁶ First, coastal ecosystems are more vulnerable to ocean acidification due to degraded or eliminated habitat caused by human habitat alteration.⁷⁷ Forty percent of the shoreline of Puget Sound has been altered.⁷⁸ As

69. Scott C. Doney et al., *Ocean Acidification: The Other CO₂ Problem*, 1 ANN. REV. OF MARINE SCI. 169, 170 (2009).

70. *Id.*

71. *Id.*; see also Richard A. Feely et al., *The Combined Effects of Ocean Acidification, Mixing, and Respiration on pH and Carbonate Saturation in an Urbanized Estuary*, 88 ESTUARINE, COASTAL & SHELF SCI. 442, 443 (2010) [hereinafter *Combined Effects of Ocean Acidification*] ("We reserve the term 'acidified' to refer to the oceanic conditions attributable to oceanic uptake of anthropogenic CO₂ and the associated chemical changes.").

72. Doney, *supra* note 69, at 170.

73. OAR SPECIAL REPORT, *supra* note 7; see also *Combined Effects of Ocean Acidification*, *supra* note 71, at 447.

74. PHILIP MOTE ET AL., CLIMATE CHANGE IMPACTS IN THE UNITED STATES: THE THIRD NATIONAL CLIMATE ASSESSMENT 493 (J.M. Melillo et al. eds., 2014).

75. *Combined Effects of Ocean Acidification*, *supra* note 71, at 447.

76. OAR SPECIAL REPORT, *supra* note 7, at 15.

77. KURT FRESH ET AL., *supra* note 35, at 23; see also Doney, *supra* note 69, at 170 ("Fossil fuel combustion and agriculture also produce increased atmospheric inputs of dissociation products of strong acids and bases to the coastal and open ocean . . . but they are more concentrated in coastal waters where the ecosystem responses to ocean acidification could be more serious for humankind.").

78. KURT FRESH ET AL., *supra* note 35, at 1.

a result, the existence of Puget Sound shallow-water and estuarine ecosystems are in jeopardy.⁷⁹ In addition, Puget Sound retains waters for long periods of time due to sills that "reflux" water back into the Sound, resulting in increased nitrate concentrations.⁸⁰ Interaction with natural environmental conditions and anthropogenic pollutants from runoff and greenhouse gas emissions accelerate ocean acidification.⁸¹

Another significant catalyst for ocean acidification is hypoxia.⁸² Hypoxia occurs when the dissolved oxygen in a water column decreases to a level insufficient to support living aquatic organisms.⁸³ Eutrophication, which is a major contributor to hypoxia, is "the process by which a body of water becomes enriched in dissolved nutrients (as phosphates) that stimulate the growth of aquatic plant life usually resulting in the depletion of dissolved oxygen."⁸⁴ Eutrophication increases when runoff carries nutrients such as nitrogen and phosphorus from sewage, agriculture, and fertilizers into waters.⁸⁵ Coastal development and the loss of estuarine habitat increase the amount of nutrient-rich waters entering the deep basins in Puget Sound.⁸⁶ Waters that are rich in nutrients promote algae blooms, which decompose, deplete oxygen, and release even more carbon dioxide into the water.⁸⁷ Further, the warmer

79. *Id.* at 23.

80. OAR SPECIAL REPORT, *supra* note 7, at 15, 29.

81. *Combined Effects of Ocean Acidification*, *supra* note 71, at 443.

82. *Id.*

83. OAR SPECIAL REPORT, *supra* note 7, at 23.

84. *Id.* at 23, 32-33; MERRIAM-WEBSTER DICTIONARY, <http://www.merriam-webster.com/dictionary/eutrophication> (last visited Apr. 14, 2016).

85. *Id.*; see also ERIC SCIGLIANO, GLOBAL OCEAN HEALTH PROGRAM, SWEETENING THE WATERS: THE FEASIBILITY AND EFFICACY OF MEASURES TO PROTECT WASHINGTON'S MARINE RESOURCES FROM OCEAN ACIDIFICATION 27 (Nov. 2012) [hereinafter SWEETENING THE WATERS] ("Most of this nitrogen, together with a large quotient of phosphorus, comes from manure and other fertilizers, the leading anthropogenic source after wastewater treatment plants of nutrient pollution. In some heavily agricultural watersheds, agriculture is the largest source of nutrients.").

86. *Combined Effects of Ocean Acidification*, *supra* note 71, at 443, 447-48 ("The coastal region off western North America is strongly influenced by seasonal upwelling, which typically begins in early spring when the Aleutian low-pressure system moves to the northwest and the Pacific High moves northward, causing a strengthening of the northwesterly winds. These winds drive surface waters offshore via Ekman transport, which induces the upwelling of CO₂-rich, offshore intermediate waters onto the continental shelf from April through November.").

87. SWEETENING THE WATERS, *supra* note 85, at 7. Hypoxia results from the presence

waters in Puget Sound may contribute to a higher incidence of toxic algae blooms, which can cause oysters and shellfish to be unsafe for human consumption.⁸⁸

The Pacific Northwest owes much of its abundance to upwelling, a natural phenomenon that occurs when winds push surface waters away from the shore and draw nutrient rich water from the deep to the shores.⁸⁹ Indeed, that same process is also responsible for inundating the Pacific Northwest coast with corrosive, hypoxic waters from the ocean's depths.⁹⁰ Since large amounts of carbon are stored in the deep, the cold waters of the Pacific Ocean they combine with the low-oxygen waters in the sprawling hypoxic zone off of the coast of Washington when upwelling occurs.⁹¹ Upwelling, which intensifies during the spring and summer months,⁹² therefore affects the degree and location of hypoxic and corrosive waters.⁹³

The changes in ocean chemistry from ocean acidification are toxic to shellfish, which are culturally significant to the Tulalip Tribes and commercially significant to the entire state of Washington.⁹⁴ The lowered pH levels inhibit shell formation in shellfish larvae and dissolve shells of more mature shellfish.⁹⁵

of large amounts of bacteria in water, which use the available dissolved oxygen to decompose dead organisms, such as algae. See Mindy Selman, et al., *Eutrophication and Hypoxia in Coastal Areas: A Global Assessment of the State of Knowledge*, 1 WRI POLICY NOTE: EUTROPHICATION AND HYPOXIA, Mar. 2008, at 1, 2.

88. EPA OFFICE OF WATER, *Impacts of Climate Change on the Occurrence of Harmful Algal Blooms* (May 2013), <http://www.epa.gov/sites/production/files/documents/climatehabs.pdf>.

89. Terry Hansen, *Ocean's Rising Acidification Eating Away at Shellfish That Coastal Tribes Depend On*, INDIAN COUNTRY TODAY (Aug. 14, 2014), <http://indiancountrytodaymedianetwork.com/2014/08/14/oceans-rising-acidification-dissolves-shellfish-coastal-tribes-depend-156395>.

90. OAR SPECIAL REPORT, *supra* note 7, at 20; Steve Gaines, *Upwelling*, OCEAN EXPLORER, NAT'L OCEANIC AND ATMOSPHERIC ADMINISTRATION (Jan. 25, 2014), <http://oceanexplorer.noaa.gov/explorations/02quest/background/upwelling/upwelling.html>.

91. *Id.*; PARTNERSHIP FOR INTERDISCIPLINARY STUDIES OF COASTAL OCEANS (PISCO), *How Does the Pacific Northwest Deadzone Form* (Feb. 11, 2011), <http://www.piscoweb.org/research/science-by-discipline/coastal-oceanography/hypoxia-new/hypoxia-in-pacific-northwest>.

92. PHILIP MOTE ET AL., CLIMATE CHANGE IMPACTS IN THE UNITED STATES: THE THIRD NATIONAL CLIMATE ASSESSMENT 493 (J.M. Melillo et al. eds., 2014).

93. *Id.*

94. *Combined Effects of Ocean Acidification*, *supra* note 71, at 447.

95. *Id.* at 447.

