The Clean Water Act's Antidegradation Policy and Its Role in Watershed Protection in Washington State

C. Mark Hersh[1]

Hey, pal! How do I get to town from here?
And he said
Well, just take a right where they're going to build that new shopping mall, go straight past where they're going to put in the freeway, take a left at what's going to be the new sports center, and keep going until you hit the place where they're thinking of building that drive-in bank. You can't miss it.
And I said,
This must be the place.[2]

I. Introduction

As humans have modified Washington's land and waters to suit their needs, the quality and quantity of aquatic habitat has declined.[3] Many Pacific Northwest streams, including headwater streams, are adversely

1. The author is a biologist at Wild Fish Conservancy, a non-profit conservation science, education, and advocacy organization based in Duvall, Washington. He has worked in administering Clean Water Act and Endangered Species Act programs for the U.S. Environmental Protection Agency's and the U.S. Fish and Wildlife Service, as well as positions with other conservation groups, academia and with the Pennsylvania state government. He received a Bachelors degree in Biology from the Pennsylvania State University in 1979 and a Master of Science degree in Water Resources from Iowa State University in 1986. He has published research articles on various water quality topics.

2. LAURIE ANDERSON, *Big Science*, *on* BIG SCIENCE (Warner Brothers Records 1982).

3. B. C. SPENCE, G. A. LOMNICKY, R. M. HUGHES, & R. P. NOVITZKI, MANTECH ENVIRONMENTAL RESEARCH SERVICES CORP., PUBL'N NO. TR-4501-96-6057, AN ECOSYSTEM APPROACH TO SALMONID CONSERVATION, ii (1996), *available at* http://www.nwr.noaa.gov/Publications/Reference-Documents/upload/mantech-partI.pdf; Robert T. Lackey, *Economic Growth and Salmon Recovery: An Irreconcilable Conflict*? 30 FISHERIES 30 (2005).

affected by urbanization and other land use changes.[4] Even if headwater streams have been affected less than other salmonid habitats,[5] they contribute to the integrity of downstream reaches and also serve as unique habitats in their own right.[6] Given that the human population of Washington was nearly 6 million in 2000[7] and is projected to add another 2.7 million people by 2030,[8] aquatic system degradation is likely to continue unless humans make policy changes.[9]

In 1998, Washington enacted the Salmon Recovery Planning Act to deal with the decline of salmonids.[10] Other statutes are in place to deal with growth management[11] and shoreline management,[12] diminishing water resources,[13] the adverse environmental effects of forestry,[14] and protection of water quality.[15] Presumably, these other state laws can be useful in protecting salmonid habitat even if their primary intention was something else. The more recent state laws have established relatively new regulations or set into motion political/administrative processes designed to meet their goals.[16] These efforts are marked by considerable participation of state and

4. SPENCE ET AL., *supra* note 3, at 5.

5. *Id*. at 28.

6. John S. Richardson, *Life Beyond Salmon Streams: Communities of Headwaters and Their Role in Drainage Networks*, *in* 2 PROC. OF A CONF. ON THE BIOLOGY AND MGMT. OF SPECIES AND HABITATS AT RISK, KAMLOOPS, B.C., 15-19 FEB., 1999, at 473 (L.M. Darling, ed., B.C. Ministry of Env't, Lands and Parks & University College of the Cariboo, Kamloops, B.C. 2000)..

7. WASH. OFFICE OF FIN. MGMT., FORECAST OF THE STATE POPULATION 5 (2008), *available at* http://www.ofm.wa.gov/pop/stfc/stfc2008/stfc2008.pdf (last visited Dec. 1, 2008).

8. *Id*.

9. Robert T. Lackey, Denise H. Lach, & Sally L. Duncan, *Policy Options to Reverse the Decline of Wild Pacific Salmon*, 31 FISHERIES 7, at 344-351 (2006).

10. 1998 Wash.Sess. Laws 246. Although the name appears in some later state government documents, the legislation did not include a name.

11. WASH. REV. CODE § 36.70A (2009). .

12. *Id*. § 90.58.

13. *Id*. § 90.82.

14. *Id*. § 76.09.

15. *Id*. § 90.48.

16. For example, committees of local government and Tribal representatives, agency personnel, and the interested public, known as "lead entities," have been established to help recover salmon across the state. WASH. DEP'T OF FISH & WILDLIFE, DIRECTORY, LEAD ENTITIES FOR SALMON RECOVERY ii (2008). Watershed planning for water quantity issues takes

local governments, tribes, conservation and user groups, and the public.[17] The processes themselves require substantial funding, as does the implementation of the many plans and projects that are the results of the processes.[18]

Federal laws also play a role. The objective of the federal Clean Water Act[19] (hereinafter, CWA) is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[20] The federal Endangered Species Act[21] (hereinafter, ESA) has received considerable attention after the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (hereinafter, NOAA Fisheries) began to list as "threatened" or "endangered"[22] some populations of anadromous Pacific salmon and

place in the watershed-specific "planning units," of which there were at one time forty, covering forty-seven of Washington's sixty-two "Water Resource Inventory Areas" (WRIAs). WASH. DEP'T OF ECOLOGY, PUBL'N NO. 08-06-002, 2007 REPORT TO THE LEGISLATURE: PROGRESS ON WATERSHED PLANNING AND SETTING INSTREAM FLOWS 2 (2008).

17. S*ee supra* note 16. For example, both bills establishing "lead entities" and the watershed "planning units" were passed in 1998. (1998 Wash. Sess. Laws 246 established the lead entities and 1998 Wash. Sess. Laws 247 established the watershed planning process.)

18. "From 1999 through 2007, the Salmon Recovery Funding Board (SRFB) has awarded over $248 million to Lead Entities for salmon recovery activities across the state. When combined with matching resources, the total investment in salmon recovery is over $400 million." LEAD ENTITIES FOR SALMON RECOVERY, *supra* note 16, at iii. In 2003-2007 the state's operating budgets for "watershed planning and implementation" totaled $22.2 million, and the state's capital budgets for water resources projects for the same time period totaled $53.3 million. 2007 REPORT TO THE LEGISLATURE, *supra* note 15, at 10.

19. The common name for the Federal Water Pollution Control Act, 33 U.S.C. § 1251 et seq. (2009). Section 2 of the Clean Water Act of 1977, Pub. L. No. 95-217, 91 Stat. 1566 (1977), amended section 518 of the FWPCA to say, "This Act may be cited as the 'Federal Water Pollution Control Act' (commonly referred to as the Clean Water Act)."

20. 13 U.S.C. § 1251(a) (2006).

21. 16 U.S.C. § 1531 *et seq*. (2006).

22. "Endangered" species are those "in danger of extinction throughout all or a significant portion of its range" while "threatened" species are those "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." 16 U.S.C. § 1532(6), (20) (2006).

steelhead (O*ncorhynchus* spp.);[23] fifteen separate populations are now listed.[24] Also, NOAA Fisheries has listed the entire population of southern resident killer whales (O*rcinus orca*) as endangered,[25] and the U.S. Fish and Wildlife Service (hereinafter, USFWS; together the two agencies are referred to as "the Services") listed bull trout (S*alvelinus confluentus*) as threatened.[26]

The ESA has wide applicability. The purpose of the ESA is to conserve "the ecosystems upon which endangered and threatened species depend."[27] The ESA requires that responsible trustee agencies develop recovery plans for a listed species.[28] Local and state initiatives in Washington are being integrated into the recovery plans developed by NOAA Fisheries[29] and the USFWS.[30]

23. 50 C.F.R. § 17.11 (2009).

24. Listed populations relevant to Washington state, from http://www.nwr.noaa.gov/ESA-Salmon-Listings/upload/snapshot-9-08.pdf include these populations of sockeye salmon (O*ncorhynchus nerka*): Snake River (endangered), Ozette Lake (threatened); of chinook salmon (O. *tshawytscha*): Upper Columbia River Spring-run (endangered), Snake River Spring/Summer-run (threatened), Snake River Fall-run (threatened), Puget Sound (threatened), Lower Columbia River (threatened); of coho salmon (O. *kisutch*): Lower Columbia River (threatened); of chum salmon (O. *keta*): Hood Canal Summer-run (threatened), Columbia River (threatened); of steelhead (O. *mykiss*): Upper Columbia River (endangered), Snake River basin (threatened), Lower Columbia River (threatened), Middle Columbia River (threatened), Puget Sound (threatened). A summary that includes the year that each population was listed and the state's "recovery regions" can be found at http://www.governor.wa.gov/gsro/regions/listings.asp. In addition, on April 23, 2009, NOAA Fisheries proposed that a species of Georgia Basin (a waterbody comprising Puget Sound and the Strait of Georgia) rockfish, bocaccio (S*ebastes paucispinis*), be listed as "endangered" under the Endangered Species Act while "threatened" status is proposed for two other species, canary and yelloweye (S. *pinniger* and S. *ruberrimus*). 74 Fed. Reg. 18,516 (April 23, 2009).

25. 50 C.F.R. § 17.11 (2009).

26. I*d*.

27. I*d*. § 1531(b).

28. I*d*. § 1533.

29. "Recovery is the process by which listed species and their ecosystems are restored and their future secured to the point that protection under the ESA is no longer needed. NOAA Fisheries Service believes that recovery must be grounded in existing conservation efforts under way throughout the region. It has established a recovery-planning process to maximize local involvement and capitalize on ongoing efforts. As a result, the Northwest Region is linking its recovery planning processes to

The ESA also protects the listed species and the ecosystems on which they depend by prohibiting the "take" of listed species.[31] "Take" is defined as "harass, harm, pursue, hunt shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct."[32] In turn, Federal regulations have defined "harm" as:

> an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering.[33]

Based on this definition, many land use activities might result in unlawful "take" if they significantly modify salmonid habitat. But the ESA provides for a number of exceptions to the "take" prohibition if the "take" is incidental and the activities are otherwise lawful. For threatened species, "take" can be allowed through agency-issued "protective regulations"[34] (known as a "Section 4(d) rule" for the applicable ESA section). For threatened or endangered species, "take" can be allowed through "consultation"[35] (commonly known as "Section 7 consultation" for the applicable ESA section) when the actor is a Federal agency, or through submittal of a "habitat conservation plan"[36] (or HCP) and issuance of an ESA Section 10(a)(1)(B) permit[37] if the actor is non-Federal.

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on-going regional and local salmon conservation and planning efforts." Northwest Regional Office, NOAA's Nat'l Marine Fisheries Serv., *Salmon Recovery Planning*, *available at* http://www.nwr.noaa.gov/Salmon-Recovery-Planning/index.cfm (last visited Dec. 2, 2008).

30. "The overall recovery implementation strategy for the Coastal-Puget Sound Distinct Population Segment is to integrate with ongoing Tribal, State, local, and Federal management and partnership efforts at the watershed or regional scales. This coordination will maximize the opportunity for complementary actions, eliminate redundancy, and make the best use of available resources for bull trout and salmon recovery." 1 U.S. FISH & WILDLIFE SERV. 2004 DRAFT RECOVERY PLAN FOR THE COASTAL-PUGET SOUND DISTINCT POPULATION SEGMENT OF BULL TROUT (*Salvelinus confluentus*) iii (2004).

31. 16 U.S.C. § 1538 (2006).

32. *Id.* § 1532(19).

33. 50 C.F.R. § 222.102 (2009).

34. 16 U.S.C. § 1533(d) (2006).

35. *Id.* § 1536(a)(2).

36. *Id.* § 1539(a)(2).

37. *Id.* § 1539(a)(1)(B).

In 1998, the state of Washington expressed a desire to control ESA-listed salmonid recovery.[38] As discussed below, the local and state salmon recovery and other initiatives are reaching full stride in Washington and these initiatives are often linked to the ESA [protective regulations, habitat conservation plans, Section 7 consultations (if a Federal agency is integral to the process) or recovery plans], in part to protect state and local entities from violating the "take" prohibition of the ESA. One of the most important issues is how best to protect the remaining salmonid habitat while allowing some land use conversion. As will be seen, Washington is employing the Clean Water Act to address chemical and physical integrity of the state's waterways, but the law is not thought of as a habitat protection tool, despite the law's objective to restore and maintain biological integrity. The basic components of the CWA are at least thirty years old, and one component relevant to protecting biological integrity, the "antidegradation policy," is over forty years old. Despite this longevity, the antidegradation policy is an underutilized tool. This is unfortunate because the policy is simple and direct. It is also subject to periodic review and if need be, revision, so it is generally timely. The purpose of this paper is to examine the protection to streams, especially headwater streams, offered by the antidegradation policy's protection of "uses," compare that protection to that offered by more recent initiatives, and outline some ways in which antidegradation can be better employed.

II. Clean Water Act; Water Quality Standards; Antidegradation

The purpose of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[39] States establish water quality standards through regulations mandated by Section 303 of the CWA,[40] which serve as a state's blueprint[41] for promoting the goals of the

38. WASH. REV. CODE § 77.85.005 (2009); *see also* GOVERNOR'S SALMON RECOVERY OFFICE, STATEWIDE STRATEGY TO RECOVER SALMON: RESPONDING TO FEDERAL ENDANGERED SPECIES ACT LISTINGS "THE WASHINGTON WAY" 5 (2006), *available at* http://www.governor.wa.gov/gsro/publications/strategy/2006_firstpart.pdf (last visited December 2, 2008).

39. 33 U.S.C. § 1251(a) (2006).

40. *Id.* § 1313. Standards were first mandated by the Water Quality Act of 1965, Pub. L. No. 89-234, 79 Stat. 903 (1965); *see Water Quality Standards Regulation*, 63 Fed. Reg. 36,742, 36,745 (July 7, 1998) (to be codified at 40 C.F.R. pt. 131), for a more complete history of water quality standards. Washington's standards are also authorized by the state's Water Pollution Control Act. WASH. REV. CODE § 90.48 (2009).

41. WASH. ADMIN. CODE 173-201A-010 (2009).

CWA.[42] Water quality standards apply to both "point" sources (those discharging wastewater from a discrete source, such as a pipe) and "nonpoint" sources (diffuse sources such as agricultural runoff).[43] The federal regulations spell out the minimum requirements for state standards which include "uses" of the surface waterbodies, "criteria" needed to support the uses, and an "antidegradation policy."[44] States must review their standards every three years at a minimum and make necessary revisions.[45] The US Environmental Protection Agency (hereinafter, EPA) ensures that state standards comply with the minimum federal standards.[46] If EPA disapproves a state standard and the state fails to make timely changes, EPA must promulgate standards for the state.[47]

Water quality standards identify "uses" and seek to protect the benefits of clean water: fish and wildlife, water supply, recreation, and others.[48] Water quality criteria are numerical limitations (for example, a minimum of 6 mg/L dissolved oxygen; a maximum temperature of 12°C), or narrative prohibitions (for example, "no toxics in toxic amounts"),[49] and refer almost exclusively to physical or chemical conditions. Water quality criteria are designed to protect the specific uses. For example, the maximum temperature for the "char" designated use must be safe for char. Many numeric water quality criteria are in place to protect fish and other aquatic life. Others protect human health and thus support the recreational or water supply uses. The numeric water quality criteria are used to derive effluent limitations used in the permits issued under CWA Section 402 (the National Pollutant Discharge Elimination System or "NPDES")[50] permits to industries or sewage treatment plants.

The antidegradation policy is a major component of water quality standards. Congress introduced the concept of non-degradation of the

42. 40 C.F.R. § 131.2.

43. Washington's Water Pollution Control Act, WASH. REV. CODE § 90.48 (2009), does not exempt nonpoint sources from the general policy of the law, the prohibition on pollution, the establishment of standards, or the enforcement of the Act. WASH. REV. CODE § 90.48.020-037 (2009). The standards themselves state that "[a]ll actions must comply with [these standards]." WASH. ADMIN. CODE 173-201A-010(1) (2009).

44. 40 C.F.R. § 131 (2009).

45. 33 U.S.C. § 1313(c)(1) (2006); 40 C.F.R. § 131.20 (2009). Commonly known as a "triennial review."

46. *Id.* § 131.5, .6, .21.

47. *Id.* § 131.22

48. *Id.* § 131.10

49. *Id.* § 131.11(b)

50. 33 U.S.C. § 1342(a) (2006).

Nation's waters over forty years ago, with its passage of the Water Quality Act of 1965 aimed at "prevention and control" as well as treatment of water pollution.[51] The antidegradation concept was re-emphasized through the promulgation of regulations and policy by the Department of the Interior, and later, EPA in 1966, 1968, 1975, and 1983,[52] and was explicitly recognized in the Water Quality Act of 1987.[53] Through the years, the basic tenet of antidegradation has not changed: any degradation of high quality waters must be in the public interest, and any allowable degradation cannot interfere with the existing beneficial uses of the waters.

Antidegradation has three levels, or "tiers."[54] The basic water quality protection, "Tier I," requires the protection of existing uses and the water quality needed to support those uses [55] in all instances except for "mixing zones" (limited dilution areas near wastewater discharges permitted under Section 402 of the CWA) and activities undertaken pursuant to permits issued under Section 404 of the CWA (discharge of dredged or fill material).[56] The quality of "high quality waters" (where water quality exceeds standards) is protected in "Tier II" by ensuring that any necessary reduction in water quality is justified by some social or economic benefit (for example, job creation) to the public.[57] The water quality in "Tier III" waters, also known as "Outstanding National Resource Waters" must be maintained.[58] No long-term or permanent reduction is allowed, even if social or economic benefits would result.[59]

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51. Pub. L. 89-234(a)(1), 79 Stat. 903 (codified as amended in scattered sections of 33 U.S.C.).

52. *See Water Quality Standards Regulation*, *supra* note 40, at 36,779 (for a more complete history).

53. 33 U.S.C. § 1313(d)(4)(B) (2006).

54. 40 C.F.R. § 131.12 (2009).

55. *Id.* §§ 131.12(a)(1), 131.3(e). 40 C.F.R. § 131.3(e) reads, "'Existing uses' are those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards."

56. EPA, PUBL'N NO. 823-B-94-005A, WATER QUALITY STANDARDS HANDBOOK 4-5 to -6 (2d ed. 1994). While Section 404 of the CWA, 13 U.S.C. § 1344 (2006), allows for elimination of uses through the discharge of dredged or fill material to waters of the United States, there is no statutory allowance for "mixing zones."

57. 40 C.F.R. § 131.12(a)(2) (2009).

58. *Id.* § 131.12(a)(3).

59. EPA, *supra* note 56, at 4-10 to -11.

Pursuant to mandates of both the CWA and the state's Water Pollution Control Act,[60] Washington developed water quality standards for waterways throughout the state.[61] As mandated by the EPA, Washington protects the "uses" of the waterbody through the water quality criteria and the antidegradation policy of the standards.[62] Washington made headlines[63] in 1994 when a case involving uses and the antidegradation policy was ultimately decided by the U.S. Supreme Court.[64] The Court held that Washington properly used its standards and its antidegradation policy when conditioning the Clean Water Act-required "Section 401 certification"[65] for a hydroelectric project. Washington conditioned the certification by requiring a certain "bypass flow"[66] in the Dosewallips River to protect the river's fish, which were considered an "existing use."[67] Thus, protection under Tier I should prevent an activity from destroying the overall integrity of the

60. WASH. REV. CODE § 90.48 (2009).

61. WASH. ADMIN. CODE 173-201A-010 to -612 (2009).

62. *Id*. at A-300 to -330. Washington's Tier I policy actually goes beyond the federal minimum, protecting designated as well as existing uses. *See id*. 173-201A-310(1).

63. Linda Greenhouse, *Supreme Court Roundup; Justices Give States Control of Water Quantity, Too*, N.Y. TIMES, June 1, 1994, *available at* http://query.nytimes.com/gst/fullpage.html?res=9E01E5DD103BF932A35755C0A962958260&scp=1&sq=Linda%20Greenhouse%20Supreme%20Court%201994%20water%20quantity&st=cse (last visited Dec. 2, 2008).

64. PUD No. 1 *of Jefferson County v. Washington Dep't of Ecology*, 511 U.S. 700 (1994).

65. This is the common name for the requirement of 33 U.S.C. § 1341 (2006). An applicant for a Federal license or permit (for example, a FERC hydropower license, an EPA-issued Clean Water Act Section 402 permit, or a Army Corps of Engineers Clean Water Act Section 404 permit must apply to the appropriate state for a certification that their action will comply with that state's water quality standards. The state has the option of denying, granting (with or without conditions) or waiving the certification. § 1341(a)(1).

66. The "bypass flow" was the minimum amount of water the project's operator was required to leave in the natural channel of the river while the remainder of the river's flow was diverted to the hydroelectric facility. Once past the turbines, the power-generating flow re-entered the river channel. The proposed "bypass reach" was to be 1.2 miles long. PUD No. 1, *supra* note 64 at 708-709.

67. *Id*. at 719.

waterbody.[68] The Court's decision should have reassured any state willing to use its standards to protect surface waters from a host of activities.[69]

Tier II antidegradation reflects an admirable concept: that a social or economic benefit must come from the allocation of some of the assimilative capacity of a waterbody.[70] The allowed degradation cannot be so great as to compromise the protected uses.[71] But it is difficult to implement. For example, if a project that creates a few jobs and will result in a discharge that lowers dissolved oxygen in a reach from 11 mg/L to 9.5 mg/L, it is relatively easy to quantify the benefit from job creation, but difficult to value 1.5 mg/L of dissolved oxygen and thus determine if the degradation is in the public interest. This is especially true because any allowable reduction in water quality should not affect the beneficial uses (otherwise, the criterion would not protect the use and would itself require revision). Tier II probably has its greatest value in directing dischargers toward a higher level of treatment, because any decrease in water quality must be "necessary" to accommodate the development.[72]

In 1998, EPA reported that some states were reluctant to implement Tier III, with its near-absolute maintenance of water quality.[73] Today, few

68. In 2003 Washington's Water Pollution Control Act was amended in a way that limits Ecology's ability to use the water quality standards to affect existing water rights. WASH. REV. CODE § 90.48.422 (2009). For many activities, however, water rights are not an issue, and the associated land use conversion is the primary reason these activities affect biological integrity.

69. Katherine P. Ransel, *The Sleeping Giant Awakens*: PUD No. 1 *of Jefferson County v. Washington Department of Ecology*, 25 ENVTL. L. 255, 283 (1995).

70. 40 C.F.R. § 131.12(a)(2) (2009).

71. *Id.*

72. *Id.*; *see also* WASH. ADMIN. CODE 173-201A-320(4) (2009) (giving more detail on Washington's "necessary and overriding public interest determinations"); WASH. DEP'T OF ECOLOGY, SUPPLEMENTARY GUIDANCE, IMPLEMENTING THE TIER II ANTIDEGRADATION RULES 16 (2005), *available at* http://www.ecy.wa.gov/programs/wq/swqs/antideg-tier2-guidance.pdf (last visited September 4, 2007) ("All less degrading alternatives which can be *feasibly implemented* are required. This demands an expanded site-specific review of alternatives that would reduce or completely eliminate the degradation of water quality. The rejection of any alternative that would produce a significant improvement in the resulting discharge or water quality must be based on a solid determination that the costs are prohibitively expensive. *This alternative analysis is intended to be focal point of the Tier II evaluation by Ecology staff.*" (original emphasis)).

73. *Water Quality Standards Regulation*, *supra* note 40, at 36,786.

states have substantial numbers of Tier III waters.[74] This is puzzling, given that the federal regulation (which establishes the baseline standards for state policy[75]) lists a number of public land categories as examples of Tier III waters[76] where presumably, water quality should be easier to maintain.

In many respects, since its major rewrite in 1972, the Clean Water Act has been a success in restoring chemical integrity of waterbodies through successful control of point sources via permits and treatment facilities but it has not made as much progress restoring biological integrity.[77] In 1987, Congress amended the CWA and established Section 319, which provided for federal grants to the states to address nonpoint issues.[78] Water quality standards do apply to nonpoint sources,[79] but it has proven difficult (although not impossible) to apply them. This is particularly unfortunate because the nonpoint source pollution is the "leading cause of water pollution across the nation and in Washington."[80]

III. Protection of Biological Integrity Through Washington's Standards

Washington made extensive revisions to its water quality standards in its 2003 triennial review,[81] with changes to its antidegradation policy[82] and

74. Interview with Gayle Killam, Protection and Restoration Program Director, River Network, in Portland, OR (September 11, 2007).

75. 40 C.F.R. § 131.12(a) mandates that each state has in its standards, as a minimum, the federal antidegradation policy. 40 C.F.R. § 131.12(a) (2009); *see also* 40 C.F.R. § 131.6(d).

76. 40 C.F.R. § 131.12(a)(3) reads, "Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected." 40 C.F.R. § 131.12(a)(3) (2009). Most likely, state environmental protection agencies believe that scarce resources are better applied to waters under greater threats or that development may be unduly constrained if a "no degradation" standard is applied to private property.

77. R.W. Adler, *The Two Lost Books in the Water Quality Trilogy: The Elusive Objectives of Physical and Biological Integrity*, 33 ENVTL. L. 29, 49 (2003).

78. 33 U.S.C. §1329 (2006). *See supra* note 43 and accompanying text for the distinction between point and nonpoint sources.

79. *Id.* at 57; *see supra* note 43 and accompanying text.

80. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 04-01-009, ENFORCEMENT REPORT ON POLICY AND TRENDS 49 (2004).

81. Wash. Reg. 03-14-129 (2003).

82. WASH. ADMIN. CODE 173-201A-300 (2009).

aquatic life uses.[83] EPA reviewed and approved Washington's revised antidegradation policy in May 2007[84] and the revised designated use classifications in February 2008.[85]

Regarding aquatic life, Washington's standards now explicitly protect "key" species and aquatic life history functions (for example, "char," "salmon and trout spawning," "core rearing, and migration," etc.).[86] In this system the standards assign a key species to be protected for each body of water in the state (the revised standards include lists of waters, sorted by drainage basins, with their corresponding uses).[87] Coupled to that is an important provision that states, "[I]t is required that all indigenous fish and nonfish aquatic species be protected in waters of the state in addition to the key species."[88]

The requirement to protect "all indigenous fish and nonfish aquatic species" closely mirrors the long-standing EPA guidance on antidegradation that describes protection of aquatic life:

> No activity is allowable under the antidegradation policy which would partially or completely eliminate any existing use whether or not that use is designated in a State's water quality standards. The aquatic protection use is a broad category requiring further explanation. N*on-aberrational resident species must be protected, even if not prevalent in number or importance*. Water quality should be such that it results in no mortality and no significant growth or reproductive impairment of resident species. Any lowering of water quality below this full level of protection is not allowed. A State may develop subcategories of aquatic protection uses but cannot choose different levels of protection for like uses. The fact that sport or commercial fish are not present does not mean that the water may not be supporting an aquatic life protection function. A*n existing aquatic community composed entirely of invertebrates and plants, such as may be found in a pristine alpine*

83. *Id.* § 173-201A-300 to -330.

84. Letter from EPA, Region 10, to Ecology (May 2, 2007), *available at* http://www.ecy.wa.gov/programs/wq/swqs/epa-antideg_policy_approval.pdf (last visited Dec. 3, 2008).

85. Letter from EPA, Region 10, to Ecology (Feb. 11, 2008), *available at* http://www.ecy.wa.gov/programs/wq/swqs/wa-wqs_00306_final_appvl.pdf (last visited Dec. 3, 2008).

86. WASH. ADMIN. CODE 173-201A-200(1)(a) (2009).

87. *Id.* § 173-201A-600.

88. *Id.* § 173-201A-200(1).

> *tributary stream, should still be protected whether or not such a stream supports a fishery* (emphasis added).[89]

This language elaborates on the concept of protecting biological integrity, one of the purposes of the CWA.[90] The 1997 version of Washington's water quality standards protected existing uses, but the latest revisions describe the level of protection – "it is required that all indigenous fish and nonfish aquatic species be protected in waters of the state in addition to the key species"[91] – more consistently with EPA's 1994 guidance.

The revised standards offer an opportunity for greater protection of biological integrity through the antidegradation policy. It seems that Tier I of the antidegradation policy[92] certainly provides the state agency with Clean Water Act responsibilities, the Washington Department of Ecology (hereinafter "Ecology") with sufficient authority to protect biological integrity (for example, to deny or modify permits, take enforcement actions), by preventing "pollution."[93] This new, explicit language may be an avenue for protecting biological integrity.

But is even more needed? In a thoughtful paper developed in response to Washington's 2003 water quality standards revisions, University of Washington Professor Emeritus James R. Karr and two co-authors point out the shortcomings of Washington's revised standards in protecting biological integrity and assert that Washington's water quality standards need specific *biological* criteria if the goals of the CWA are going to be met.[94] They note that surface waters with obvious biological impairments commonly have water chemistry that is *not* in violation of the numeric criteria.[95] Therefore, the authors reason that Washington's water quality standards cannot protect biological integrity adequately and cannot protect the "uses" of surface waters unless measurable biological criteria are added

89. EPA, *supra* note 56, at 4-5.

90. 33 U.S.C. § 1251(a) (2006).

91. WASH. ADMIN. CODE 173-201A-200(1) (2009).

92. 40 C.F.R. § 131.12(a)(1) (2009).

93. The authority for Washington's standards, section 173-201A of the Washington Administrative Code, WASH. ADMIN. CODE § 173-201A (2009), is provided by the state's Water Pollution Control Act, WASH. REV. CODE § 90.48 (2009).

94. JAMES R. KARR, RICHARD R. HORNER & CHARLES R. HORNER, EPA'S REVIEW OF WASHINGTON'S WATER QUALITY CRITERIA: AN EVALUATION OF WHETHER WASHINGTON'S CRITERIA PROPOSAL PROTECTS STREAM HEALTH AND DESIGNATED USES 2 (2003), *available at* http://www.bcssp.ca/ letters/nwf%20final%20CWA %20WQS%20Report%20FINAL.pdf (last visited Dec. 1, 2008).