For these reasons, scientists refer to the waters as corrosive.⁹⁶

Biocalcification is the process of shell formation in marine organisms.⁹⁷ Aragonite is the biomineral used by many Pacific Northwest shellfish species to build their shells.⁹⁸ The CO₂ levels in the Puget Sound waters are at levels to which Aragonite is particularly vulnerable.⁹⁹ Studies have shown high mortality in larval oysters because of the effects of acidification on the biocalcification process.¹⁰⁰ Studies also demonstrate that oyster's susceptibility to the negative effects of acidification exists in all stages of development.¹⁰¹

From 2006 through 2008, elevated bacteria levels and "high nutrient, low [dissolved oxygen] coastal upwelled waters mixing with warm late-summer bay waters" decimated the yield in shellfish hatcheries and caused panic in the Pacific Northwest oyster industry.¹⁰² Though a monitoring system is now in place to assist hatchery operators by alerting them to toxic pH levels, the yields in natural beds and hatcheries are significantly diminished in Washington and the entire Pacific Northwest.¹⁰³ The mass mortalities of oyster larvae in the Pacific Northwest oyster hatcheries are indicative of "the kind of ecosystem changes caused by the combined effects of multiple processes and stressors"¹⁰⁴

III. EXISTING LEGAL FRAMEWORK

A. *The Treaty of Point Elliot*

As part of the United States' effort to peaceably settle the Washington Territory, Governor Isaac Stevens united bands of Northwest Indians into tribes, appointed tribal leaders whom

96. *Id.* at 443.

97. OAR SPECIAL REPORT, *supra* note 7, at 64.

98. WASH. STATE DEP'T. OF ECOLOGY, *Ocean Acidification in the Pacific Northwest* (May 2014), <http://www.ecy.wa.gov/water/marine/oa/201405-OAfactsheet.pdf> [hereinafter *Ocean Acidification in the Northwest*].

99. *See id.*

100. *Id.*

101. *Id.*

102. Alan Barton et al., *The Pacific Oyster, Crassostrea gigas, Shows Negative Correlation to Naturally Elevated Carbon Dioxide Levels: Implications for Near-Term Ocean Acidification Effects*, 57 LIMNOLOGY & OCEANOGRAPHY 698, 699 (2012) (internal citations omitted).

103. *Id.* at 707.

104. *Combined Effects of Ocean Acidification*, *supra* note 71, at 448.

were amenable to negotiating with white settlers, and entered into treaties with these tribes.¹⁰⁵ On January 22, 1885, ninety-two tribal leaders signed the Treaty of Point Elliot.¹⁰⁶ The tribes agreed to cede title to vast amounts of their lands, but retained “the right of taking fish at usual and accustomed grounds and stations . . . in common with all citizens of the Territory”¹⁰⁷ In addition, lands were reserved and boundaries established for the Tulalip Reservation.¹⁰⁸ Today, the Tulalip Tribes of Washington are recognized as “successors in interest to the Snohomish, Snoqualmie, Skykomish, and other allied tribes and bands that were signatories to the 1855 Treaty of Point Elliott.”¹⁰⁹

The right to fish was central to the negotiations throughout the Territory.¹¹⁰ Language reserving the right to fish at “usual and accustomed grounds” was included in each of the Stevens Treaties.¹¹¹ Governor Stevens himself—in touting the benefits of the treaties to the tribes, decreed—“[t]his paper secures your fish.”¹¹²

105. Combs, *supra* note 4, at 687.

106. Treaty of Point Elliot, *supra* note 19, at arts. I, XV. In 1854 and 1855, under a congressional mandate to acquire Indian lands, Isaac I. Stevens, the first Governor of the Washington Territory, negotiated a series of treaties with Northwest Indian tribes, which are commonly known as the Stevens Treaties. *U.S. v. Washington II*, 384 F. Supp. 312, 330 (W.D. Wash. 1974); *see also* Combs, *supra* note 4, at 684. The Stevens Treaties are the Treaty of Medicine Creek (Dec. 26, 1854, 10 Stat. 1132), Treaty of Point No Point (Jan. 26, 1855, 12 Stat. 933), Treaty of Neah Bay (Jan. 31, 1855, 12 Stat. 939), Treaty with the Walla-Wallas (June 9, 1855, 12 Stat. 945), Treaty with the Yakima (June 9, 1855, 12 Stat. 951), Treaty with the Nez Percés (June 11, 1855, 12 Stat. 957), Treaty with the Tribes of Middle Oregon (June 25, 1855, 12 Stat. 963), Treaty of Olympia (July 1, 1855, 12 Stat. 971) and Treaty of Hell Gate (July 16, 1855, 12 Stat. 975).

107. Treaty of Point Elliot, *supra* note 19, at art. V (“[A] primary concern of the Indians whose way of life was so heavily dependent upon harvesting anadromous fish, was that they have freedom to move about to gather food, particularly salmon.”); *U.S. v. Washington II*, 384 F. Supp. at 354.

108. Treaty of Point Elliot, *supra* note 19, at art. III; *Who We Are*, *supra* note 34 (the reservation was “created to provide a permanent home for the Snohomish, Snoqualmie, Skagit, Suiattle, Samish and Stillaguamish Tribes and allied bands living in the region.”).

109. THE TULALIP TRIBES, *supra* note 67; *see also U.S. v. Washington I*, 626 F. Supp. 1405, 1527 (W.D. Wash. 1985).

110. Treaty of Point Elliot, *supra* note 19, at art. V.

111. *U.S. v. Washington II*, 384 F. Supp. 312, 332 (W.D. Wash. 1974).

112. *Washington v. Wash. State Commercial Passenger Fishing Vessel Ass’n*, 443 U.S. 658, 667 n.11 (1979) (quoting a statement by Governor Stevens during the Point No Point Treaty negotiations on Jan. 26, 1855).

1. *The Boldt Decision*

In 1970, after years of conflict and discord over what, if any, off-reservation fishing rights were accorded to signatory tribes in the Stevens Treaties, Judge George Boldt authored a monumental court decision ("Boldt Decision").¹¹³ The Boldt Decision explicitly defined "the right of taking fish at all usual and accustomed grounds and stations . . . in common with all citizens of the Territory . . ." as meaning that tribes party to the Treaties are entitled to one-half of the harvestable fish which pass through a tribe's "usual and accustomed" fishing grounds.¹¹⁴ Judge Boldt clarified that "usual and accustomed" referred to "every fishing location where members of a tribe customarily fished from time to time at and before treaty times"¹¹⁵ Judge Boldt emphasized that the State could not regulate fisheries in a way that would erode these secured treaty rights.¹¹⁶ However, the State could regulate "to preserve the fish resources which are necessary to the continued and future enjoyment of the right."¹¹⁷

Judge Boldt relied on Article VI, Clause 2, of the United States Constitution¹¹⁸ to affirm the binding nature of the Treaties,¹¹⁹ as well as precedent establishing that a "treaty was not a grant of rights to the Indians but a grant of rights from them – a reservation of those not granted."¹²⁰ Therefore, the Treaty of Point Elliot¹²¹ was essentially a land transaction wherein tribes reserved their rights to reenter ceded lands in order to fish and hunt in the same manner as they had always done.¹²²

113. *U.S. v. Washington II*, 384 F. Supp. at 312.

114. *Id.* at 331.

115. *Id.*

116. *Id.* at 401.

117. *Id.*

118. U.S. CONST. art. VI, cl. 2 ("This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding").

119. *U.S. v. Washington II*, 384 F. Supp. at 330.

120. *United States v. Winans*, 198 U.S. 371, 381 (1905).

121. Treaty of Point Elliot, *supra* note 19, at art. X.

122. Combs, *supra* note 4, at 711 ("This reserved property right is recognized as a *profit a prendre* – the right to go on another's property and remove from it things that were thought to be part of the land, such as timber and fish.").

2. *Shellfish I, II, and III*

The Boldt Decision did not end the conflict over tribal fishing rights.¹²³ In the years following the signing of the Treaty at Point Elliot, the Tulalip's shellfish harvesting dramatically declined.¹²⁴ Upon grant of title of the ceded Indian lands, the State of Washington sold much of the tidelands to private parties and waterfront development followed.¹²⁵ Washington also passed statutes, regulations, and policies restricting the Tribes' ability to harvest from off-reservation shellfish beds.¹²⁶

As tribes asserted their rights to harvest off-reservation shellfish beds, private property owners protested.¹²⁷ Washington courts were again asked to interpret the Stevens Treaties and specifically define tribal shellfish harvesting rights.¹²⁸ In 1994, Judge Edward Rafeedie confirmed that "shellfish" are "fish" under the Stevens Treaties¹²⁹ and that Treaty Tribes may harvest half of all harvestable shellfish species at their "usual and accustomed grounds and stations" as defined in the Boldt Decision.¹³⁰ The Rafeedie opinion further stated that grounds occupied by private landowners and commercial shellfish growers located on "usual and accustomed grounds and stations" were also subject to the ruling.¹³¹

123. See generally Jason Anderson, Comment, *The World Is Their Oyster? Interpreting the Scope of Native American Off-Reservation Shellfish Rights in Washington State*, 23 SEATTLE U. L. REV. 145 (2000).