95. *Id*. at 18.

to the water quality standards.[96] The authors point out that the EPA has long promoted the establishment of biological criteria[97] and that many states have already begun the process of adopting such criteria.[98]

Others have considered the need to improve state standards in order to promote salmonid protection and recovery, including the feasibility of developing criteria that describe and protect minimum habitat conditions, with special regard to salmonid conservation.[99] An extensive data gathering effort would be necessary before habitat criteria could be established, but an interim step, namely narrative habitat criteria, could start the process and move state standards in the right direction.[100]

In its latest triennial review, Ecology made changes to some numeric criteria (for example, temperature[101]) based on updated science, but did not propose new habitat or biological criteria to protect the numerous indigenous "nonfish aquatic species" of Washington, nor did it propose any new numeric criteria to specifically protect "nonfish" species. Revisions to numeric aquatic life criteria were made primarily in response to a perceived need to extend greater protection to fish.[102] Ecology may have presumed that protection of the key species would be sufficient to protect the associated species. That assumption may be correct in some cases and not in others; we do not know all of the requirements of all of the indigenous aquatic species. In any case, Ecology appears to believe that the foundation of Tier I antidegradation is the

96. I*d*. at 19-20.

97. I*d*. at 6-7.

98. I*d*. at 9-10.

99. S. B. BAUER & S. C. RALPH, EPA, PUBL'N NO. 910-R-99-014 AQUATIC HABITAT INDICATORS AND THEIR APPLICATION TO WATER QUALITY OBJECTIVES WITHIN THE CLEAN WATER ACT 1-2 (1999), *available at* http://yosemite.epa.gov/r10/OMP.NSF/webpage/Aquatic+Habitat+Indicators+and+their+Application+to+Water+Quality+Objectives+within+the+Clean+Water+Act/$FILE/Ahi_fina.pdf (last visited December 1, 2008). This is an EPA guidance document that recognizes that changes to state standards originate with the state and accepts that EPA's review is limited to ensuring that minimum federal requirements are met. It nonetheless attempts to blaze a new trail. Karr and his co-authors advocate for biological criteria as a way to achieve more relevant standards, but the document differs as it is the position of an advocate, the National Wildlife Federation, speaking to EPA's role in overseeing Ecology.

100. I*d*. at 61.

101. WASH. ADMIN. CODE 173-201A-200(1)(c) (2006).

102. WASH. DEPT. OF ECOLOGY, SUMMARY DOCUMENT, CHANGES TO THE WATER QUALITY STANDARDS 1 (July 2003), *available at* http://www.ecy.wa.gov/programs/wq/swqs/supporting_docs/summarydiscussion.pdf (last visited Dec. 1, 2008).

application of numeric and narrative criteria,[103] while focusing on the requirements of non-key (i.e., nonfish and many non-salmonid fish) species "in future guidance and rulemaking to make the standards even more adaptable and appropriate to specific watershed characteristics."[104] But if Karr and others are correct in that numeric chemical or physical criteria, no matter how specific, are not sufficient to protect biological integrity,[105] any future revisions will have limited utility.

How would one use the current standards to protect biological integrity even if they lack biological criteria with which to judge the severity of impairment? The water quality standards' description of the aquatic life uses includes the statement that "it is required that all indigenous fish and nonfish aquatic species be protected in waters of the state in addition to the key species."[106] As to what is meant by "protected," it seems reasonable to apply the standard found in the long-standing USEPA guidance, that is, "no mortality and no significant growth or reproductive impairment of resident species."[107] Presumably, Tier I antidegradation reviews should consider all sources of pollution, point and nonpoint, and evaluate the activities using the standard that they cause no mortality or significant growth or reproductive impairment. Most likely, "best professional judgment" will have to be used to determine the potential level of impairment from any given activity, and this evaluation should occur at the site scale, that is, proximate to the activity, but also cumulative effects on the larger watershed need to be assessed.

Washington used the "protection of existing uses" concept in the Dosewallips River case,[108] and conditioned the certification with a minimum instream flow. Despite the lack of a narrative instream flow criterion in the standards or a regulatory minimum instream flow for the Dosewallips, this approach was supported by the Court.[109] Because the resource agencies'

103. E-mail from Mark Hicks, Ecology, to author (November 28, 2005).

104. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 03-10-060, WAC 170-201A, SURFACE WATER QUALITY STANDARDS FOR THE STATE OF WASHINGTON, RESPONSIVENESS SUMMARY 14 (July 1, 2003).

105. KARR ET AL., *supra* note 94, at 20.

106. WASH. ADMIN. CODE 173-201A-200(1) (2009).

107. EPA, *supra* note 56, at 4-5 (1994).

108. PUD No. 1*of* J*efferson* C*ounty v.* W*ashington* D*ep't of* E*cology*, 511 U.S 700, 719 (1994).

109. I*d.* at 717 ("Under petitioners' interpretation of the statute, however, if a particular criterion, such as turbidity, were missing from the list contained in an individual state water quality standard, or even if an existing turbidity criterion were insufficient to protect a particular species of fish in a particular river, the State would nonetheless be forced to allow activities inconsistent with the existing or designated uses. We think petitioners' reading

opinion, and not a specific criterion, formed the basis for the minimum instream flow condition,[110] then it would seem that the door has been open for some time for Ecology to place conditions on activities without having specific criteria in the standards.

There is considerable evidence that land use changes are responsible for significant degradation of aquatic habitat and loss of biological integrity across Washington occurring over the past thirty-three years (i.e., since protection of existing uses has been in force).[111] Tier I and Tier III antidegradation apply to all "sources of pollution"[112] (compared to the limited applicability of Tier II[113]), and therefore should apply to land use changes. Even though both Tier I and Tier III apply to "all sources of pollution,"[114] Ecology has indicated that it will not

leads to an unreasonable interpretation of the Act.") The original 401 certification for the Elkhorn project was conditioned on the PUD maintaining particular flows in the bypass reach (*see supra* note 66). Ecology's Section 401 stated, after listing the monthly required flows, "While these flows are in excess of those required to maintain water quality in the bypass region [sic], they are the flows recommend [sic] by the resource agencies and tribes for maintaining sufficient flows for the fishery resource. They are included herein as a matter of cooperation with these other agencies." Section 401 certification letter from Ecology to P.U.D. No. 1 of Jefferson County (June 11, 1986), *available at* http://www.ecy.wa.gov/programs/wq/ferc/existingcerts/elkhorn.pdf (last visited Nov. 25, 2008). At the time of the certification, Ecology had statutory authority to set minimum instream flows through regulation (the current regulation at section 173-500-020(4) of the Washington Adminsitrative Code has not been modified), but had not done so for the Dosewallips.

110. I*d*.

111. S*ee supra* notes 2-4 and accompanying text and *supra* note 53 and accompanying text.

112. WASH. ADMIN. CODE 173-201A-300(2)(e)(i), (iii) (2009); *see also* WASH. DEP'T OF ECOLOGY, *supra* note 104, at 87 (2003) *available at* http://www.ecy.wa.gov/pubs/0310060.pdf (last visited Dec. 1, 2008) ("No person or entity is exempted from adhering to Tier I or III of the antidegradation program.").

113. WASH. ADMIN. CODE 173-201A-320(2) (2009); *see also* WASH. DEP'T OF ECOLOGY, *supra* note 104, at 98 ("You are correct that local government plans and regulations are not activities we would analyze under Tier II. This was done to avoid passing on regulatory responsibility for protecting high quality waters without our being able to pass along the funds or provide the critical assistance to help develop and implement such water pollution prevention programs.")

114. S*upra* note 112.

conduct Tier I reviews on activities other than those requiring a permit or authorization from Ecology.[115]

Washington's Water Pollution Control Act states "the state of Washington will exercise its powers, as fully and as effectively as possible, to retain and secure high quality for all waters of the state"[116] and that Ecology has "the jurisdiction to control and prevent the pollution of streams, lakes, rivers, ponds, inland waters, salt waters, water courses, and other surface and underground waters of the state of Washington."[117] Because the state's definition of "pollution" includes "alteration of. . . biological properties,"[118] Tier I antidegradation has its basis not only in federal law but also in state law. It appears that under both the Clean Water Act and the state Water Pollution Control Act, Ecology has the authority to evaluate and prevent any activity, not just those activities that require a Federal license or permit, from significantly impairing biological integrity since such impairment is considered pollution.[119] If Ecology had evaluated the thousands of activities that fall under the category of Tier I, the degradation of the past thirty years would not have occurred or would have been significantly lessened.

Tier I antidegradation is a powerful tool. Whether biological or other criteria are needed before Ecology can properly administer Tier I antidegradation is an important issue, but perhaps more important is determining the level of protection that aquatic resources are ultimately receiving. Clearly, some Clean Water Act programs should be using an antidegradation standard in the implementation. There are yet other programs based on laws newer than Washington's Water Pollution Control Act that purport to protect aquatic resources. It is useful to examine the efficacy of these programs in protecting existing uses and how they compare to the level of protection offered by the antidegradation policy.

115. WASH. DEP'T OF ECOLOGY, *supra* note 104, at 94 ("Many actions that impact water quality are not regulated by Ecology and developing a process that tracks their effects on the watershed is not possible in our estimation.")

116. WASH. REV. CODE § 90.48.010 (2009).

117. *Id.* § 90.48.030.

118. *Id.* § 90.48.020.

119. *See supra* notes 86-89 and accompanying text.

IV. Protection Afforded By Other CWA Programs: Section 319, Section 404 and Stormwater

A. Section 319

In 1987, Congress amended the Clean Water Act and added Section 319,[120] establishing a grant program for states and eligible tribes[121] and directing them to develop programs to manage nonpoint source pollution.[122] Permits for nonpoint source pollution were not required. The grants are for "technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and monitoring to assess the success of specific nonpoint source implementation projects."[123]

States were also directed by Section 319 to prepare nonpoint source management plans and to update them periodically.[124] Washington's first plan was completed in 2000 and updated in 2005.[125] The 2000 plan[126] emphasized voluntary measures and local efforts for controlling nonpoint source pollution ("NPS"):

> Ecology has responsibility for water quality under CWA and Washington's Water Pollution Control Act (chapter 90.48 RCW). However, this analysis of water quality issues in Washington [the nonpoint source plan] indicated that nonpoint source control is largely a local land use issue, with the exception of forest practices. Ecology's ability to compel other government entities to initiate and manage programs for nonpoint pollution control is limited. Therefore, Ecology must heavily rely on voluntary programs and locally-driven efforts to meet water quality objectives.[127]

120. 33 U.S.C. § 1329 (2006).

121. *Id.* § 1329(h).

122. *Id.* § 1329(b).

123. *Id.* § 1329.

124. *Id.* § 1329(a).

125. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 05-10-027, WASHINGTON'S WATER QUALITY MANAGEMENT PLAN TO CONTROL NONPOINT SOURCES OF POLLUTION vii (2005), *available at* http://www.ecy.wa.gov/pubs/0510027.pdf.

126. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 99-26, WASHINGTON'S WATER QUALITY MANAGEMENT PLAN TO CONTROL NONPOINT SOURCES OF POLLUTION (2000).

127. *Id.* at 10.

The "Water Quality Program Annual Compliance Report Calendar Year 2003"[128] reiterated that position and made it clear that enforcement by Ecology is a last resort for nonpoint compliance:

> Forty-four separate state laws apply to nonpoint water pollution and are administered by thirteen separate agencies . . . . The primary thrust for compliance is to provide technical assistance and information to landowners to prevent pollution . . . . When the effort to prevent pollution is not successful, the general approach is to try to identify the local authority or jurisdiction and work with it to settle the matter at the lowest level of enforcement . . . . When the violation causes significant environmental harm, is not pursued by a local authority, or is significant due to its environmental impact, Ecology may take formal enforcement action.[129]

Nonetheless, Ecology devoted some resources to NPS enforcement in the early 2000s. The vast majority (over 2,000) of compliance actions taken in the first six months of 2003 for nonpoint sources fall under the category of "partnering contacts made."[130] In the same period, Ecology received 246 complaints, responded to 198, and conducted 412 site inspections.[131] Eight "formal enforcement actions" were taken and thirteen "informal enforcement actions" were taken.[132] This includes the efforts of the base staff plus three additional full-time enforcement positions Ecology was given under the Governor's Salmon Recovery Plan[133] (the enforcement effort of the base staff was not provided in the report, and was not available from Ecology[134]).

The 2004 calendar year compliance report[135] does not provide corresponding enforcement numbers, but does provide disturbing information regarding the operating constraints of Ecology:

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128. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 04-10-060, WATER QUALITY PROGRAM ANNUAL COMPLIANCE REPORT, CALENDAR YEAR 2003 (2004).

129. *Id*. at 30.

130. *Id*. at 31 (Figure 29) and at 32 (Figure 30). Numbers given in this text represent totals. The term "partnering contacts made" means Ecology staff, possibly working with other levels of government, offering technical assistance or other information to landowners to encourage voluntary measures to prevent or abate pollution. *Id*. at 8, 30.

131. *Id*.

132. *Id*.

133. *Id*. at 32.

134. E-mail from C. Cholski, Ecology, to author (Mar. 8, 2006).

135. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 06-10-019, WATER QUALITY PROGRAM ANNUAL COMPLIANCE REPORT, CALENDAR YEAR 2004 (2006).

> The Governor's Salmon Recovery Plan seeks to ensure compliance with water quality laws and protect fish through a balanced program of education, technical assistance, and cost sharing within a regulatory framework. To put this strategy in place, the Legislature initially funded three FTEs [full time equivalents] at Ecology for water quality compliance on behalf of salmon recovery. *These positions were subsequently lost to budget reductions* (emphasis added).[136]

In late 2007, Ecology was contacted to determine if these positions were restored at a later time. The answer[137] was not encouraging:

> The real general answer – since 2001 we have consistently lost all our nonpoint (there are resources for stormwater) enforcement capability. The salmon enhancement staff was our primary nonpoint enforcement staff and we lost all of those positions in 2001. These positions never came back. The dairy program was transferred to Department of Agriculture in 2002. That meant we lost all of our regional nonpoint agriculture staff. We have not replaced those positions. We do have forestry nonpoint regulatory staff in each of our regions.

This loss of resources for most activities save forestry is a probable explanation of why the updated 2005 nonpoint source plan[138] spoke only of Ecology's direct enforcement activities in regard to forest practices with no mention of enforcement in other contexts.[139]

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136. *Id*. at 27.

137. E-mail from Melissa Gildersleeve, Ecology, to author (Dec. 20, 2007).

138. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 05-10-027, WASHINGTON'S WATER QUALITY MANAGEMENT PLAN TO CONTROL NONPOINT SOURCES OF POLLUTION (2005).

139. *Id*. at 12. The plan outlines Ecology's role according to the applicable laws and regulations but gives no indication of actual effort. Other evidence indicates that the resources devoted to enforcement for forest practices are small: "Ecology has only two to three Forest Practice Enforcers for all of Western Washington. A typical Forest Practice Enforcer at DOE has to cover 2 million+ acres and several thousand Forest Practice Applications (FPA's) per year." Makah Indian Tribe, *Comments on Washington State* DNR's *Final Habitat Conservation Plan* (HCP) *for Forest Practices and* NOAA's *and* USFWS's *Final Environmental Impact Statement for the Forest Practice* HCP (February 27, 2006). The effort expended by the Department of Natural Resources is greater than Ecology's, but the Makah Tribe concludes "DOE

One might expect that the updated nonpoint source plan, completed after the 2003 changes to the water quality standards, might emphasize increased use of the standards within the nonpoint source program. The updated nonpoint source plan does contain some laudable objectives:

- Restore and maintain degraded systems/habitats
- Support sustainable human communities
- Sustain biodiversity
- Preserve natural ecosystems
- Focus funding on the most effective strategies
- Teach about connections between individual actions and clean water[140]

The first, third, and fourth goals speak directly to the resources protected by the antidegradation policy. Table 5.1 of the updated plan, entitled "Actions to Manage Nonpoint Pollution in Washington State," lists 112 different actions, forty-nine of which fulfill the three objectives closely related to antidegradation.[141] But only two actions speak to compliance and enforcement activities; one of those calls for an "increase" in such activities. According to Ecology staff, however, there is no way to distinguish nonpoint sources in the current "Docket Management System."[142] Unless there is another way to track these enforcement actions, it is difficult to see how an increase in enforcement and compliance can be demonstrated. Regardless, it appears that Ecology believes that enforcement plays a minor role for nonpoint sources and that problems caused by land use changes, one of the major causes of nonpoint source pollution, are best resolved by local governments.

B. Stormwater

Another CWA program that affects the biological integrity of streams is the stormwater permit program. Although the Federal Water Pollution

has voluntarily agreed to let DNR take the lead in enforcing State sediment pollution laws on private forestland, despite DNR's poor record on law implementation and dearth of water quality professionals … DOE has forfeited its Clean Water Act implementation duties in regard to forest practices." There is no reason to believe that enforcement on the Olympic Peninsula is substantially worse than anywhere else in Washington.

140. WASH. DEP'T OF ECOLOGY, *supra* note 138, at 33.

141. *Id*. at 51-63.

142. E-mail from M. Collier, Ecology, to author (November 15, 2005).

Control Act Amendments of 1972[143] provided some avenues for stormwater regulation, later amendments (the Water Quality Act of 1987)[144] directed EPA to establish a stormwater control program that would include the issuance of National Pollutant Discharge Elimination System ("NPDES") permits for municipal and industrial stormwater.[145] The program was to be implemented in two phases:

> Phase I application requirements were published on November 16, 1990, and Phase II regulations were published December 8, 1999. Phase I regulates storm water discharges from medium and large MS4s [municipal separate storm sewer systems], construction activities of 5 acres or larger (or less than 5 acres if part of a common plan of development or sale), and industrial activities.
>
> Phase II extends the regulations to storm water discharges from small MS4s, and construction activities that disturb equal to or greater than one acre of land (or less than one acre if part of a common plan of development of sale). Phase II also revises the original no exposure provision to be a conditional exclusion applicable to all categories of industrial activity (except construction activity) when there is no exposure of industrial materials and activities to storm water.[146]

Because Washington has a delegated CWA Section 402 program,[147] Ecology issues most of the NPDES permits in Washington, and therefore issues most of the stormwater NPDES permits. In response to the CWA

143. Pub. L. 92-500, 86 Stat. 26.

144. Pub. L. 100-4, 101 Stat. 7.

145. 33 U.S.C. § 1342(p) (2006).

146. EPA, NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER PROGRAM, QUESTIONS AND ANSWERS 2 (2004), *available at* http://www.epa.gov/npdes/pubs/sw_qanda_entiredocument.pdf (last visited Dec. 3, 2008).

147. 33 U.S.C. § 1342(b) allows States to administer the "National Pollutant Discharge Elimination System" permit program. 33 U.S.C. § 1342(b) (2006). Washington's application to administer the NPDES program was approved on November 14, 1973, according to EPA. EPA, NPDES, SPECIFIC STATE PROGRAM STATUS, *available at* http://cfpub.epa.gov/npdes/statestats.cfm?program_id=45&view=specific (last visited Dec. 3, 2008). EPA issues NPDES permits in Indian Country (defined at 40 C.F.R. § 122.2) within Washington and to federal facilities in Washington.

mandates, Ecology articulated the state's approach and developed technical guidance on appropriate best management practices ("BMPs").[148]

A major premise of the western Washington stormwater manual (hereinafter, "Manual")[149] is that the application of best management practices (BMPs) will be enough in most cases to ensure compliance with water quality standards, including antidegradation, while at the same time recognizing that BMPs do not always suffice:

> The objective of this manual is to provide guidance on the measures necessary to control the quantity and quality of stormwater produced by new development and redevelopment such that they comply with water quality standards and contribute to the protection of beneficial uses of the receiving waters . . . . Application of appropriate minimum requirements and Best Management Practices (BMPs) identified in this manual are necessary but sometimes insufficient measures to achieve the objective.[150]

The Manual states "if it is found that, after the implementation of BMPs advocated in this manual, beneficial uses are still threatened or impaired, then additional controls may be required,"[151] but it does not describe a mechanism for Ecology to examine the adequacy of BMPs on a routine basis. The Manual also states that the adequacy of BMPs may be examined when a project sponsor or permit applicant chooses not to follow the Manual.[152]

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148. The *Stormwater Management Manual for Western Washington* was updated in 2005 and is five volumes totaling 976 pages. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 05-10-029, STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON (rev. 2005), *available at* http://www.ecy.wa.gov/programs/wq/stormwater/manual.html (last visited Apr. 7, 2009). The *Stormwater Management Manual for Eastern Washington* is one volume of 715 pages and was released in 2004. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 04-10-076, STORMWATER MANAGEMENT MANUAL FOR EASTERN WASHINGTON (2004), *available at* http://www.ecy.wa.gov/pubs/0410076.pdf. The western Washington manual defines "best management practice (BMP)" as "The schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices, that when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State." Glossary-4.

149. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 05-10-029, *supra* note 148.

150. *Id.* at 1-1.

151. *Id.* at 1-4.

152. *Id.* at 1-8.

Examination of the efficacy of BMPs installed by permitees would fall under the category of "enforcement and compliance," but similar to the nonpoint source program,[153] the NPDES program is hampered by a lack of enforcement and compliance resources.[154] For fiscal years 2004 and 2005, each enforcement staff person at Ecology was responsible for nearly 750 permits, with an upward trend since fiscal years 1996 and 1997.[155] It is inconceivable that a detailed examination of BMPs could be taken for more than a few permits each year, even if other staff resources could be obtained.

The Manual does contain an articulate discussion of the effects of urbanization on biological integrity, citing studies that indicate a loss of biological integrity in watersheds with as little as five percent total impervious cover.[156] Nonetheless,

> Ecology understands that despite the application of appropriate practices and technologies identified in this manual, some degradation of urban and suburban receiving waters will continue, and *some beneficial uses will continue to be impaired or lost due to new development*. This is because land development, as practiced today, is incompatible with the achievement of sustainable ecosystems (emphasis added).[157]

More importantly, after noting that antidegradation requirements will not be met, Ecology is unwilling to address the cause of the pollution through the Manual:

> The manual's scope is limited to managing the surface runoff generated by a new development or redevelopment project. The manual does not intend to delve deeply into site development standards or where development should be allowed. Those are land use decisions that should not be directed by this stormwater manual. The manual applies after the decision to develop a site has been made. The manual can provide site development strategies to reduce the

153. See *supra* notes 120-142 and accompanying text.

154. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 06-10-019, WATER QUALITY PROGRAM ANNUAL COMPLIANCE REPORT, CALENDAR YEAR 2004 8, 9 (2006).

155. I*d*. at 9; *see also* WASH. DEP'T OF ECOLOGY, PUBL'N NO. 07-01-022, 2006 ENFORCEMENT REPORT 65 (2007) (reporting partial data for fiscal years 2006 and 2007 indicating yet another increase, to 950 permits per enforcement staff position).

156. 1 WASH. DEP'T OF ECOLOGY, PUB. NO. 05-10-029, STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON 1-24 (2005).

157. I*d*. at 1-25.

> pollutants generated and the hydrologic disruptions caused by development.[158]

On the one hand, the water quality standards apply Tier I antidegradation "to all waters and all sources of pollution,"[159] yet the Manual acknowledges that uses will be impaired or lost by development[160] and that Ecology will not "delve deeply" into "where development should be allowed."[161] This conflict indicates that the Tier I antidegradation threshold of protection of existing uses does not really apply.

For construction and industrial stormwater permits, state law explicitly states the presumption that BMPs themselves are sufficient to ensure that water quality standards are met is actually in statute. Washington Revised Code 90.48.555(6) reads in part:

> Compliance with water quality *standards* shall be presumed, unless discharge monitoring data or other site specific information demonstrates that a discharge causes or contributes to violation of water quality standards, when the permittee is:
>
> (a) In full compliance with all permit conditions, including planning, sampling, monitoring, reporting, and recordkeeping conditions; and (b)(i) Fully implementing storm water best management practices contained in storm water technical manuals approved by the department, or practices that are demonstrably equivalent to practices contained in storm water technical manuals approved by the department, including the proper selection, implementation, and maintenance of all applicable and appropriate best management practices for on-site pollution control (emphasis added).[162]

158. *Id.*

159. WASH. ADMIN. CODE 173-201A-300(2)(e)(i) (2009).

160. 1 WASH. DEP'T OF ECOLOGY, *supra* note 153, at 1-25.

161. *Id.*

162. The complete section reads:

> Compliance with water quality standards shall be presumed, unless discharge monitoring data or other site specific information demonstrates that a discharge causes or contributes to violation of water quality standards, when the permittee is: (a) In full compliance with all permit conditions, including planning, sampling, monitoring, reporting, and recordkeeping conditions; and (b)(i) Fully implementing storm water best management practices contained in storm water technical manuals approved by the department, or practices that are demonstrably equivalent to practices contained in storm water

This extends to both individual NPDES stormwater permits and general permits. In the Fact Sheet for a 2005 draft general NPDES permit for construction stormwater,[163] Ecology stated that compliance with water quality *criteria* for specific chemical pollutants was sufficient to protect uses and thus ensure compliance with water quality *standards*[164] but also that Ecology may require any discharger to apply for an individual permit (or a more specific general permit) if "there is a *reasonable potential* for the project to cause or contribute to a violation of water quality standards" (emphasis added).[165] A commenter on the draft cited the Manual's discussion of impervious area and loss of biological integrity, including the information that biological integrity begins to degrade once a watershed reaches five percent total impervious area.[166] The commenter then recommended that individual permits rather than general permits be issued in watersheds where the amount of total impervious area was greater than or equal to five percent, because of the "reasonable potential" for a loss of existing uses – a

technical manuals approved by the department, including the proper selection, implementation, and maintenance of all applicable and appropriate best management practices for on-site pollution control.

(ii) For the purposes of this section, "demonstrably equivalent" means that the technical basis for the selection of all storm water best management practices are documented within a storm water pollution prevention plan. The storm water pollution prevention plan must document: (A) The method and reasons for choosing the storm water best management practices selected; (B) The pollutant removal performance expected from the practices selected; (C) The technical basis supporting the performance claims for the practices selected, including any available existing data concerning field performance of the practices selected; (D) An assessment of how the selected practices will comply with state water quality standards; and (E) An assessment of how the selected practices will satisfy both applicable federal technology-based treatment requirements and state requirements to use all known, available, and reasonable methods of prevention, control, and treatment.

163. WASH. DEP'T OF ECOLOGY, DRAFT FACT SHEET FOR GENERAL NDPES PERMIT FOR CONSTRUCTION STORMWATER (2005).

164. *Id*. at 13. "Discharges at or below the turbidity benchmark indicate that erosion and sediment control BMPs are functioning effectively to protect water quality *and the beneficial uses* in the receiving water" (emphasis added).

165. *Id*. at 7.

166. *See supra* notes 156 and accompanying text.

violation of water quality standards.[167] In response, Ecology cited Washington Revised Code 90.48.555(6), which reads, in essence, that Ecology assumes that meeting numeric criteria is sufficient to protect uses, and that in turn, BMPs are sufficient to meet numeric criteria, whether they are in individual or general NPDES permits. [168]

The lack of a connection between controls at an individual site and maintenance of biological integrity at the watershed scale was pointed out to Ecology before the 2005 Manual was released. In 2003, the Independent Science Panel (ISP), a body created by the Washington legislature in 1998 to assist in salmon recovery efforts,[169] was asked to provide input into the stormwater manual.[170] While having much praise for that document, the ISP pointed out the inadequacy of the project-by-project approach, as well as the faulty presumption that non-supervised application of BMPs will protect overall biological integrity:

> In general, the manual is designed primarily for application to individual project areas without analytical consideration for the larger, downstream watershed areas where the cumulative effects of individual projects are manifest. This holds for channel stability issues as well as other effects on stream beneficial uses including water quality and stream ecology. Downstream responses can vary considerably depending on the location and timing of upstream project areas as well as other activities outside of project areas that affect downstream responses. We stress that watershed-scale planning is needed to effectively coordinate the objectives of stormwater management and other beneficial uses of water and streams. The utility of watershed-scale planning is mentioned in the manual (manual Appendix I-A) but only to the point of altering minimum requirements [where an applicant must demonstrate compliance if they choose not to follow the Manual][171].

167. Comment letter from Washington Trout (now Wild Fish Conservancy) to Wash. Dep't of Ecology, on DRAFT CONSTRUCTION STORMWATER GENERAL NPDES PERMIT AND FACT SHEET (2005).

168. WASH. DEP'T OF ECOLOGY, CONSTRUCTION STORMWATER GENERAL PERMIT ADDENDUM TO FACT SHEET: APPENDIX C – RESPONSE TO PUBLIC COMMENTS 127 (2005).

169. WASH. REV. CODE § 77.85.040 (2009).

170. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 99-11, STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON (2001).

171. INDEP. SCI. PANEL, REVIEW OF "STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON (AUGUST 2001)" 9 (2003). While the ISP consists of five scientists with "expertise in stream ecology, salmon habitat, hydrology, genetics,

Ecology's response to this criticism appears to be the passage in the later Manual on the limited "scope" of the document – that is, in managing the surface runoff from a single project.[172]

The stormwater NPDES program would be an ideal place to implement antidegradation policy and protect biological integrity from the impacts of development, but only if a more integrated, watershed-based approach was used. Explicit Tier I antidegradation protection is absent from the stormwater NPDES program as it is currently structured, although implementation of BMPs will undoubtedly have beneficial effects.

C. Section 404

Section 404 of the CWA[173] regulates the discharge of dredged or fill material into waters of the United States. Washington has not "assumed" the Section 404 program as it has done with the CWA Section 402 program.[174] Therefore, the Army Corps of Engineers issues Section 404 permits in Washington.[175] The state Department of Ecology certifies, pursuant to Section 401 of the Clean Water Act, that the issuance of the Corps' Section 404 permit will not violate Washington's water quality standards.[176]

Antidegradation is applied differently in Section 404 permits than in other CWA provisions. Existing uses cannot be completely protected when fill is placed, and by creating a permit system, Congress intended that there be some instances where the existing uses of waters of the US could be eliminated.[177] The goal of the 404 permit program is to minimize impacts and maintain the overall integrity of the waterbody by ensuring that the fill does not cause "significant degradation" as described in the Section 404(b)(1) Guidelines.[178] It may seem contradictory to think of the Section 404 program protecting streams when it is the only program that legally

hatcheries, and fisheries," they enlisted the help of five stormwater experts that did not have a connection to the 2001 Manual's preparation. *Id.* at 2.

172. *See supra* note 158 and accompanying text.

173. 33 U.S.C. § 1344 (2006).

174. 33 U.S.C. § 1344(g) allows willing states to administer the Section 404 permit program. 33 U.S.C. § 1344(g) (2006).

175. *Id.* § 1344(a) (2006).

176. *Id.* § 1341. *See supra* note 65 and accompanying text.

177. EPA, QUESTIONS AND ANSWERS ON ANTIDEGRADATION, APPENDIX A TO CHAPTER 2, GENERAL PROGRAM GUIDANCE OF THE WATER QUALITY STANDARDS HANDBOOK 5 (1983).