124. *Id.* at 147.

125. *Id.*

126. *Id.*

127. *Id.* at 149–50.

128. *United States v. Washington (Shellfish III)*, 157 F.3d 630 (9th Cir. 1998), *cert. denied*, 119 S. Ct. 1376 (1999). That decision affirmed district court opinions, *United States v. Washington (Shellfish I)*, 873 F. Supp. 1422 (W.D. Wash. 1994) and *United States v. Washington (Shellfish II)*, 898 F. Supp. 1453 (W.D. Wash. 1995) (recognizing that successor owners of tidelands constituting traditional shellfish beds were "innocent purchasers" and establishing limitation and parameters for tribal access to those grounds). The Stevens Treaties contained a limitation on the Tribes' right to take shellfish. Known as the "Shellfish Proviso," the limitation states that the Indians "shall not take shell-fish from any beds staked or cultivated by citizens." Treaty of Point Elliot, *supra* note 19, at art. V; see generally *Shellfish II*, 898 F. Supp. 1453.

129. *Shellfish I*, 873 F. Supp. at 1427.

130. *U.S. v. Washington II*, 384 F. Supp. 312, 312 (W.D. Wash. 1974).

131. *Shellfish I*, 873 F. Supp. at 1427.

B. *Federal Trust Responsibilities*

The complex relationship between tribal nations and the federal government has been established through treaties, executive orders, and statutes.¹³² Further, the common law has been crucial to the preservation of Native American rights based on this relationship, and remains so today.¹³³ Early judicial interpretations firmly established the concept of the United States as trustee and the tribes, and their individual members, as beneficiaries.¹³⁴ In *Cherokee Nation v. Georgia*,¹³⁵ Chief Justice John Marshall defined tribes as "domestic dependent nations," and characterized tribes' relationships to the United States as wards to a guardian.¹³⁶ However, one year later, in *Worcester v. Georgia*,¹³⁷ Chief Justice Marshall described the relationship as "that of a nation claiming and receiving the protection of one more powerful[,] not that of individuals abandoning their national character, and submitting as subjects to the laws of a master."¹³⁸

Because the common law has defined the federal trust obligations to tribes, the relationship remains dynamic.¹³⁹ Recognizing the trust obligation as a property law concept under modern law preserves its relevancy.¹⁴⁰ This characterization maintains that tribes entered into agreements to surrender or cede land based on guarantees from the federal government that the federal government would protect those lands and resources for future generations of tribal

132. Parravano v. Babbitt, 70 F.3d 539, 545 (9th Cir. 1995); see also Mary Christina Wood, *The Indian Trust Responsibility: Protecting Tribal Lands and Resources Through Claims of Injunctive Relief Against Federal Agencies*, 39 TULSA L. REV. 355, 356 (2003) [hereinafter *Indian Trust Responsibility*].

133. See *Indian Trust Responsibility*, supra note 132, at 364.

134. Dep't of Interior & Bureau of Indian Affairs v. Klamath Water Users Protective Ass'n, 532 U.S. 1, 11 (2001) (quoting FELIX S. COHEN, COHEN'S HANDBOOK OF FEDERAL INDIAN LAW 221 (1982)).

135. 30 U.S. (5 Pet.) 1 (1831).

136. *Id.* at 17.

137. 31 U.S. (6 Pet.) 515 (1832).

138. *Id.* at 555.

139. See, e.g., *Indian Trust Responsibility*, supra note 132, at 361 (quoting *In Re: Hood River*, 227 P. 1065, 1086 (Or. 1924), "[t]he very essence of the common law is flexibility and adaptability. It does not consist of fixed rules, but is the best product of human reason applied to the premises of the ordinary and extraordinary conditions of life. . . .").

140. *Id.*

members.¹⁴¹ Thus, where the Native Americans originally understood that retained reservation lands would be safeguarded from white occupation and natural resources would be protected from white appropriation, the modern trust responsibility must involve defending retained lands (and resource rights) from “ecological threats . . . and the legal structure” permitting those threats.”¹⁴² Tribes have used the legal system to enforce their rights as beneficiaries and define the federal government’s obligations to tribal nations as that of a fiduciary managing a trust corpus comprised of property and natural resources.¹⁴³

Recently, courts have drawn from early decisions to arrive at a property-law centered approach.¹⁴⁴ For example, in *Washington v. Washington State Commercial Passenger Fishing Vessel Association*,¹⁴⁵ where the Supreme Court held that tribes and citizens had rights to take a “fair share of the available fish,”¹⁴⁶ the Court cited *Winters v. United States*,¹⁴⁷ a 1908 case enjoining the construction of dams, canals, and reservoirs that diverted a river from flowing onto reservation lands.¹⁴⁸ Likewise, in 1995, the Ninth Circuit reaffirmed that “federally reserved fishing rights are accompanied by a corresponding duty on the part of the government to preserve those rights.”¹⁴⁹ The court broadened the duty to require the

141. *Id.*

142. *Id.* at 359; “Today, federal protection is needed to shield Indian country from environmental threats coming primarily from corporate industry and the government itself. Federal agencies have a tremendous impact on Indian country through their land management and regulatory implementation of federal environmental laws, under which they permit a variety of private activities that degrade the environment.” *Id.* at 360.

143. *Dep’t of Interior & Bureau of Indian Affairs v. Klamath Water Users Protective Ass’n*, 532 U.S. 1, 11 (2001); *see also* *Parravano v. Babbitt*, 70 F.3d 539, 547 (9th Cir. 1995) (“Tribes’ federally reserved fishing rights are accompanied by a corresponding duty on the part of the government to preserve those rights”).

144. *Indian Trust Responsibility*, *supra* note 131, at 358–59; *see also* Mary Christina Wood, *Tribal Trustees in Climate Crisis*, 2 AM. INDIAN L.J. 518, 519 (2014) (citing Mary Christina Wood, *Indian Land and the Promise of Native Sovereignty: The Trust Doctrine Revisited*, 1994 UTAH L. REV. 1471 (1994)).

145. 443 U.S. 658 (1979).

146. *Id.* at 685.

147. 207 U.S. 564 (1908).

148. *Id.*; Rachel Paschal Osborn, *Native American Winters Doctrine and Stevens Treaty Water Rights: Recognition, Quantification, Management*, AM. IND. L.J., 76, 80 (2013).

149. *Parravano v. Babbitt*, 70 F.3d 539, 547 (9th Cir. 1995).

government to defend reserved fishing rights against non-federal interests.¹⁵⁰ Other courts have also protected tribal interests against federal interests. For example, in 1996, the District Court of Oregon held that government had a "substantive duty to protect 'to the fullest extent possible' the Tribes' treaty rights, and the resources on which those rights depend" when it ruled that the U.S. Forest Service could not harvest timber from lands supporting the Klamath Tribes' treaty right to certain deer herds.¹⁵¹ That concept was further extended in *Northern Cheyenne Tribe v. Hodel*,¹⁵² where the district court found that a "federal agency's trust obligation to a tribe extends to actions it takes off a reservation which uniquely impact tribal members or property on a reservation."¹⁵³

C. Clean Water Act

1. Summary of Key Provisions

In an early congressional attempt at water quality regulation, Congress enacted the Federal Water Pollution Control Act (FWPCA) in 1948.¹⁵⁴ In 1972, after extensive amendments, Congress expanded the FWPCA and created what is now known as the Clean Water Act.¹⁵⁵ The Clean Water Act's objectives are "to restore and maintain the chemical, physical, and biological integrity of the [n]ation's waters."¹⁵⁶

150. *Id.* at 545.

151. *Indian Trust Responsibility*, *supra* note 132, at 362 (citing *Klamath Tribes v. U.S.*, No. 96-381-HA, 1996 WL 924509, at *7-108 (D. Or. Oct. 2, 1996)).

152. *N. Cheyenne Tribe v. Hodel*, 12 INDIAN L. REP. 3065 (D. Mont. May 28, 1985).

153. *Id.* at 3071.

154. Federal Water Pollution Control Act, ch. 758, 62 Stat. 1155 (1948) (current version at 33 U.S.C. §§ 1251-1376 (2012)); Jessica Owley, *Tribal Sovereignty Over Water Quality*, 20 J. LAND USE & ENVTL. L. 61, 70-71 (2004) (citing *EPA v. State Water Res. Control Bd.*, 426 U.S. 200, 202-05 (1976)) (the FWPCA used ambient water quality standards that concentrated on acceptable impacts of pollution as opposed to prevention, the act was ineffective because of "awkwardly shared federal and state responsibility for promulgating . . . standards").

155. 33 U.S.C. §§ 1251-1387 (2012).

156. *Id.* § 1251(a); *see also* Bonnie Malloy, *Testing Cooperative Federalism: Water Quality Standards under the Clean Water Act*, 6 ENVTL. & ENERGY L. & POL'Y J. 63, 72 (2012) (the goals of the CWA were the elimination of the discharge of pollutants into navigable waters by 1985, which did not happen, and "to maintain or restore all waters to a fishable-swimmable level of water quality, protective of propagation of fish,

The Clean Water Act imposes limitations on (1) the amount of effluent a source can discharge into navigable waters and (2) the amount of pollution a water body can contain based on ambient water quality standards.¹⁵⁷ The first limitation is accomplished by requiring permits to discharge pollutants from point sources, dredge, or fill material.¹⁵⁸ Point source permits are obtained through the National Pollutant Discharge Elimination System (NPDES), which is administered by the Environmental Protection Agency (EPA).¹⁵⁹ The Army Corps of Engineers manages dredge and fill permits.¹⁶⁰

A point source is “any discernible, confined and discrete conveyance” such as pipes, channels, or ditches.¹⁶¹ Under the NPDES, the types and amounts of pollutants that point sources are allowed to discharge are listed and regulated.¹⁶² EPA may delegate administration of the NPDES to a state upon determination that the state is capable of carrying out the objectives of the program.¹⁶³

Pollution from nonpoint sources, however, does not have the same level of regulation.¹⁶⁴ Nonpoint source pollution refers to water pollutant sources that do not fall within the Clean Water Act’s section 504(14) definition of point source pollution.¹⁶⁵ Unlike point source pollution, nonpoint source pollution

shellfish, and wildlife” and for “recreation in and on the water” by July 1, 1983).

157. Owley, *supra* note 154, at 71–72.

158. 33 U.S.C. §§ 1311, -1342, -1344. (2012).

159. *Id.* § 1342(a)(1).

160. *Id.* § 1344(d).

161. *Id.* § 1362(14) (a ‘point source’ is defined as “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.”).

162. *Id.* §§ 1313, 1342, 1344; *see also* Owley, *supra* note 154, at 72.

163. *Id.* § 1342(a)(5).

164. EPA, *Polluted Runoff: Nonpoint Source Pollution, What is Nonpoint Source?*, <http://water.epa.gov/polwaste/nps/whatis.cfm> (last visited April 1, 2016) (“[S]tates report that nonpoint source pollution is the leading remaining cause of water quality problems. The effects of nonpoint source pollutants on specific waters vary and may not always be fully assessed. However, we know that these pollutants have harmful effects on drinking water supplies, recreation, fisheries and wildlife.”).

165. *Id.* (“Nonpoint source pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification. The term “nonpoint source” is defined to mean any source of water pollution that does not meet the legal definition of “point source” in section 502(14) of the Clean Water Act.”).

originates from many diffuse sources and is deposited by runoff into waterways.¹⁶⁶ Regulation of these pollutants is based on ambient water quality standards (WQS), which are numeric criteria that establish maximum pollutant levels that a body of water can maintain.¹⁶⁷

Section 319 of the Clean Water Act establishes EPA's Nonpoint Source Management Program.¹⁶⁸ Under Section 319(h), states may apply for federal grants to manage pollution impacts from nonpoint sources, though these grants are restricted to "60 percent of the cost incurred by the State in implementing such management program" and "not more than 15 percent of the amount appropriated to carry out this subsection may be used to make grants to any one State."¹⁶⁹

Though the Clean Water Act gives EPA administrative authority, the states have primary jurisdiction and generally administer their own programs.¹⁷⁰ EPA, however, does establish minimum water quality standards, and grants each state the authority to establish more stringent standards.¹⁷¹ Using EPA standards as guidance, states must designate the use of each body of water and establish WQS sufficient to preserve the established designated use.¹⁷² Finally, each state must create an impaired waters list, or "303(d) list."¹⁷³ For each impaired body of water, the state must establish the total maximum daily load (TMDL) of pollutants that would allow the body of water to obtain the requisite WQS.¹⁷⁴ Both the list

166. *Id.*

167. 40 C.F.R. § 131.11(a)–(b) (2014).

168. 33 U.S.C. § 1329.

169. 33 U.S.C. § 1329(h)(3)–(4).

170. Owley, *supra* note 154, at 73 (despite a state's primary jurisdiction, "[t]he EPA retains full authority over the permits, polluters, and states at all times."). *But see* : Robert L. Glicksman, Climate Change Adaptation: A Collective Action Perspective on Federalism Considerations, 40 ENV'TL. L. 1159, 1172 (2010) (supporting state-level action and suggesting that the Clean Water Act's failure to regulate non-point sources is because there are no federal land use controls).

171. Owley, *supra* note 154, at 73–74 ("Although the Act acknowledges the desirability of state power, its existence is rooted in the previous inadequacies of state regulation.").

172. 33 U.S.C. § 1313(e)(2)(A); 40 C.F.R. §§ 130.30 -131.2 (2010); *see also* Malloy, *supra* note 156, at 73–74.

173. 33 U.S.C. § 1313(d); *see also* Malloy, *supra* note 156, at 73–74 (commonly referred to as a 303(d) list).

174. 33 U.S.C. §1313(d)(1)(D).

and TMDL must be submitted to EPA for approval.¹⁷⁵ The list ultimately identifies waters for which current standards are inadequate.¹⁷⁶ Listing a body of water on the 303(d) list may trigger a reduction in the amount of certain pollutants allowed to be discharged under the state's NPDES program.¹⁷⁷

EPA's regulations state that no permit may be issued "[w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States."¹⁷⁸ Further, the Clean Water Act requires upstream users to advise downstream regulating agencies of permitted discharges that may affect downstream waters.¹⁷⁹ However, when upstream states allow pollutant discharge levels that impair a downstream state's waters, EPA has the authority to direct compliance.¹⁸⁰

2. *State of Washington*

As required under Section 303(d) of the Clean Water Act, the State of Washington conducts water quality assessments for all surface waters, including rivers, lakes, and marine waters.¹⁸¹ Washington alternates assessment of fresh and marine waters because of its large number of surface waters.¹⁸² The Department of Ecology classifies each body of water based on its type of beneficial use: drinking/water supply, recreation, aquatic habitat, or industrial.¹⁸³ Once a body of water has been

175. *Id.* §1313(d)(1)(D)(2); *see also* Malloy, *supra* note 156, at 74.

176. Malloy, *supra* note 156, at 74.

177. 33 U.S.C. §§ 1312(a), -1313(c)(4)(B), -1313(d)(4).

178. 40 C.F.R. § 122.4(d) (2014).

179. 33 U.S.C. § 1342(b)(3) ("[States' who] may be affected, receive notice of each application for a permit and to provide an opportunity for public hearing before a ruling on each such application.")

180. *Id.*; 40 C.F.R. § 122.4(d) (2014).

181. 40 C.F.R. §§ 130.7(d), 130.8 West (2016); *see also* *Updating Water Quality Standards*, WASH. STATE DEPT. OF ECOLOGY, <http://www.ecy.wa.gov/water/standards/> (last visited Apr. 3, 2016).