178. 40 C.F.R. § 230.10(c) (2009).

allows for their direct destruction. However, applicants proceeding through the permit process must (1) avoid impacts,[179] (2) minimize impacts,[180] and (3) mitigate those impacts.[181] No discharge shall be permitted if it "causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard."[182] The applicable regulations also require that "secondary effects" be considered when evaluating a discharge of dredged or fill material.[183] Therefore, effects beyond those found on or near the site should be considered.

The mandate to consider secondary effects is important because the direct placement of fill may represent only a portion of a development's ultimate effect on biological integrity.[184] Consider, for instance, a housing development requiring a Section 404 permit for only a small road crossing because the homes and roads are built on uplands. Typical stormwater management measures would be applied. But remember that the state's stormwater manual states that "despite the application of appropriate practices and technologies identified in this manual, some degradation of urban and suburban receiving waters will continue, and some beneficial uses will continue to be impaired or lost due to new development."[185] Therefore, it appears that the regulatory directive to consider secondary effects[186] may be the only way in which existing uses will be protected from the broader impacts of developments.

The Corps issues individual permits under Section 404, but regulates most activities through a general permit program where the general permits can be statewide, region wide or nationwide in their scope.[187] Nationwide permits ("NWP") were updated in 2007,[188] but of the previous array[189] of nationwide permits, NWP 39 appeared to be the most applicable to this analysis as it allowed the discharge of dredged or fill material for "residential, commercial, and institutional building foundations and

179. *Id.* § 230.10(a).

180. *Id.* § 230.10(d).

181. *Id.* §§ 320.4(r), 230.12(a)(2).

182. *Id.* § 230.10(b)(1).

183. *Id.* § 230.11(h).

184. *See supra* note 3-5 and accompanying text and *supra* notes 156 and accompanying text.

185. *See supra* note 157 and accompanying text.

186. *See supra* note 182.

187. 33 U.S.C. § 1344(e) (2006).

188. *Reissuance of Nationwide Permits*, 72 Fed. Reg. 11,092 (Mar. 12, 2007).

189. *Issuance of Nationwide Permits; Notice*, 67 Fed. Reg. 2,020 (Jan. 15, 2002).

building pads" as well as attendant features.[190] NWP 39 allowed losses of intermittent or perennial streambed of up to 300 feet; an activity resulting in greater losses required an individual evaluation.[191] As it was, the use of NWP 39 in streams was not very common, as the Seattle District of the Corps estimated in 2005 that only one NWP 39 was issued for a stream in almost the previous six years (of 145 total, two were for lakeshores, and 142 for wetland fills).[192] Even cursory information on individual permits was not available from the Corps, so it is difficult to estimate the amount of recent activity resulting in adverse effects to streams facilitated by the Section 404 permit program.

On its face, the Section 404 permit program provides an opportunity to assess watershed-level effects of a proposed action. In addition to the Corps' review of a project, compliance with the ESA for NWP 39 is required[193] and project applicants were required to submit individual biological evaluations [194] to assist the Corps in completing Section 7 consultation with the Services. This process can provide an avenue for assessing watershed-level effects.

Also, because a Section 404 permit is a federal permit, CWA Section 401 certification[195] is required for each issuance of NWP 39. The state had "partially denied without prejudice" the required certification,[196] but presumed that state standards would be met if the project was "designed, constructed, and maintained in accordance with the stormwater standards and practices contained in the most current version of Ecology's Stormwater Manual or an Ecology- approved equivalent."[197] However, as described

190. The previous array of NWPs was used in this analysis because of the 2007 changes. NWP 39 (2007) no longer includes "residential" development, while NWP 29 (2007) now includes all residential development. NWP 29 (2002) was for "single-family housing" but it was not permitted to be used in streams by a regional condition and therefore, NWP 39 (2002) was most relevant for an analysis of recent actions in Washington.

191. *Issuance of Nationwide Permits*; *Notice*, *supra* note 185, at 2,085. This is essentially a requirement for an individual Section 404 permit.

192. Interview with R. Perry, ACOE, Seattle District (October 14, 2005).

193. US ARMY CORPS OF ENGINEERS SEATTLE DISTRICT, SPECIAL PUBLIC NOTICE: FINAL REGIONAL CONDITIONS, 401 WATER QUALITY CERTIFICATION CONDITIONS, COASTAL ZONE MANAGEMENT CONSISTENCY RESPONSES, FOR NATIONWIDE PERMITS FOR THE SEATTLE DISTRICT CORPS OF ENGINEERS FOR THE STATE OF WASHINGTON 90 (2002) (hereinafter FINAL REGIONAL CONDITIONS FOR NWPS).

194. *Id.*; *see supra* note 35 and accompanying text.

195. 33 U.S.C. § 1341 (2006); *see supra* note 65 and accompanying text.

196. FINAL REGIONAL CONDITIONS FOR NWPS, *supra* note 193, at 91.

197. *Id.*

above in the section regarding the stormwater NPDES program,[198] that program focuses on implementation of on-site Best Management Practices and specifically does not address watershed-level effects. The fact that the state would certify an activity as complying with water quality standards if it is conducted in accordance with the Stormwater Manual is evidence that Ecology does not consider effects beyond the immediate project site. Although this is not a comprehensive analysis, the loss of functioning habitat and biological integrity at the watershed level since the time that protection of existing uses was mandated suggests that the Section 404 permitting process has not truly considered secondary effects to streams. Otherwise, the full effects of development would be considered and permits conditioned accordingly to protect aquatic communities at the watershed level, not just the site level.

V. Protection Afforded by State Laws: the Shoreline Management Act, the Growth Management Act, the Watershed Planning Act, and the Forest Practices Act

A. Shoreline Management Act

The Washington legislature passed the Shoreline Management Act (SMA) in 1971[199] which became law in 1972 after a majority of the state's voters approved it in a referendum.[200] The SMA is administered by local governments and Ecology.[201] The goal of the SMA is to "provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses,"[202] and the law is to protect "against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting generally public rights of navigation and corollary rights incidental thereto."[203] With respect to freshwater stream systems, the SMA applies to streams or rivers with an average annual flow of greater than twenty cubic feet per second.[204]

198. *See supra* notes 143–172 and accompanying text.

199. 1971 Wash. Sess. Laws 286.

200. WASH. DEP'T OF ECOLOGY, PUB. NO. 99-113, INTRODUCTION TO WASHINGTON'S SHORELINE MANAGEMENT ACT (RCW § 90.58) 1 (2003).

201. WASH. REV. CODE § 90.58.050 (2009).

202. *Id.* § 90.58.

203. *Id.* § 90.58.020.

204. *Id.* § 90.58.030. The other regulated lands and waters include all marine waters, all surface waters greater than 20 acres, and lands extending 200 feet from the edges of these waters, plus wetlands and river deltas

Local governments establish "shoreline master programs" that both regulate and plan the development of shorelines.[205] These programs are combinations of laws and policies and are reviewed by Ecology before they are implemented.[206] The regulations for establishing master programs direct that the programs "shall contain policies and regulations that assure at minimum, no net loss of ecological functions necessary to sustain shoreline natural resources."[207] Ecology also reviews individual permits issued for "substantial development" along the shoreline, for projects costing over $5,000, or projects which materially interfere with the public's use of the waters.[208]

Approximately 750 SMA permits are issued each year[209] by the almost 250 local government jurisdictions,[210] and Ecology reviews about 400 "substantial development" permits each year.[211] These are not large numbers. Compare these numbers to the "steady average of about 500 houses per year since 2000" built in rural King County, a rate expected to continue through the planning period, 2007-2022.[212]

Much of this construction activity may affect the biological integrity of streams and not be regulated under the SMA. The relatively small number of SMA permits issued by local governments and those reviewed by Ecology is likely a reflection of the limited applicability of the SMA. While implementation of the SMA has probably slowed destruction of aquatic habitat, it is unlikely that the law has protected smaller freshwater habitats, since the law does not apply in those areas very often.

B. Growth Management Act

Unlike the SMA, Washington's GMA is more likely to apply to the protection of smaller freshwater habitats.[213] Enacted in 1990[214] as a common

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associated with regulated lands and waters, along with some 100-year floodplains.

205. I*d*. § 90.58.080(1)

206. I*d*. § 90.58.090(1)

207. WASH. ADMIN. CODE 173-26-201(c) (2009).

208. WASH REV. CODE § 90.58.030(3)(e) (2009). There are a number of activities exempted from "substantial" status.

209. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 99-113, INTRODUCTION TO WASHINGTON'S SHORELINE MANAGEMENT ACT (RCW 90.58) 2 (2003).

210. I*d*. at 1.

211. WASH. DEP'T OF ECOLOGY, *supra* note 155, at 44.

212. 2007 KING COUNTY BUILDABLE LANDS REPORT VI-2 (2007). Seattle, Bellevue and other smaller cities are located in King County.

213. WASH REV. CODE § 36.70A (2009).

foundation for planning[215] by most cities and counties,[216] the GMA requires all cities and counties in Washington to identify and protect "critical areas."[217] In turn, the resulting critical area ordinances are supposed to protect "fish and wildlife conservation areas" and other critical areas.[218] The fish and wildlife conservation areas consist of eight different habitat or management types.[219] Local governments need only *consider* the eight types when designating fish and wildlife areas[220] however, as the state's guidance is not mandatory. In other words, while fish and wildlife conservation areas must be identified and protected, local governments have flexibility in accomplishing this.

214. 1990 Wash. Sess. Laws 17.

215. WASH REV. CODE § 36.70A.10 (2009).

216. I*d*. § 36.70A.40(1) (2009).

217. I*d*. § 36.70A.60(2) (2009). In addition, WASH REV. CODE § 36.70A.480 (2009) states that Shoreline Master Programs developed under the Shoreline Management Act shall be considered part of the comprehensive plan of the jurisdiction, so there is a mandated coordination of efforts under the two acts.

218. WASH. ADMIN. CODE 365-190-080 (2009). The other four critical areas are wetlands, aquifer recharge areas, frequently flooded areas, and geologically hazardous areas. Obviously, protection of these other areas may afford incidental protection to streams. The focus of this paper is the mandated or explicit protection offered to streams, and in the case of the GMA, such protection is found through identification and protection of "fish and wildlife conservation areas."

219. WASH. ADMIN. CODE 365 § 190-080(5)(a)(I-viii) (2009). The eight types are 1) areas with which endangered, threatened, and sensitive species have a primary association; 2) habitats and species of local importance; 3) commercial and recreational shellfish areas; 4) kelp and eelgrass beds; herring and smelt spawning areas; 5) naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat; 6) waters of the state; 7) lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity; 8) state natural area preserves and natural resource conservation areas.

220. GOVERNOR'S SALMON RECOVERY OFFICE, WASH. STATE JOINT NATURAL RES. CABINET, STATEWIDE SALMON RECOVERY STRATEGY, Linking land use decisions and salmon recovery IV.85. (1999), *available at*: http://www.digitalarchives.wa.gov/governorlocke/gsro/strategy/strategy/linking.pdf, http://www.governor.wa.gov/gsro/publications/strategy/strategy/linking.pdf. *See also* WASHINGTON WASH. DEPARTMENT DEP'T OF FISH AND & WILDLIFE (WDFW). NO DATE. FISH AND WILDLIFE AND THE GROWTH MANAGEMENT ACT. Paper published at website, *available at* http://wdfw.wa.gov/hab/gma-phs.pdf. 6 pp.

The GMA and its implementing regulations appear to be less protective than the CWA and Washington's water quality standards, especially when compared to the latest revisions to the antidegradation policy[221] and protection of indigenous species.[222] Although the revised water quality standards[223] and EPA guidance[224] protect *all* resident species in *all* waters of the state, the regulation introducing the concept of fish and wildlife conservation areas is less protective:

> Fish and wildlife habitat conservation means land management for maintaining species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created. *This does not mean maintaining all individuals of all species at all times*, but rather that cooperative and coordinated land use planning is critically important among counties and cities in a region. In some cases, intergovernmental cooperation and coordination may show that it is sufficient to assure that a species will usually be found in certain regions across the state (emphasis added).[225]

The emphasized statement above might be sufficient protection to protect common terrestrial species not protected under other laws, but it is not consistent with CWA's goal of protecting existing uses in aquatic systems.[226] On the other hand, the regulations include a directive to local governments that development of their plans and regulations "should involve a consideration of the state's water quality standards."[227]

In addition to providing less protection than that mandated by the CWA, the GMA is destined to lead to inconsistent results due to fragmentation of authority. Literally hundreds of local jurisdictions are

221. WASH. ADMIN. CODE 173-201A-300 (2009).

222. *Id.* § 173-201A-200(1) (2006).

223. *Id.*

224. EPA, *supra* note 56, at 4-5.

225. WASH. ADMIN. CODE 365-190-080(5) (2009).

226. It is especially inconsistent with the ESA's protection of individuals of listed species. The GMA does not mandate that habitat for ESA-listed species be identified and protected as fish and wildlife conservation areas. In 1995, the GMA was revised to direct that local governments "give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries." But not all listed species are anadromous, and "special consideration" does not equal a mandate. In this way, the GMA may allow "take" of listed species.

227. WASH. ADMIN. CODE 265-190-735(2)(a) (2009).

granted authority to act under the GMA.[228] The GMA does not require the use of standard methods, and although amendments enacted in 1995 require local governments to use the "best available science" (BAS) to identify and protect critical areas,[229] the regulations provide for exceptions.[230]

There is some statewide guidance on development of BAS. The Washington Office of Community Development ("WOCD") (now the Department of Communities, Trade, and Economic Development) published an annotated bibliography on BAS.[231] "Water-typing" is the sole method listed to identify "waters of the state"[232] (one of the eight habitat or management types of "fish and wildlife conservation areas").[233] The water-typing method is described in the state regulations governing forest practices[234] and it classifies streams primarily on the basis of hydrological characteristics, watershed area, or the actual presence or absence of fish.[235] Two classifications, "fish-bearing," or "nonfish-bearing," are the most germane for smaller freshwater habitats. The practical difference between the two classifications is that the protection – the width of the riparian buffer zone – varies with the water "type"[236] as fish-bearing waters receive wider buffers and therefore greater protection.

Riparian buffers have long been recommended to protect stream function and biological integrity, not just for forest practices, but for all types of land use.[237] As a result, in addition to using the water-typing

228. Puget Sound Partnership, Sound Health, Sound Future: Protecting and Restoring Puget Sound (2006) at 20 states that the Puget Sound region alone contains "twelve counties [and] more than a hundred cities." Most if not all of those will be required to develop protection measures.

229. WASH. REV. CODE § 36.70A.172 (2009).

230. WASH. ADMIN. CODE 365-195-915(1)(c) (2009).

231. WASH. OFFICE OF CMTY DEV., CITATIONS OF RECOMMENDED SOURCES OF BEST AVAILABLE SCIENCE FOR DESIGNATING AND PROTECTING CRITICAL AREAS (2002).

232. "Waters of the state" is not mentioned the GMA and although mentioned in the implementing regulations (WASH. ADMIN. CODE 365-195), it is not defined there but is defined by the Water Pollution Control Act, WASH. REV. CODE § 90.48.020 (2009), as to include "lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and watercourses within the jurisdiction of the state of Washington." *Id*.

233. WASH. ADMIN. CODE 365-190-080 (2009).

234. *Id*. § 222-16-030.