182. *Current EPA Approved Assessment*, WASH. STATE DEPT OF ECOLOGY, <http://www.ecy.wa.gov/programs/wq/303d/currentassessmt.html>, (last visited Jan. 7, 2016) [hereinafter *Assessment*].

183. WASH. ADMIN. CODE §§ 173-201A-200, -201A-210, -201A-200-260 (2011); WASH. STATE DEPT OF ECOLOGY, *Water Quality Assessment Categories*, <http://www.ecy.wa.gov/programs/wq/303d/WQAssessmentCats.html> [hereinafter *Water Quality Assessment Categories*]; *see also* *Water Quality Assessment and 303(d) List Introduction*, WASH. STATE DEPT OF ECOLOGY, <http://www.ecy.wa.gov/programs/wq/303d/introduction.html>, (last visited Jan. 7, 2015) [hereinafter *Introduction*].

assessed, Washington then creates a list of those waters whose beneficial uses are impaired by pollutants.¹⁸⁴ Inclusion on the list signifies that the waters fall short of the WQS established by the state and that the quality of the water is not expected to improve over the next two years.¹⁸⁵ The Washington State Department of Ecology then establishes TMDLs and submits the assessments to EPA for approval.¹⁸⁶ Upon EPA approval, the Department of Ecology must then implement those plans.¹⁸⁷

Washington's Marine Designation and Use Criteria list each body of water into one of five categories.¹⁸⁸ These Water Quality Assessment Categories divide water bodies based on their levels of impairment.¹⁸⁹ Category Two waters are "Waters of Concern."¹⁹⁰ This indicates that there is evidence of a water quality problem, but not enough of a water quality problem to require a TMDL.¹⁹¹ Inclusion in this category can be based on insufficient data, or data collected with improper scientific methods.¹⁹² Category Five waters, however, are considered

(explaining Washington's 303(d) list program).

184. WASH. ADMIN. CODE § 173-201A (2011) (Water Quality Standards); WASH. ADMIN. CODE § 173-204 (2011) (Sediment Management Standards); *see also Water Quality Policy*, WASH. STATE DEP'T OF ECOLOGY, <http://www.ecy.wa.gov/programs/wq/303d/policy1-11.html> (last visited Apr. 1, 2016).

185. 33 U.S.C. 1313(d); WASH. ADMIN. CODE § 173-201A (2011); *see also EPA Impaired Waters and TMDLs: Statute and Regulations*, <http://www.epa.gov/tmdl/impaired-waters-and-tmdls-statute-and-regulations> (last visited Jan. 8, 2015); *see, e.g., WASH. STATE DEP'T. OF ECOLOGY, Water Quality Implementation Plan: Lake Sawyer, Total Phosphorus, Total Maximum Daily Load*, 61 (2009), <https://fortress.wa.gov/ecyl/publications/documents/0910053.pdf>.

186. *Introduction*, *supra* note 183; Malloy, *supra* note 156, at 73.

187. 40 C.F.R. § 130.12 ("Where a State has assumed responsibility for the administration of the permit program under section 402, it shall assure consistency with the WQM plan."); *see also Introduction*, *supra* note 183.

188. WASH. ADMIN. CODE § 173-201A-260 (2011); *Water Quality Assessment Categories*, *supra* note 182.

189. *Id.*; *see also Water Quality Assessment Categories*, *supra* note 182. Category one waters meet tested standards for clean waters. Category two waters are waters of concern, which means that there is evidence of a potential water quality problem, but a water quality improvement (WQI) project, such as a TMDL program, is not required. Category three waters are classified as such because of insufficient data to meet minimum requirements. Category four waters are polluted waters that are being addressed in one of three ways: TMDL, pollution control program, or the impairment is based on a non-pollutant that cannot be addressed by a TMDL. Category five waters are polluted waters that require a TMDL or other WQI project. *Id.*

190. WASH. STATE DEP'T OF ECOLOGY, *supra* note 189.

191. *Id.*

192. *Id.*

polluted and require a TMDL.¹⁹³ Placement I; Category Five is synonymous with inclusion on the 303(d) list.¹⁹⁴

In 2011, following the near-collapse of the state's shellfish industry, State of Washington created the Washington Shellfish Initiative.¹⁹⁵ The initiative convened state governmental agencies, shellfish industry representatives, and tribes with the common goal "to restore and expand Washington's commercial, tribal, and native shellfish resources"¹⁹⁶ To advance the aims of the Initiative's objectives, then-Governor Christine Gregoire convened the Washington State Blue Ribbon Panel on Ocean Acidification.¹⁹⁷ The Blue Ribbon Panel included representatives from federal, state, local, and tribal governments, along with other shellfish industry stakeholders.¹⁹⁸ In November, 2012, the Blue Ribbon Panel issued a comprehensive report summarizing its scientific findings regarding the causes of ocean acidification and its effects on marine life, identifying gaps in the scientific research, and recommending a series of adaptation, mitigation, and remediation measures.¹⁹⁹

Washington's most recent marine water quality assessment was submitted to the EPA on December 28, 2011.²⁰⁰ After Washington submitted additional documentation on June 8, 2012, the EPA formally approved Washington's Marine Water

193. *Id.*

194. *Id.*; 33 U.S.C. § 1313 (2012).

195. OFFICE OF THE GOVERNOR, WASHINGTON SHELLFISH INITIATIVE 1 (2011), <http://pcsga.org/wp-content/uploads/2013/04/Washington-Shellfish-Initiative.pdf>.

196. Carr, *supra* note 12, at 207 (the Washington Shellfish Initiative was the first "regionally focused effort" under the NOAA National Shellfish Initiative); see also NOAA FISHERIES, *Implementation of the National Shellfish Initiative: Current Accomplishments and Key Actions for FY'13 1* (2013), http://www.nmfs.noaa.gov/aquaculture/docs/policy/fy13_accomp_actions_natl_shellfish_initiative.pdf.

197. Carr, *supra* note 12, at 207–08; see also OAR SPECIAL REPORT, *supra* note 7.

198. Carr, *supra* note 197, at 209; see OAR SPECIAL REPORT, *supra* note 7.

199. OCEAN ACIDIFICATION: FROM KNOWLEDGE TO ACTION, WASHINGTON STATE'S STRATEGIC RESPONSE, WASH. STATE BLUE RIBBON PANEL ON OCEAN ACIDIFICATION (H. Adelman & L. Whitely Binder eds., Nov. 2012), <https://fortress.wa.gov/ecy/publications/publications/1201015.pdf>.

[hereinafter KNOWLEDGE TO ACTION]; Wash. Exec. Order No. 12-07 (Nov. 27, 2012), http://www.governor.wa.gov/sites/default/files/exe_order/eo_12-07.pdf

200. Letter from Kelly Susewind, Manager, Water Quality Program, Wash. State Dep't. of Ecology to Michael Bussell, Director of Office of Water and Watersheds, EPA (Dec. 28, 2012), <http://www.ecy.wa.gov/programs/wq/303d/2010/2010WQAssesstoBussellEPA.pdf>.

Quality Assessment²⁰¹ and 303(d) list.²⁰² The primary concern surrounding the assessment was whether the Washington Department of Ecology should include all Washington State waters on the 303(d) list based on impairment for ocean acidification.²⁰³ The Department of Ecology examined data and studies related to ocean acidification, but declined to extend the impairment to all waters because it did not consider the data linking impairment to coastal waters to be based on credible data.²⁰⁴ However, the Department of Ecology did determine that there was enough credible information to list Puget Sound in Category 2, Waters of Concern.²⁰⁵

Washington's categorizations of coastal waters as Waters of Concern based on impairment due to lowered pH levels were also challenged prior to the most recent 303(d) list.²⁰⁶ In 2007, prior to the EPA's approval of the 2008 Assessment and TMDL list, the Center for Biological Diversity (CBD) submitted information to the Department of Ecology as evidence that the pH levels in Washington coastal waters were not in compliance with state WQS.²⁰⁷ The CBD argued that since the year 2000, monitoring systems indicated a decline of more than .02 pH units, which provided grounds for inclusion on the 303(d) list based on Washington's WQS.²⁰⁸ Washington's list was

201. 33 U.S.C. § 1315 (2012).

202. *Id.* § 1313; Letter from Kelly Susewind, Manager, Water Quality Program, Wash. State Dep't. of Ecology to Michael Bussell, Director of Office of Water and Watersheds, EPA (June 8, 2012), <http://www.ecy.wa.gov/programs/wq/303d/2010/Final2010WQAdocumentation.pdf>.

203. *Assessment*, *supra* note 182.

204. *Id.*

205. *Id.*

206. *Id.*

207. *Ctr. for Biological Diversity v. EPA*, Case No: 2:09cv00670, 13 (W.D. Wash. filed May 14, 2009); *see also* S. Ressler, *A Step in the Right Direction: Ocean Acidification Regulation Under Section 303(d) of the CWA*, PACE ENVTL. L. REV. BLOG (Apr. 22, 2013), <https://pelr.blogs.law.pace.edu/2013/04/22/a-step-in-the-right-direction-ocean-acidification-regulation-under-section-303d-of-the-cwa/>.

208. WASH. ADMIN. CODE § 173-201A-210(1)(f) (2011). Washington has adopted the following pH standard for marine waters of extraordinary quality "pH must be within the range of 7.0 to 8.5 with a human-caused variation within the above range of less than 0.2 units . . ." *Id.* The *Ctr. for Biological Diversity* complaint relied upon findings presented at the National Academy of Sciences. Complaint at 12, *Ctr. for Biological Diversity v. EPA*, No. 2:09cv00670 (W.D. Wash. May 14, 2009) (relying on J. Timothy Wootton, et al., *Dynamic patterns and ecological impacts of declining ocean pH in a high-resolution multi-year dataset*, 105 PROCEEDINGS OF THE NAT'L ACAD. OF SCI. NO. 48, 18848, 18848-53 (2008)).

submitted to EPA in 2008 without listing any coastal waters as impaired by ocean acidification,²⁰⁹ and the EPA approved it.²¹⁰ As a result, the CBD filed suit based on alleged violations of section 303(d) of the Clean Water Act.²¹¹ The case was settled in March, 2010. The provisions of the settlement required EPA to receive and review comments about addressing acidification.²¹²

The lawsuit was settled approximately two years before the 2012 assessment²¹³ and preceded the Blue Ribbon Panel studies.²¹⁴ The 2012 303(d) list once again omitted coastal waters from the 303(d).²¹⁵ However, in December, 2012, the Director of Washington's Department of Ecology requested that the EPA "assess the need for water criteria relevant to ocean acidification."²¹⁶ On April 19, 2013 the EPA indicated its intent to establish a workgroup to evaluate data related to ocean acidification.²¹⁷ In 2013, the CBD once again filed suit against the EPA alleging that Washington has established WQS relevant to ocean acidification,²¹⁸ but has failed to list waters that do not meet the standards on the 303(d) list.²¹⁹ The federal district court for the Western District of Washington, however, found that EPA's conclusions regarding Washington's impaired waters' list and water quality data were reasonable and dismissed the lawsuit.²²⁰

209. Complaint at 12, *Ctr. for Biological Diversity v. EPA*, No. 2:09cv00670 (W.D. Wash. May 14, 2009).

210. *Id.* at 3, 14.

211. *Id.* at 3, 14–15.

212. Linda Larson & Meline Macurdy, *EPA to Consider Ocean Acidification Under Section 303(d) of Clean Water Act*, MARTEN LAW (Apr. 1, 2010) <http://www.martenlaw.com/newsletter/20100401-cwa-ocean-acidification>.

213. *Assessment, supra*, note 182.

214. KNOWLEDGE TO ACTION, *supra* note 199.

215. *Assessment, supra* note 182.

216. Letter from Ted Sturdevant, Dir., Wash. State Dep't. of Ecology to Nancy Stoner, Acting Assistant Adm'r for Water, EPA (Dec. 24, 2012), <http://www.ecy.wa.gov/programs/wq/303d/ECYltr-USEPAHQOceanAcidification122412.pdf>.

217. Letter from Nancy K. Stoner, Acting Asst. Adm'r. for Water, EPA, to Maia D. Bellon, Dir., Wash. State Dep't of Ecology (Apr. 19, 2013), <http://www.ecy.wa.gov/programs/wq/303d/OceanAcidificationltr-EPA.pdf>.

218. *Ctr. for Biological Diversity v. EPA (Ctr. for Biological Diversity II)*, 90 F. Supp. 3d 1177 (W.D. Wash. 2015).

219. 33 U.S.C. § 1313(d) (2012).

220. *Ctr. for Biological Diversity II*, 90 F. Supp. 3d at 1217.

3. *The Tulalip Tribes' Treatment as States*

Indian Tribes are subject to federal environmental laws, including the requirements of the Clean Water Act.²²¹ Unlike states, tribes do not fully administer federal environmental laws. Nonetheless, the Clean Water Act includes two methods for active tribal participation under Section 518.²²² Section 518(e) allows for tribes to be treated like states for certain Clean Water Act provisions, while section 518(d) authorizes tribes to enter into cooperative agreements with states in which its tribal lands are located.²²³ Under Section 518(d), states and tribes may enter into contractual relationships to set parameters for programs and procedures related to the Clean Water Act.²²⁴

Under section 518(e) of the Clean Water Act, Indian tribes are eligible for "treatment as states" (TAS) for limited provisions of the Clean Water Act, including section 303.²²⁵ This provision gives tribes the authority to establish WQS, administer permits, and manage nonpoint source pollutants.²²⁶ TAS status is not mandatory.²²⁷ Tribes must apply directly to EPA Administrator and undergo a rigorous approval process.²²⁸ The Administrator will determine if the tribe is "capable . . . of carrying out the functions of an effective water quality standards program in a manner consistent with the terms and purposes of the Act and applicable regulations."²²⁹

There are inherent conflicts that may arise when a tribe

221. 33 U.S.C. § 1377.

222. *Id.*

223. *Id.* § 1377(d) ("In order to ensure the consistent implementation of the requirements of this chapter, an Indian tribe and the State or States in which the lands of such tribe are located may enter into a cooperative agreement, subject to the review and approval of the Administrator, to jointly plan and administer the requirements of this chapter.")

224. *Id.*; Owley, *supra* note 154, at 76.

225. 33 U.S.C. § 1377(e) ("The Administrator is authorized to treat an Indian tribe as a State for purposes of subchapter II of this chapter and sections 1254, 1256, 1313, 1315, 1318, 1319, 1324, 1329, 1341, 1342, 1344, and 1346 of this title to the degree necessary to carry out the objectives of this section . . .").

226. 33 U.S.C. §§ 1313, -1315, -1318, -1319; Owley, *supra* note 154, at 76.

227. 40 C.F.R. § 131.8(b)(6) (2014).

228. *See id.* § 131.8(b) (2014).

229. *Id.* § 131.8(a)(4) (section 131.8(a)–(c) provides a more comprehensive list of requirements that Tribes must meet for TAS status).

administers its own WQS program.²³⁰ Just as neighboring states sharing bodies of water that may be affected by conflicting or lower water quality standards, cross-border differences in tribal and state pollution standards may affect the ability of downstream waters to meet established standards.²³¹ When disputes between states and tribes arise, EPA has the authority to direct compliance.²³²

The Tulalip Tribes were found eligible to administer its own WQS program on May 9, 1996.²³³ Section 518(e),²³⁴ however, does not provide for full tribal participation and engagement under section 303(d).²³⁵ Recently, EPA initiated consultation with tribes on a proposed rule that would provide more opportunities for tribes to fully participate in the section 303(d) Impaired Water Listing and TMDL Program.²³⁶ Such full participation is characterized by tribal data monitoring, assessing tribal waters for the purpose of developing impaired waters lists, creating TMDLs for EPA review, and overseeing implementation of EPA-approved TMDL cleanup plans.²³⁷ Because the Tulalip have attained TAS for administering WQS under the CWA,²³⁸ the Tribe is likely to qualify if the rule is adopted.

Even if a tribe obtains TAS status for all available sections of the CWA, its authority may also be limited.²³⁹ Because

230. Owley, *supra* note 154, at 84–85 (“States are also concerned about patchwork regulation. Instead of believing that exercise of tribal authority . . . states argue that [tribal regulation] actually increases the problem. If Indian tribes achieve TAS status, instead of states administering one program for an entire area, there might be a mixture of managing agencies and the standards could change as one crosses borders into various Indian lands. Additionally, states worry that they lose sovereignty when tribes gain the right to regulate water.”).