235. *Id*.

236. *Id*. § 222-30-021 to -023.

237. SPENCE, B. C., G. A. LOMNICKY, R. M. HUGHES, AND R. P. NOVITZKI. MANTECH ENVTL. RESEARCH SERVICES CORP., PUBL'N NO. TR-4501-96-6057, AN

method to identify "waters of the state," local governments prescribe buffers as the method to protect them.[238]

It necessarily follows that proper identification of streams is crucial because habitats may receive less protection than merited if they are misidentified. Even if most local governments decide to use water-typing to identify their "waters of the state," there will likely be a large degree of inconsistency. The Washington Department of Natural Resources developed maps for use in implementing the Forest Practices Act, but the maps focus on the forested areas of the state[239] and experience has revealed the maps are inaccurate.[240] Local governments are not directed by the GMA to "ground-truth" the maps and will certainly vary in the amount of resources voluntarily expended to verify the maps.[241]

The WOCD bibliography[242] is a multi-agency document, and therefore likely reflects what state agencies were thinking in 2002 with respect to the BAS for protecting fish and wildlife conservation areas (as well as the other critical areas). Upon review of the bibliography, one can reasonably conclude that water-typing is the state-recommended method for identifying "waters of the state." The document is silent regarding protective measures, although the recommendation of water-typing may naturally lead to reliance on the forest practice regulations as the source for protective measures, namely buffer zones. The applicable regulations do mention a number of measures that local governments "may consider" and buffer zones are included in that group.[243]

Waters of the state are also protected, however, by state water quality standards[244] and antidegradation policy.[245] The revised standards explicitly

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ECOSYSTEM APPROACH TO SALMONID CONSERVATION. TR-4501-96-6057. 194 MANTECH ENVIRONMENTAL RESEARCH SERVICES CORP., Corvallis, OR. (1996) at 194.

238. *See supra* note 236 and accompanying text.

239. Section 222-16-030 of the Washington Administrative Code states that the Washington Department of Natural Resources shall prepare maps showing the location of regulated waters "within the forested areas of the state." WASH. ADMIN. CODE 222-16-030 (2009).

240. Wild Fish Conservancy 2007, *Conserving the Lifeblood of Puget Sound*, WILD FISH JOURNAL, Spring 2007, *available at* http://www.Wildfishconservancy .org/WebNewsletter2007.pdf.

241. *Id.*

242. WASH. OFFICE OF CMTY DEVELOPMENT, CITATIONS OF RECOMMENDED SOURCES OF BEST AVAILABLE SCIENCE FOR DESIGNATING AND PROTECTING CRITICAL AREAS (2002).

243. WASH. ADMIN. CODE 365-190-080(5)(b)(v) (2009).

244. *Id.* § 173-201A-010.

245. WASH. ADMIN. CODE *Id.* § 173- § -201A-300.

protect non-fish aquatic species[246] and therefore, are consistent with the protection of existing uses. The tendency for local governments, however, is to follow the forest practice regulations[247] and provide smaller buffers for smaller streams.[248]

There is considerable literature on land use changes and associated impacts on biological integrity, much of which is specific to Washington, and thus should be considered as BAS. WOCD[249] cites a number of stream studies as BAS, but the citations are in regard to other types of critical areas, not for streams (e.g., a report of urbanization effects on Puget Sound lowland streams is cited as BAS in the "frequently flooded areas" critical area section, not in the "waters of the state" critical area section of the document).[250] While these stream studies may have applicability to other critical areas, the exclusion of them from the BAS section on "waters of the state" (i.e., streams) is questionable. Studies on the effects of urbanization on streams – and methods to avoid the adverse effects – should not be excluded from a document purporting to describe the best available science. The WOCD bibliography[251] stated that the compilation of BAS will be updated annually, but that has not occurred.[252]

As cities and counties have prepared their critical areas ordinances, however, some have assembled their own bibliographies of BAS, and fortunately, some of those are more inclusive. For example, the City of Issaquah (King County) issued a BAS report[253] that discusses the effectiveness of buffers and noted:

246. *Id.* § 173-201A-200(1).

247. *Id.* § 222-30-021 to -023.

248. *Id.*

249. *Citations of Recommended Sources of Best Available Science for Designating and Protecting Critical Areas* lists six relevant stream references under the section describing BAS for "frequently flooded areas," WASH. OFFICE OF CMTY DEV., *supra* note 227, at 16-17, in addition to a number of references applicable to streams under the BAS section for "shellfish areas." *Id.* at 37-41. Some of these studies speak to the amount of impervious surface in a watershed and biological health and thus speak to watershed effects. But under "waters of the state" the WOCD document is silent, aside from a recommendation for "water-typing" as a means of identification, with an implied recommendation for riparian buffers as an adequate protective measure, keeping the focus on the site-scale rather than taking a broader view.

250. *Id.*

251. *Id.*

252. Interview with D. Andersen, in Washington.

253. CITY OF ISSAQUAH, BEST AVAILABLE SCIENCE REPORT (2004).

> While the effects of urbanization on a watershed are tied to the loss or disturbance of native riparian areas, the total impervious area in a watershed or drainage basin is also associated with stream degradation. Adverse impacts of high impervious levels include flushing of large woody debris and spawning gravels from streams. The simple application of prescriptive buffers may not be adequate to protect functions or restore urban streams because urban-induced changes to hydrology (high percentage of effective impervious area) may result in irreparable aquatic system loss.[254]

The City then concludes, however, that Issaquah cannot protect biological integrity alone, and that a watershed approach is preferable:

> [Issaquah's stream study] also concluded that watershed-scale processes have great impacts on Issaquah's streams, stating that "basin hydrology, sediment transport, impervious surface area, and water quality on a watershed scale will need to be explored and pursued in conjunction with neighboring jurisdictions if long-term and sustainable habitat improvements are to be achieved. Issaquah is actively participating in the WRIA 8 process to address issues at the watershed scale that affect local stream conditions.[255]

The document goes on to recommend buffer zones and the limited circumstances under which they may be reduced.[256] Unfortunately, water quality protection is not entrusted to a watershed-based entity, but instead left to the discretion of each local jurisdiction and collaboration across political boundaries is a voluntary effort. It is likely too soon to know if the collaborative effort in this particular watershed can be successful in providing meaningful protection at the watershed scale.

Overall, it appears that even if the state's guidance for BAS for streams is lacking, at least some local governments recognize the connection between land use conversion and landscape scale effects and the need to

254. *Id*. at 32.

255. *Id*.; the "WRIA 8 process" is a collaborative effort by 27 local governments, tribes, and interested citizens to advance salmon recovery in the King County watershed of Lake Washington/Cedar River/Lake Sammamish. http://www.govlink.org/watersheds/8/default.aspx. "WRIA" is the acronym for "Water Resource Inventory Area"; state regulations divide Washington into sixty-two WRIAs which are used as the basic unit for watershed planning and in many other regulatory programs. WASH. ADMIN. CODE 173-500-040 (2009).

256. *Id*. at 35.

extend protection outside the riparian zone. Unfortunately, the adopted protective measures may not reflect the connection. It is beyond the scope of this paper to review all of the critical area ordinances adopted by municipalities and determine their degree of protectiveness. Nonetheless, it is clear that the protection under the GMA is variable and in cases may not equal the simple but definite protection afforded by Tier I of the antidegradation policy. In addition, the fact that each political jurisdiction must write and implement its own protective measures makes integrated, watershed-based protection a challenge.

C. Watershed Planning Act

In 1998, Washington enacted the Watershed Planning Act, a water resources planning law.[257] This law is administered by the Department of Ecology, and is focused on water quantity, giving "local citizens the opportunity to work with local, state and tribal governments to write watershed plans for their community's present and future water needs."[258] The law also provides for state grants to pay for the planning processes.[259]

The major function of the "planning units" (the term for the watershed groups) is therefore to focus on water quantity issues, but they can choose to integrate information on water quality[260] and aquatic habitat[261] into the watershed plan. If the planning units do consider aquatic habitat, the habitat restoration component (the "nonregulatory" component) is the plan developed by the regional organizations working under the Salmon Recovery Planning Act[262] ("lead entities"[263]). The "regulatory" habitat component of the plan should be based on "existing laws, rules, or ordinances created for the purpose of protecting, restoring, or enhancing fish habitat," including the Shoreline Management Act, the Growth Management Act, and the Forest Practices Act.[264] Neither the CWA nor the state's Water Pollution Control Act is mentioned.

257. WASH. REV. CODE § 90.82 (2009).

258. WASH. DEP'T OF ECOLOGY, PUBL'N NO. 08-06-002, 2007 REPORT TO THE LEGISLATURE: PROGRESS ON WATERSHED PLANNING AND SETTING INSTREAM FLOWS 4 (2008); *see also* WASH. REV. CODE § 90.82.0609(1) (2009).

259. WASH. REV. CODE § 90.82.040 (2009).

260. *Id.* § 90.82.090. This generally means coordination with any TMDL planned for the watershed. S*ee supra* note 289 for explanation of "TMDL."

261. *Id.* § 90.82.100.

262. *Id.* § 90.82.100.

263. See *supra* note 16 and accompanying text.

264. *Id.* § 90.82.100.

Forty of sixty-two "water resource inventory areas" ("WRIAs") in Washington have begun planning or are in the implementation phase of completed plans.[265] An examination of completed plans that do address habitat reveals that the plans do not consider the CWA or the antidegradation policy as tools to protect biology.[266] Instead, the plans state that habitat protection will be accomplished primarily by local governments, as might be expected given the statutory language.[267]

D. Forest Practices Act

Although this paper's primary focus is on the protection of streams from the effects of land-use conversion, implementation of Washington's 1974 Forest Practices Act[268] affects headwater areas and may serve as a model for other initiatives. The Act's purposes are, among other things, to "recognize both the public and private interest in the profitable growing and harvesting of timber,"[269] "provide for regulation of forest practices so as to avoid unnecessary duplication in such rules,"[270] and "achieve compliance with all applicable requirements of federal and state law with respect to nonpoint sources of water pollution from forest practices."[271] The law established a Forest Practices Board[272] to adopt regulations applicable to "forest practices"[273] on private and government-owned lands (except federal

265. WASH. DEP'T OF ECOLOGY, *supra* note 258, at 7.

266. *See* YAKIMA RIVER BASIN WATERSHED PLANNING UNIT AND TRI-COUNTY WATER RES. AGENCY, WATERSHED MANAGEMENT PLAN: YAKIMA RIVER BASIN 7-21 to -23 (2003) (using the word "antidegradation" in terms of protecting functioning habitat, but not in the context of the water quality standards); *see also* GRAYS HARBOR COUNTY, CHEHALIS BASIN WATERSHED MANAGEMENT PLAN SUPPLEMENT II-40 to -46 (2004) (A section entitled "Legal and Regulatory Framework" does not mention the water quality standards in a list of applicable "State Laws, Rules, Regulations, and Court Decisions.").

267. WASH. REV. CODE § 90.82.100 (2009).

268. 1974 Wash. Sess. Laws 137.

269. WASH. REV. CODE § 76.09.010(2)(c) (2009).

270. *Id.* § 76.09.010(2)(e).

271. *Id.* § 76.09.010(2)(g).

272. *Id.* § 76.09.030.

273. Defined as including but not limited to (1) road and trail construction; (2) harvesting, final and intermediate; (3) precommercial thinning; (4) reforestation; (5) fertilization; (6) prevention and suppression of diseases and insects; (7) salvage of trees; and (8) brush control. WASH. REV. CODE § 76.09.020(11) (2009).

and tribal lands),[274] and established a permit program covering various forest practices[275] to be administered by the Washington Department of Natural Resources (DNR).[276] With respect to nonpoint source pollution, a provision of the Water Pollution Control Act[277] allows the Department of Ecology to review the forest practice regulations and directs Ecology and DNR to agree on forest practice rules that will allow water quality standards to be met. No permit program for nonpoint source pollution generated by forest practices can be established by Ecology,[278] and parties will not be assessed with a fine or penalties for nonpoint source pollution if their work is done in accordance with forest practice rules.[279]

Industry, tribal, governmental and conservation interests negotiated changes to forestry regulations in the late 1990s in response to ESA listings of salmonids and listings of various surface waters as impaired by forestry under the CWA Section 303(d)[280] The negotiations produced non-unanimous[281] recommendations for statutory and regulatory changes compiled in a report called the "Forests and Fish Report." The 1999 Forests and Fish Law[282] amended the Forest Practices Act to allow the negotiated regulations to take effect until the passage of permanent rules.[283] As discussed above, the forest practice rules classify streams using the water-

274. *Id.* § 76.09.040.

275. *Id.* § 76.09.050.

276. *Id.* § 76.09.020(7).

277. *Id.* §§ 90.48.420, 76.09.185 (Section 76.09.185, with the heading, "Water quality standards affected by forest practices," reads in its entirety, "See RCW 90.48.420.")

278. *Id.* § 90.48.420(3).

279. *Id.*

280. WASH. DEP'T OF NATURAL RES., FOREST PRACTICES HABITAT CONSERVATION PLAN 1 (2005), *available at* http://www.dnr.wa.gov/htdocs/agency/federalassurances/final_fphcp/index.html. The other two goals of the Forests and Fish Report are "to restore and maintain riparian habitat on non-Federal forestlands to support a harvestable supply of fish" and "to keep the timber industry economically viable in the state of Washington." *Id.*

281. Six caucuses were represented: industry, tribal, environmental, and federal, state, and local governments. Before negotiations were completed, the environmental community withdrew, and the Forests and Fish Report represents the views of the remaining five caucuses. WASH. DEP'T OF NATURAL RES., FORESTS AND FISH REPORT 2, *available at* http://www.dnr.wa.gov/Publications/fp_rules_forestsandfish.pdf.

282. Engrossed Substitute House Bill 2091, Chapter 4, Laws of 1999.

283. WASH. REV. CODE § 76.09.055 (2009).

typing method[284] and protecting them by prescribing riparian buffer zones and other best management practices (BMPs).[285]

In 2005 Washington submitted the regulations[286] to NOAA Fisheries and the US Fish and Wildlife Service as an HCP so that any "take" of listed species that would occur under a forest practices permit would be permitted under Section 10 of the ESA.[287] In 2006, the Services approved the HCP.[288]

The Forests and Fish Report recognized that forest practices have impaired some streams to such an extent that they have been placed on Washington's Clean Water Act Section 303(d) list as "impaired waters" for temperature and sediment loads. Normally, such as a listing would require development of a "Total Maximum Daily Load" or "TMDL."[289] However, as part of the 1999 negotiations, Ecology and EPA agreed to delay any forestry-related TMDLs until 2009 in exchange for implementation of the negotiated BMPs plus an adaptive management strategy designed to make any needed changes.[290] The thought was that the new forest practice regulations would improve water quality and obviate the need for TMDLs.[291]

284. S*ee supra* notes 232-234 and accompanying text.

285. I*d*.

286. NOAA FISHERIES, ENDANGERED SPECIES ACT SECTION 7 CONSULTATION BIOLOGICAL OPINION AND SECTION 10 STATEMENT OF FINDINGS AND MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT ESSENTIAL FISH HABITAT CONSULTATION: WASHINGTON STATE FOREST PRACTICES HABITAT CONSERVATION 2 (2006).

287. S*ee supra* note 37 and accompanying text.

288. NOAA FISHERIES, *supra* note 286; U.S. FISH AND WILDLIFE SERV., FINDINGS AND RECOMMENDATIONS FOR ISSUANCE OF A SECTION 10 (A)(1)(B) INCIDENTAL TAKE PERMIT (PERMIT NUMBER PRT-TEI 2 1202-0) ASSOCIATED WITH THE STATE OF WASHINGTON FOREST PRACTICES HABITAT CONSERVATION PLAN (2006).

289. FORESTS AND FISH REPORT at 134. A "TMDL" is short for "Total Maximum Daily Load." According to EPA, "Under section 303(d) of the Clean Water Act, states, territories, and authorized tribes are required to develop lists of impaired waters. These are waters that are too polluted or otherwise degraded to meet the water quality standards set by states, territories, or authorized tribes. The law requires that these jurisdictions establish priority rankings for waters on the lists and develop TMDLs for these waters. A Total Maximum Daily Load, or TMDL, is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards." IMPAIRED WATERS AND MAXIMUM DAILY LOADS, *available at* http://www.epa.gov/owow/tmdl/.

290. I*d*.

291. I*d*.

In 2006, Ecology and EPA outlined how they expected the effort to meet CWA requirements[292] and stated that they "believe[d] that as a result of these [Forests and Fish report] commitments, waters covered by the report [would] meet water quality standards in the future."[293] The paper also states that the 1999 Forests and Fish report anticipated "lower temperature standards and targeted numeric and narrative standards relevant to aquatic habitat, including antidegradation."[294] Under a section entitled "Continuing Obligations under the Clean Water Act," the paper states:

> Ecology and EPA will continue to review water quality standards to ensure protection of beneficial uses of state waters. Water quality standards include antidegradation of existing water quality. Ecology and EPA will also review adaptive management study results to determine if the Forest Practices Program meets antidegradation requirements.[295]

The paper does not spell out how this last step will be accomplished, nor is any earlier analysis cited as evidence that the prescriptions will likely protect biological integrity. Environmental interests, although not a signatory to the Forests and Fish Report,[296] have continued participating in the process and have expressed skepticism about the ability of the forest practice prescriptions to protect biological integrity[297] (and therefore, to meet Tier I antidegradation requirements) and perhaps more importantly,

292. WDOE & USEPA, WASHINGTON STATE'S FOREST PRACTICES PROGRAM AND THE CLEAN WATER ACT (2006).

293. *Id*. at 1.

294. *Id*. at 4.

295. *Id*. at 3.

296. *See supra* note 281.

297. Memorandum from Chris Mendoza to the U.S. Fish and Wildlife Serv. & NOAA Fisheries, *The Rationale Underpinning the* FPHCP *Riparian Conservation Strategy Is Severely Flawed* 19 (2005) ("In conducting compliance and effectiveness monitoring under a variety of forest management plans, we (ARC Consultants) have yet to produce or discover research results that indicate eliminating 50% of riparian buffers on perennial flowing streams, across a highly variable landscape, will afford enough riparian protection to listed headwater amphibian species and downstream fish bearing waters. Nor are we aware of research results indicating that fish species in adjacent downstream reaches will experience fewer mass wasting events from Type Np channels in the absence of wood recruitment from 50% of these channel types.").

cast doubts on the ability of the adaptive management program to provide relevant data for assessing the CWA assurances.[298]

In 2008, Ecology announced a formal review of the program to determine if CWA compliance assurances should be continued, but also indicated that it does not believe that the necessary data were available to make this evaluation:

> Ecology . . . is about to begin a formal review of the Forests & Fish Program (Program) to determine if it should continue to be relied upon to protect water quality and to bring degraded waters back into compliance with the state's water quality standards . . . The time period granted for the CWA assurances expires on July 1, 2009, and Ecology needs to determine if the assurances should be continued beyond that date. *It is clear at the outset that Ecology will not have the information it needs in 2009 to determine if the Program is bringing waters into compliance with the* CWA *and the state water quality standards* . . . The Program has not, however, answered fundamental questions regarding compliance with water quality standards and has not completed the prescription effectiveness studies needed to determine if water quality is being appropriately monitored. In addition, the Program is only just now starting its formal monitoring program for assessing the status and trends of the water quality of forest streams (emphasis added).[299]

Lessons learned from the forest practices adaptive management program should inform development of similar programs. If the protection offered by the forest practice regulations does not protect all aquatic biological integrity, it will not meet Tier I antidegradation standards protecting "uses." If this happens, it will resemble the protection under other state laws (or state implementation of federal laws) in that the protection offered by the antidegradation policy becomes optional, rather than the baseline protection. Unlike some of those, however, forest practices have direct regulatory linkages to the water quality standards.

298. Memo from Chris Mendoza to the U.S. Fish and Wildlife Serv. & NOAA Fisheries, *Flaws in the* FPHCP *Adaptive Management Program* 1 (2005) ("Even if relevant scientific information is available or produced, changes to rules based on scientific determinations must first be approved by the Forests and Fish "Policy Committee" before going to the Forest Practices Board for final approval. These two bodies consider other factors, like the economic vitality of the forest practices industry, when making decisions. Thus, there is no guarantee that the rules will eventually reflect best available science.").

299. Letter from Jay Manning, Director, Dep't of Ecology, to Forest Practice board members (April 4, 2008).

Ecology and EPA have an opportunity in the Forests and Fish effort, through the CWA, to ensure that forest practice rules actually do protect biological integrity, despite the fact that since 1999, the data necessary to evaluate the assumptions have not been collected.

VI. Protection Afforded by Salmon Recovery Processes and the Puget Sound Recovery Initiative

There are also watershed-level initiatives taking place in Washington that may offer avenues to protect biological integrity. Salmon recovery plans have been developed for individual species or multiple species over a particular geographic area in response to ESA listings and state legislation. Also, Puget Sound[300] has been the target of specific state efforts for protection and recovery.

A. Salmon Recovery Planning Act and Regional Recovery Plans

In 1999 Washington enacted the Salmon Recovery Planning Act.[301] The law established the Governor's Salmon Recovery Office (GSRO),[302] responsible for producing a statewide recovery strategy and assisting in

300. Section 90.71.010(11) of the Revised Code of Washington reads, "'Puget Sound' means Puget Sound and related inland marine waters, including all salt waters of the state of Washington inside the international boundary line between Washington and British Columbia, and lying east of the junction of the Pacific Ocean and the Strait of Juan de Fuca, and the rivers and streams draining to Puget Sound as mapped by water resource inventory areas 1 through 19 in WAC 173-500-040 as it exists on July 1, 2007." WASH. REV. CODE § 90.71.010(11) (2009). The U.S. Geological Survey offers a more useful definition: "The Puget Sound Basin encompasses the 13,700-square-mile area that drains to Puget Sound and adjacent marine waters. Included are all or part of 13 counties in western Washington, as well as the headwaters of the Skagit River and part of the Nooksack River in British Columbia, Canada. Streams and rivers drain three physiographic provinces – the Olympic Mountains in the west, the Cascade Range in the east, and the Puget Lowlands in the center of the basin." U.S. GEOLOGICAL SURVEY, WATER QUALITY IN THE PUGET SOUND BASIN, WASHINGTON AND BRITISH COLUMBIA, 1996–98, CIRCULAR 1216, at 3 (2000). From an ecosystem perspective, Puget Sound is part of the larger "Salish Sea" defined by USGS as "Puget Sound in the United States, the Strait of Georgia in Canada, and the Strait of Juan de Fuca between the two countries." U.S. Geological Survey, SOUND WAVES, May 2008, at 3.

301. 1998 Wash. Sess. Laws 246.

302. WASH. REV. CODE § 77.85.030(1) (2009).

preparation of regional recovery plans.[303] The legislation also established the Salmon Recovery Funding Board[304] to fund salmon recovery projects[305] (usually those proposed by "lead entities"[306]). The GSRO released the "Statewide Strategy to Recover Salmon" in 1999.[307]

When the 1999 Strategy outlined the numerous laws affecting salmon, antidegradation merited one mention: Ecology's revisions (since enacted) to the antidegradation policy included mechanisms and procedures to implement Tier II of antidegradation, the protection of high quality waters.[308] The change in the standards from designating waterbodies from the "class-based" system to the "use-based" system was also mentioned.[309] The Strategy advocated integrating TMDLs (for specific pollutants) into ESA recovery plans.[310] Regarding land use, the Strategy relied on state laws such as the Growth Management Act and the Shoreline Management Act, as well as voluntary measures, in order to recover salmon:

> The statewide strategy for addressing land use decisions has three key elements. First, it seeks to emphasize collaborative decision-making. No single governmental agency or private party will be able to solve this problem on its own. State, local, and tribal governments and their citizens must work together in a coordinated manner for the common good. Second, it seeks to emphasize citizen participation and voluntary and incentive based efforts. Finally, it recognizes that there must be changes in state, local and tribal governments, and citizen land use practices that have an undue detrimental impact on salmon.[311]

Not all were convinced of the soundness of this approach. A review of the Strategy issued by the Independent Science Panel included the following critique of the land use section:

> In total, the actions proposed under the land use section may very well reduce the net future impact of further development on salmonids by making actions taken more salmonid-friendly. But the approach will not address the fundamental issues of expanding urbanization and

303. *Id.*
304. *Id.* § 77.85.110.
305. *Id.* § 77.85.120.
306. See *supra* note 16 and accompanying text.
307. WASH. STATE JOINT NATURAL RES. CABINET, *supra* note 220.
308. *Id.* at IV-168 to -169.
309. *Id.*
310. *Id.* at IV-171 to -173.
311. *Id.* at IV-95.

> forest conversion that help drive the impact of land use on salmonid populations. It is not known at present how to build-out rural areas in a manner that impacts to salmonids are mitigated, let alone prevented. Hence, the proposed program of more of the same, just better, may slow but likely will not reverse the ongoing regional trends in salmonid habitat degradation.[312]

In a response to the ISP, the Joint Natural Resources Cabinet[313] defended the approach, saying both regulatory and voluntary approaches were needed and added that they would elaborate further in a revised Strategy.[314] The Strategy was updated in 2006,[315] but no elaboration is evident; in fact, the 2006 Strategy is significantly shorter than the 1999 version. Another 2006 report produced by the GSRO, the "2006 State of Salmon in Watersheds"[316] is the fourth in a biennial series of reports, and it does not speak about protective measures in great detail, similar to the 2006 Strategy. The most recent publication from the GSRO, a 2008 agency implementation plan,[317] speaks to TMDLs when the subject of the Clean Water Act is broached. State water quality standards are not mentioned.

Similarly, some of the regional plans developed thus far do not see a large role for the CWA, and follow the lead of the statewide Strategy in looking to a combination of voluntary efforts and local regulations to protect habitat. A regional Puget Sound plan, known as "Shared Strategy," has been prepared and released by a joint committee of government and Tribal

312. INDEPENDENT SCIENCE PANEL, REVIEW OF "STATEWIDE STRATEGY TO RECOVER SALMON: EXTINCTION IS NOT AN OPTION" 14 (2000), *available at* http://www.governor.wa.gov/gsro/science/pdf/review.pdf.

313. A body of (mostly) state agency heads created in 1997 by the then-Governor Gary Locke, with a tribal representative joining in 1999. *See* GOVERNOR'S SALMON RECOVERY OFFICE, THE JOINT NATURAL RESOURCES CABINET, *available at* http://www.governor.wa.gov/gsro/publications/action/plan/cabinet.pdf.

314. Memorandum from Joint Natural Resources Cabinet to Independent Science Panel, I*ndependent Science Panel Review of the Statewide Strategy to Recover Salmon* 5 (July 6, 2000), *available at* http://www.governor.wa.gov/gsro/science/pdf/response.pdf.

315. GOVERNOR'S SALMON RECOVERY OFFICE, *supra* note 38.

316. GOVERNOR'S SALMON RECOVERY OFFICE, 2006 STATE OF SALMON IN WATERSHEDS (2006).

317. GOVERNOR'S SALMON RECOVERY OFFICE, SALMON RECOVERY PLAN IMPLEMENTATION: A REPORT ON HIGH-PRIORITY STATE AND FEDERAL ACTIONS NEEDED TO IMPLEMENT SALMON RECOVERY PLANS (2008).

entities and citizens groups.[318] While the plan states "a strong set of regulatory and voluntary protection programs have [sic] to be consistently implemented, improved and updated based on new information and ideas on how to address the threats from human population growth, re-development and ongoing land-use activities and practices,"[319] the plan considers the state's GMA and SMA, along with voluntary measures and educational and outreach efforts, to be the primary methods for protecting biological integrity from land use changes.[320]

While NOAA Fisheries accepted the plan,[321] it did so expressing reservations about some sections through a "supplement."[322] NOAA Fisheries was blunt when it came to habitat protection measures, as the agency believed that "there is significant uncertainty regarding the ability of current programs to address the Factor A threats ("[t]he present or threatened destruction, modification, or curtailment of a species' habitat or range") identified in Section 2.3.1.2 of this Supplement and to produce the results necessary to achieve recovery of the ESU."[323] Although NOAA found "important opportunities to protect existing habitat and habitat-forming processes . . . through updating and adopting Federal, state, and local land use protection programs, as well as more effectively combining regulatory, voluntary, and incentive-based protection programs" in the plan, they offered no specifics on how much the current programs need to be improved in order to remove the "uncertainty."[324]

Similarly, the recent Upper Columbia Recovery Plan[325] does not show any significant reliance on the CWA as a tool to restore salmonids. The plan mentions that the CWA has "not been completely implemented" and therefore has "not been successful" in protecting chinook salmon, steelhead,

318. SHARED STRATEGY DEVELOPMENT COMMITTEE, PUGET SOUND SALMON RECOVERY PLAN (2007).

319. *Id*. at 359.

320. *Id*. at 359-360.

321. *Endangered and Threatened Species; Recovery Plans*, 72 Fed. Reg. 2,493 (Jan. 19, 2007).

322. NOAA FISHERIES NORTHWEST REGION, FINAL SUPPLEMENT TO THE SHARED STRATEGY'S PUGET SOUND SALMON RECOVERY PLAN (2006).

323. *Id*. at 8. While the Supplement was written in response to the draft recovery plan, this analysis found that the pages of the final plan that are cited in notes 319-320 are identical to the corresponding pages in the draft recovery plan.

324. *Id*.

325. UPPER COLUMBIA SALMON RECOVERY BOARD, UPPER COLUMBIA SPRING CHINOOK SALMON AND STEELHEAD RECOVERY PLAN (2007).

and bull trout from nonpoint source pollution.[326] One of the plan's goals is to "protect existing areas where high ecological integrity and natural ecosystem processes persist,"[327] but the plan does not consider the CWA as a way to help achieve that goal.