231. *See infra* Section III.C.1.

232. *Id.* *See* 40 C.F.R. § 122.4(d) (2014); 33 U.S.C. § 1342(b)(3) (2012).

233. EPA, *Approvals of Tribal Water Quality Standards*, <http://water.epa.gov/scitech/swguidance/standards/wqslibrary/approvtable.cfm/> (last visited Feb. 25, 2016) [hereinafter *Indian Tribal Approvals*].

234. 33 U.S.C. § 1377(e).

235. *Id.* at § 1313; Letter from Benita Best-Wong, Dir. Office of Wetlands, Oceans and Watersheds, EPA, to Tribal Leaders (Mar. 28, 2014), http://www.epa.gov/sites/production/files/2015-10/documents/final_mar_28_2014_303d_tasconsultation_letter.pdf. [hereinafter *Tribal Consultation Letter*].

236. *Tribal Consultation Letter*, *supra* note 235.

237. *Indian Tribal Approvals*, *supra* note 233.

238. *Id.*; *see also* 33 U.S.C. §§ 1313, 1377(e).

239. Owley, *supra* note 154, at 79 n.98 and accompanying text (“Ownership of submerged lands within reservation boundaries must be decided on a case-by-case

states generally hold title to the lands beneath navigable waterways based on the Public Trust Doctrine²⁴⁰ and Equal Footing Doctrine,²⁴¹ tribes do not necessarily own lands beneath the navigable waterways located on their reservations.²⁴² Nonetheless, when Wisconsin challenged EPA's TAS designation of The Mole Band of Indians of Lake Superior Chippewa Indians, the United States Court for the Seventh Circuit noted that the Clean Water Act explicitly grants authority to tribes over waters within the reservation without regard to ownership rights.²⁴³ However, the Court also pointed out that the federal government maintains exclusive authority over relations with Indian tribes²⁴⁴ and that navigable waterways are still subject to the Commerce Clause.²⁴⁵ The holding, therefore, does not preclude the federal government from regulating waters within the reservation.²⁴⁶

IV. PROPOSALS TO ENFORCE THE TULALIP TRIBES' TREATY-PROTECTED RIGHT TO ACCESS SHELLFISH

While the Tulalip Tribes are a sovereign nation, they must still rely on the State of Washington and the federal government for protection of their rights. Despite the Tribes' relative disadvantages, the legal and regulatory frameworks already in place provide mechanisms that enable the Tulalip to enforce their rights. The federal government's obligations to the Tulalip stemming from the Treaty of Point Elliot²⁴⁷ and the federal trust responsibility doctrine lend support for expansion of the Clean Water Act to enhance tribal control over treaty

basis . . .").

240. PPL Mont., LLC v. Montana, 132 S. Ct. 1215, 1234–35 (2012).

241. *Id.* at 1227 (citing *Martin v. Lessee of Waddell*, 41 U.S. 67 (1842) and *Lessee of Pollard v. Hagan*, 944 U.S. 212 (1845) for the proposition that since the title to lands under navigable waters passed to the original thirteen colonies from The Crown, states subsequently admitted to the union also hold title to the lands under navigable waterways because, under the Constitution, all states are "co-equal sovereigns").

242. *Owley*, *supra* note 154, at 78–79 n.98; *see also* 43 U.S.C. § 1311 (2012).

243. *Wisconsin v. EPA*, 266 F.3d 741, 746–47 (7th Cir. 2001), *cert. denied*, 535 U.S. 1121 (2002).

244. *Id.* at 747 (citing U.S. CONST. art. I, § 8, cl. 3).

245. *Id.*; *Montana v. Blackfeet Tribe*, 471 U.S. 759, 764 (1978).

246. *Wisconsin*, 266 F.3d at 747.

247. *Treaty of Point Elliot*, *supra* note 19.

resources.²⁴⁸ Also working to the Tulalip Tribes' advantage is that the risk ocean acidification poses to the treaty-protected shellfish populations is shared by the citizens of the State of Washington based on the potential economic loss to the state.

A. *Develop Criteria Relevant to Ocean Acidification for Purposes of § 303(d) of the Clean Water Act*

Section 303(d) is vitally important to the effective administration of programs under the Clean Water Act. The lists developed in compliance with section 303(d) establish the standards and actions that allow regulation of point source and nonpoint source pollutants.²⁴⁹ The need for nationwide criteria as a baseline is demonstrated by the inefficacy of portions of Washington State's water quality standards.²⁵⁰ Washington's standards include pH criteria²⁵¹ for assessing waters; however, the state has consistently declined to find that the bodies of water not meeting the criteria should be considered impaired for purposes of 303(d).²⁵² The apparent unreliability of data associated with the criteria has enabled EPA to approve Washington's assessments under the "arbitrary and capricious" standard, despite the findings of Washington's Blue Ribbon Panel.

EPA guidelines for pH or other criteria relevant to ocean acidification would establish firm standards by which EPA could evaluate state water assessments. In addition, by establishing nationwide criteria, the benefit to marine waters as a whole would be greater.²⁵³ A significant obstacle to nationwide criteria for ocean acidification is likely due to the role carbon emissions play in ocean acidification, and the broad industry reliance on carbon-emitting practices. However, certain causes and exacerbating pollutants that are already regulated under the Clean Water Act can be further refined to specifically address ocean acidification.²⁵⁴

248. 33 U.S.C. §§ 1251–1387 (2012).

249. *Id.* § 1313(d).

250. *See supra* Section 0.0.0.

251. WASH. ADMIN. CODE § 173-201A-210(1)(f) (2011).

252. Complaint at 3, *Ctr. for Biological Diversity v. EPA*, No.2:13-cv-01866C13 (W.D. Wash. Oct. 13, 2013).

253. KNOWLEDGE TO ACTION, *supra* note 199, at § 4.1.

254. *Ocean Acidification in the Northwest*, *supra* note 98 ("Natural and anthropogenic factors that contribute to OA in Pacific Northwest waters include CO₂

The TMDLs for tributaries and near-coastal waters, for these types of nonpoint source pollutants, should be aggressively managed to account for the cumulative coastal effects. For example, large volumes of freshwater from storm-water runoff, rivers, and streams are deposited into Puget Sound.²⁵⁵ Those waters carry high levels of nutrients and organic materials from nonpoint sources, such as fertilizers and insecticides from agricultural and residential areas, and bacteria and nutrients from livestock, pet waste, and defective or outdated septic systems.²⁵⁶ These types of pollutants intensify the effects of acidification by fueling algae blooms.²⁵⁷

Another strategy is to expand point source regulation of agricultural and livestock operations beyond large-scale operations to include residential activities and smaller farms. In addition, a multitude of exacerbating pollutants and causes were identified by Washington State's own Blue Ribbon Panel.²⁵⁸ The Blue Ribbon Panel's research also identified adaptation methods, such as estuary rehabilitation and septic system upgrades that can be implemented without the need for nationwide regulation.²⁵⁹ Ultimately, however, Washington State's failure to list any marine waters as Category Five is a direct contradiction of the state-led scientific research. Based on the state-backed research results, EPA should require Washington to acknowledge its own research and adhere to its own WQS by listing marine waters whose pH levels do not comply on the 303(d) list.

B. Allow the Tulalip Tribes to Apply Tribal Water Quality Standards and TMDLs to Off-Reservation Shellfish Beds

EPA should adopt the proposed rule allowing tribes full

emissions, upwelling of CO₂-rich waters, freshwater inputs, and non-CO₂ acidifying gases. Nutrient inputs that fuel biological production add CO₂ through respiration and microbial breakdown of organic matter. The effects of these multiple factors are additive Addressing local factors such as nutrient pollution could offset some of the local acidification impacts").

255. *Id.*

256. *See supra* Section 0.0.0.

257. MARC RIBAUDO ET AL., U.S. DEP'T OF AGRIC., ECON. RESEARCH REP. NO. 127, NITROGEN IN AGRICULTURAL SYSTEMS: IMPLICATIONS FOR CONSERVATION POLICY 1 (2011) <http://www.ers.usda.gov/media/117596/err127.pdf>.

258. KNOWLEDGE TO ACTION, *supra* note 199, at § 2.2; Carr, *supra* note 12, at 207.

259. *See SWEETENING THE WATERS, supra* note 85.

authority under section 303(d).²⁶⁰ In addition, the Tulalip should be granted full TAS status for purposes of section 303(d).²⁶¹ Further, the Tulalip should be allowed to develop lists and TMDLs for treaty shellfish beds that are located off-reservation. The Tulalip are currently approved for TAS status under the Clean Water Act and are authorized to apply their own WQS.²⁶² They do not, however, have the authority to establish impaired water lists and TMDLs or to apply their standards to off-reservation locations.

The federal government should be compelled to extend this status to the Tulalip based on the federal government's fiduciary duty under the Indian trust responsibility. The modern trust responsibility obliges the federal government to safeguard retained lands and resources from "ecological threats . . . and the legal structure" permitting those threats.²⁶³ Courts have found that when a tribe has a federally reserved fishing right, the government has a corresponding duty to preserve that right.²⁶⁴ Courts also require that tribal fishing rights be protected against federal²⁶⁵ and non-federal interests.²⁶⁶ The federal government should empower the Tulalip under section 303(d) and extend tribal authority to regulate water quality standards for waterways affecting the off-reservation fishing rights. This extension of rights would (1) safeguard retained lands and resources from ecological threats and the legal structure permitting threats; (2) preserve a federally reserved fishing right;²⁶⁷ and (3) protect the fishing right against federal and non-federal interests.²⁶⁸

260. *Tribal Consultation Letter*, *supra* note 235.

261. 33 U.S.C. § 1377(e) (2012).

262. *Indian Tribal Approvals*, *supra* note 233.

263. *Indian Trust Responsibility*, *supra* note 132, at 359–60.

264. *Parravano v. Babbitt*, 70 F.3d 539, 547 (9th Cir. 1995).

265. *Id.* at 545.

266. *Indian Trust Responsibility*, *supra* note 132, at 132 (citing *Klamath Tribes v. United States*, 1996 WL 924509 at *7–10 (D. Or. Oct. 2, 1996)).

267. *Treaty of Point Elliot*, *supra* note 19, at art. V; *U.S. v. Washington II*, 384 F. Supp. 312, 353–55 (W.D. Wash. 1974).

268. The third prong is satisfied by allowing tribes to create their own water quality standards and TMDLs to protect the shellfish beds from outside polluters.

C. *Increase Funding Under § 319(h) of the Clean Water Act to Address the Causes and Effects of Ocean Acidification on Shellfish Beds*

Section 319 of the Clean Water Act²⁶⁹ regulates the management of nonpoint sources of water pollutants. Section 319(h) allows the federal government to distribute a limited amount of grant money for a wide variety of projects geared toward managing nonpoint source projects.²⁷⁰ This program should be expanded to fund tribal programs under the proposed 303(d) expansion in their entirety.²⁷¹ The 319(h) funding provision should also be expanded to fully fund state projects that protect tribal resources from nonpoint pollutants.

As an exercise of the federal government's fiduciary responsibility, Tribes should not be subject to the funding limitations under 319(h).²⁷² Section 303(d)²⁷³ requires multiple steps to comply with the listing standards, including the use of scientifically reliable data.²⁷⁴ Thus, it could be cost prohibitive for tribes to effectively implement a program under section 303(d).²⁷⁵ Financial relief for tribes has historically been used as an appropriate remedy based on the federal trust responsibility. Courts have held that "where the federal government takes on or has control or supervision over tribal monies or properties, the fiduciary relationship normally exists with respect to monies or properties"²⁷⁶ Because a trustee is liable to beneficiaries for a breach of trust, compensation can be ordered for damages sustained.²⁷⁷ Therefore, because

269. 33 U.S.C. § 1329 (2012).

270. *Id.* § 1329(h).

271. *Tribal Consultation Letter*, *supra* note 235.

272. *Id.* at § 1329.

273. 33 U.S.C. § 1313(d).

²⁷⁴ Though the exact methods vary from state to state, the basic process involves the following: (1) designate a water body's use; (2) establish total maximum daily loads (TMDL) for each pollutant (based on the EPA's minimum standards); (3) determine whether the pollutants present exceed the TMDL for a determined period of time based on the designated use; and (4) submit the proposed listing of waters exceeding the TMDL to the EPA for approval. *See* 33 U.S.C. §§ 1313(a)–(e).

275. *Id.*

276. *Navajo Tribe of Indians v. United States*, 624 F.2d 981, 987 (Ct. Cl. 1980); *see also Seminole Nation v. United States*, 316 U.S. 286, 296 (1942) (holding that the "distinctive obligation of trust [is] incumbent upon the government in its dealings with these dependent and sometimes exploited people.").

277. *See* *Dep't of Interior & Bureau of Indian Affairs v. Klamath Water Users*

shellfish are a resource managed by the federal government based on the Tulalip Tribes' reserved rights in the Treaty of Point Elliot, the loss of access to that resource due to the mismanagement of habitat by the federal government is a compensable loss.

It is consistent with the federal trust responsibility for the federal government to fund tribal projects safeguarding tribal lands and resources, while also preserving a reserved fishing right.²⁷⁸ Utilizing agency and statutory mechanisms that are already established is an effective way to bolster the success of the proposed 303(d) expansion. It is also a good-faith exercise of the federal government's trust responsibility to protect tribal rights and resources.

V. CONCLUSION

Ocean acidification jeopardizes shellfish populations throughout Washington and Puget Sound. Decades of legal battles have secured the Tulalip Tribes' treaty-reserved rights to gather shellfish from their ancestors' "usual and accustomed grounds" outside of reservation boundaries.²⁷⁹ However, if there are no shellfish, the Tulalip will have no right.

The Clean Water Act and federal Indian trust responsibility provide a set of tools that can enhance protection of the Tulalip Tribes' treaty-reserved rights to gather shellfish. The federal government's trust responsibilities establish fiduciary obligations that support extending full TAS status to the Tulalip under section 303(d) of The Clean Water Act. A tribe's participation in setting its own WQS would ensure that water is available and appropriate for cultural needs. It is, therefore, essential that tribes have both the authority and means to control WQS on reservation land, as well as for waters affecting treaty-reserved rights and resources located off-reservation. Tribal WQS and TMDL plans should be extended to waters affecting off-reservation shellfish beds because the treaty-interest of the Tulalip Tribes in off-reservation beds is clearly established. However, courts have affirmed the federal government's ultimate authority over on-reservation waters

Protective Ass'n, 532 U.S. 1, 11 (2001).

278. Treaty of Point Elliot, *supra* note 19, at art. V; *U.S. v. Washington II*, 384 F. Supp. 312, 353–55 (W.D. Wash. 1974).

279. Treaty of Point Elliot, *supra* note 19, at art. V.

under the Commerce Clause,²⁸⁰ and states generally regulate off-reservation waters regardless of treaty-reserved rights. Therefore, the current provisions of the Clean Water Act, on their own, may be inadequate to serve the needs of the Tulalip.

Expansion of the grant program under section 319(h) of the Clean Water Act to fully fund the Tulalip TMDL programs under 303(d) ensures that the Tribes can administer the program in a meaningful and effective manner. In addition, directly funding state programs that manage tribal trust assets will ensure cooperation that will enhance the effectiveness of water pollution regulation. Utilizing the Clean Water Act to fulfill the federal government's duty to protect the Tulalip Tribes' treaty-reserved rights to access shellfish beds at "usual and accustomed grounds" is consistent with legal precedent and logical from an administrative perspective.

Though this paper primarily addresses ocean acidification as an environmental issue affecting Native American Treaty rights, creating programs that protect tribal shellfish in Washington will undoubtedly benefit the Washington shellfish industry as a whole. In addition to addressing the falling pH levels in Puget Sound, using the Clean Water Act as proposed could provide broad environmental benefits to coastal states throughout the country. Acidification of marine waters is not confined to isolated areas; large-scale regulation of nutrient pollutants is needed. Recognition of the federal government's responsibilities to the Tulalip Tribes would be a valuable first step toward more comprehensive regulation.

280. See *PPL Mont., LLC v. Montana*, 132 S. Ct. 1215, 1234–35 (2012).