This is unfortunate because the plan recognizes the inadequacies of present approaches, but almost seems resigned to the status quo. The plan states, "although the Washington State Growth Management Act and Shoreline Management Act have been significantly changed to improve management, conditions and protection efforts for listed species and compliance monitoring (enforcement) have lagged behind because of a lack of political support and funding."[328] After this recognition of the drawbacks, however, the plan presents a much rosier view of the status quo (as a long-term objective): "counties will *continue* to consider recovery needs of salmon and trout in comprehensive land-use planning processes" (emphasis added).[329]

The authors correctly state that development activities demand "no-net-impact protection,"[330] which the Upper Columbia Recovery Plan defines as "(1) activities that can harm stream and riparian structure and function will not occur, or (2) activities that harm stream and riparian habitat are mitigated by restoring and protecting an 'equal or greater' amount of habitat."[331] The qualifier is found in a footnote: "this type of protection can only be met if better standards are implemented and enforced. At this time there are institutional and social problems with improving the standards. Although "no-net-impact protection" is unlikely to occur, this form of protection was included in habitat modeling.[332]

In other words, the authors knew what type of protection was needed, but could not envision it occurring. Despite this, a high level of protection is used in modeling the listed species' response to an array of recovery actions, not just habitat-oriented, but also related to harvest, hatcheries, and hydropower impacts.[333] As far as can be determined, NOAA Fisheries has not written a "supplement" to the Upper Columbia River Recovery Plan as it did for the Puget Sound Plan. Although NOAA has approved the Upper

326. I*d*. at xxv. The Plan also contains recovery recommendations for bull trout. I*d*. at ii.

327. I*d*. at 198.

328. I*d*. at xxv.

329. I*d*. at 196.

330. I*d*. at 198.

331. I*d*.

332. I*d*. (fn).

333. Modeling was conducted for "planning purposes" only, not for determining when a population may be recovered. I*d*. at 204.

Columbia plan,[334] its reservations about the Puget Sound plan's reliance on an uncertain regulatory framework for habitat protection[335] seem to apply equally to the Upper Columbia Recovery Plan.

B. Puget Sound Recovery Initiative

In December 2005, Washington Governor Christine Gregoire formed the Puget Sound Partnership, a public/private group comprised of twenty-one representatives of government, Tribal, business, and conservation entities.[336] The Governor charged the group to develop recommendations by the end of 2006 on how to restore and protect the Sound by 2020.[337] The Partnership presented a final plan about one year later,[338] calling for a state "organization" to coordinate all Puget Sound restoration efforts.[339]

In May 2007, Governor Gregoire signed legislation[340] that established the Puget Sound Partnership as a new state agency,[341] replacing the Puget Sound Action Team.[342] The new Partnership was also charged with development of an "Action Agenda" or plan, to restore the Sound,[343] the Partnership finalized the Action Agenda in late 2008[344] after extensive public input.[345]

334. *Endangered and Threatened Species; Recovery Plans*, 72 Fed. Reg. 57,303 (Oct. 19, 2007).

335. See *supra* notes 322-324 and accompanying text.

336. Press Release, Wash. State Governor's Office, *Gov Gregoire: Protect And Restore Puget Sound* (December 19, 2005), *available at* http://www.governor.wa.gov/news/news/view.asp?pressRelease=218&newsType=1.

337. *Id.*

338. PUGET SOUND PARTNERSHIP, SOUND HEALTH, SOUND FUTURE: PROTECTING AND RESTORING PUGET SOUND (2006).

339. *Id.* at 71.

340. 2007 Wash. Sess. Laws 341.

341. WASH. REV. CODE § 90.71.210 (2009).

342. Another state agency established by 1996 Wash. Sess. Laws 138 with a charge very similar to the current Puget Sound Partnership. It, in turn, replaced the second Puget Sound Water Quality Authority, established by 1985 Wash. Sess. Laws 451. The first Puget Sound Water Quality Authority was established by 1983 Wash. Sess. Laws 243.

343. WASH. REV. CODE § 90.71.200(2)(a) (2009).

344. PUGET SOUND PARTNERSHIP, PUGET SOUND ACTION AGENDA: PROTECTING AND RESTORING THE PUGET SOUND ECOSYSTEM BY 2020 (2008).

345. "More than 1,600 people attended public workshops, 75 presentations were given to business and community organizations, and

The Action Agenda states that "alteration and loss of habitat and the ongoing input of pollution are the top two immediate and pervasive threats facing Puget Sound"[346] and prioritizes protection of "the intact ecosystem processes, structures, and functions that sustain Puget Sound,"[347] noting that "avoiding problems before they occur is the best and most cost-effective approach to ecosystem health."[348]

The Action Agenda then identifies a number of problems with the current habitat protection framework:

> The region lacks a comprehensive, integrated marine and upland habitat protection strategy to preserve sites and areas with the highest ecological value. Habitat protection until now has been scattered, opportunistic, and disconnected from the physical processes that build and sustain habitat features. Current environmental protection measures in Puget Sound fail to protect ecosystem processes and structure because the measures were intended to protect individual pieces of the system, typically at the site scale, rather than the larger scale of the Puget Sound ecosystem. Since the 1970s, federal, state, and local governments employed numerous protective regulations, land use planning tools, acquisition of property, incentive programs, and education/stewardship programs designed to protect the environment and to manage for and minimize the adverse consequences of human population growth and associated land cover change. Despite these efforts, many activities continue to alter and degrade habitat across the lands and waters of the Puget Sound region, placing our ecosystem at increased risk from existing and future development.[349]

The Action Agenda then lists a number of measures meant to remedy these deficiencies, most notably:

- § Prepare and consistently use regional ecosystem protection standards with a decisionmaking framework to guide protection and restoration decisions in marine, freshwater and upland terrestrial areas. This system of recommended standards should be designed to apply anywhere in Puget Sound, bring consistency to protection

11,182 public comments were received in writing or on-line with ideas and comments on the Partnership's work." I*d*. at 3.

346. I*d*. at 4.

347. I*d*. at 5.

348. I*d*.

349. I*d*. at 33.

decision-making across the region, and build on existing decision-making tools as much as possible.[350]

§ Use Action Agenda-based watershed assessments to define areas that should be protected and those that are best suited for growth using low impact development (LID) technologies, and to prioritize restoration opportunities including stormwater retrofits. This information will be used to set priorities for local protection and restoration work. The assessments will build on and expand existing efforts to more comprehensively identify important ecosystem processes in each area.[351]

§ Develop regional and associated local protection and restoration strategies and priorities using the results of the assessment and the decision-making framework. Focus on protection and restoration in the broad context of the ecosystem and strategic needs. Use and build on existing decision-support tools as much as possible. Examples include, but are not limited to, The Nature Conservancy Ecoregional Planning Model and the Puget Sound Nearshore Estuary and Restoration Program.[352]

However, the plan goes on to list at least one other action that seems to contradict a regional approach: "update and implement regulatory programs related to growth and shoreline protection to increase levels of protection while increasing density in urban areas . . . [and] assist local governments in completing and implementing the Growth Management Act, Critical Areas Ordinances, and Shoreline Master Program Updates on schedule and as written."[353] Because most, if not all, of the twelve counties and over 100 cities[354] in the Puget Sound region will be responsible for implementing these laws, it is hard to see how this recommendation does not result in a continuation of the "fragmented system now in place to manage natural resources."[355]

According to the Action Agenda, stormwater is to be addressed on a watershed basis rather than on a jurisdictional one: "investigate, and if appropriate and feasible, establish watershed-scale stormwater permits through Section 208 of the Clean Water Act. Focus permits on the multitude

350. PUGET SOUND PARTNERSHIP, *supra* note 344, at 34.

351. *Id.* at 35.

352. *Id.*

353. *Id.* at 37.

354. *Id.* at 136-137.

355. *Id.* at 27.

of discharges that occur in logical geographic areas, rather than discharge-specific inputs or jurisdictional boundaries."[356] Just as important, water quality standards are to be met in stormwater permits: "implement the municipal stormwater NPDES Phase I and II permits so that the discharges from municipal stormwater systems are reduced. Achieve overall water quality standards. Provide financial and technical assistance to permitted cities and counties."[357]

Perhaps the final word is found in a recommendation for overhauling the regulatory scheme:

> Reform the environmental regulatory system to protect habitat at an ecosystem scale . . . . Align federal, state, and local agency regulatory programs in Puget Sound to improve coordination, efficiency, and effectiveness of implementation. This means identifying overlapping authority and conflicts, and amending, realigning, or eliminating programs, laws, and regulations that are not resulting in desired outcomes.[358]

As discussed above, implementing a regional and watershed-based framework (permitting and standards), while at the same time directing local governments to complete extensive work on updating the habitat protection provisions mandated by the GMA and SMA,[359] is contradictory, so legislative changes will be necessary to implement some of the more far-reaching recommendations.[360]

The only mention of water quality standards in the document is an important one, as it comes in the stormwater permitting section,[361] but the

356. I*d*. at 51.

357. I*d*. at 52.

358. PUGET SOUND PARTNERSHIP, *supra* note 344, at 64-65.

359. S*ee supra* note 353 and accompanying text. There is no indication in the Action Agenda that the recommendation for updating local government programs is intended to be a "stopgap" measure.

360. And also reflects the political climate. At public meetings, local government officials defended their protective ordinances and asked for more time (and funding) for implementing them. There is no question that some local governments have enacted protective ordinances and have spent much time and effort in developing them.

361. The current state S*tormwater* M*anagement* M*anual for* W*estern* W*ashington* notes that "beneficial uses will be lost" despite application of the best management plans outlined in the manual. S*ee supra* note 157 and accompanying text. Stating that stormwater permits must meet water quality standards implies greater oversight of downstream effects. If

antidegradation policy of the water quality standards is not mentioned in any regard.[362]

VII. Discussion

A. Standards As a Tool

Although Section 303 of the CWA mandates water quality standards,[363] the standards are nonetheless state regulations[364] that are also mandated by a state law, the Water Pollution Control Act.[365] The state Department of Ecology has the primary responsibility to enforce the water quality standards. EPA's role is mostly oversight of the various federally-mandated, but state-administered programs.

There are many efforts and initiatives aimed at protecting biological integrity or recovering listed aquatic species, but few of them contain a standard as straightforward as Tier I of the antidegradation policy. From its inception in 1968, the antidegradation policy drew a bright line. Water quality degradation was prohibited if it would impair the use. This directive to protect the biological integrity has existed since November 28, 1975 and is powerful – on paper, at least. However, there is no state guidance, and little federal guidance[366] on how to implement protection of "uses."

With the 2003 revisions to the standards – the antidegradation policy, use designations, and numeric criteria, such as new temperature criteria– protection of biological integrity should be better than ever. Could Ecology have made the standards even more relevant to biological integrity as some have advocated?[367] Establishment of biological criteria would certainly add details, and if regulations are more detailed, enforcement may become

watershed-scale permitting is indeed implemented, additional controls might be required. WASH. DEP'T OF ECOLOGY, *supra* note 148.

362. It is also not mentioned in an extensive (102 p.) "discussion paper" on "Habitat and Land Use" prepared by the Partnership (with extensive public input) in the spring and summer of 2008 as part of the Action Agenda development. PUGET SOUND PARTNERSHIP, DISCUSSION PAPER: HABITAT AND LAND USE (2008).

363. 33 U.S.C. § 1313 (2006).

364. WASH. ADMIN. CODE 173-201A (2009).

365. WASH. REV. CODE § 90.48 (2009).

366. EPA, *supra* note 56.

367. JAMES R. KARR, R. H. HORNER & C. R. HORNER, NATIONAL WILDLIFE FEDERATION, EPA'S REVIEW OF WASHINGTON'S WATER QUALITY CRITERIA: AN EVALUATION OF WHETHER WASHINGTON'S CRITERIA PROPOSAL PROTECTS STREAM HEALTH AND DESIGNATED USES (2003).

easier (or not). Biological criteria would require a long-term commitment of resources by Ecology. In the long run, however, doing so would make permits more relevant and would allow more straightforward enforcement of provisions prohibiting pollution from non-permitted activities.

But a larger question must be answered before biological criteria are embraced as a panacea. If urbanization is a major actor in the loss of biological integrity, will Ecology employ detailed standards to more effectively address this particular malady? As the above examination of various programs demonstrates, there is no indication that the water quality standards are considered when land use conversion occurs. And there is no indication that the water quality standards are not being applied because they lack biological criteria or other, more specific provisions. In many programs directly administered by Ecology, such as the nonpoint source pollution program[368] and the stormwater NPDES program,[369] the agency defers to local jurisdictions acting under the GMA and SMA for the critical land-use decisions – and accompanying protection – that ultimately determine the degree of degradation of the receiving waters.

It is not clear that Ecology would aggressively enforce more comprehensive standards, even if it had them. So while it is a problem that the standards are not as relevant as they could be in protecting biological integrity, the bigger problem is that the level of protection expressed in the standards, or something equivalent, is not applied to regulate all harmful activities.

The CWA is supposed to act as a minimum level of protection. As long as local jurisdictions are left to set their own standards in a way that does not take into account watershed characteristics (e.g., stream characteristics are more influenced by upgradient conditions), protection will be uneven, site-specific rather than watershed-based, and fail to meet the CWA standard. The GMA explicitly states that it does not require protecting all species in all places.[370] In other programs, such as watershed planning or salmon recovery, local entities have taken the lead on water resource allocation and salmon recovery without an understanding of the CWA's mandate to "restore and maintain" biological integrity. Within salmon recovery efforts, the Act's role is more or less limited to the application of chemical and physical numeric criteria, while protection of habitat is left up to voluntary efforts and to the protection that local jurisdictions are willing to extend under their GMA and SMA authorities, even as the authors of

368. S*ee supra* notes 120 to 142 and accompanying text.

369. S*ee supra* notes 142 to 172 and accompanying text.

370. WASH. ADMIN. CODE 365-190-080(5) (2009).

recovery plans recognize that protection is much less than desired.[371] The result will vary from jurisdiction to jurisdiction, but it probably means that in most cases less protection than that required by the CWA will be provided.

B. Protection of Uses as the Foundation

Ecology, through the water quality standards and the Water Pollution Control Act, has a responsibility to protect the biological integrity of Washington's waters. Now that the 2003 revisions to the standards have been approved, Ecology must explain in detail how protection of uses will be accomplished. The agency should prepare guidance for Tier I anti-degradation and not simply assume that attainment of numeric criteria automatically means protection of uses.[372]

Ecology needs to consider uses in a watershed context when writing stormwater permit guidance. Ecology also needs to promote use of the antidegradation policy to local entities preparing recovery plans, and remind local governments that their Critical Area Ordinance and Shoreline Master Program updates must use Tier I antidegradation as the absolute floor of protection.

EPA has a responsibility to ensure that Ecology is implementing the CWA and applying Washington's own water quality standards. Consider the Stormwater Manual for Western Washington,[373] which acknowledges that even with implementation of the BMPs, "some beneficial uses will continue to be impaired or lost."[374] A loss of a "use" meets the statutory definition of "pollution" in Washington's Water Pollution Control Act.[375] EPA should have objected strenuously both when reviewing the Stormwater Manual and when draft general NPDES permits were proposed. Both agencies need to ensure that forest practices meet water quality standards, including protection of all

371. S*ee supra* notes 325 and 335 and accompanying text. Washington's state government is particularly well-equipped to implement anti-degradation and to educate the public on the issue. Generally, the higher a person rises in government, the less detailed knowledge they have about specific regulatory issues. In this case, the current Governor of Washington, Christine Gregoire, argued the Elkhorn case to the U.S. Supreme Court in 1994 (*see supra* note 64 and accompanying text) as she was then the state's Attorney General, and the current director of the Department of Ecology, Jay Manning, was one of her assistants on the case.

372. S*ee supra* note 103 and accompanying text.

373. WASH. DEP'T OF ECOLOGY, *supra* note 148.

374. I*d*. at 1-25.

375. WASH. REV. CODE § 90.48.020.

fish and nonfish aquatic species in all waters of the state (including wetlands), as they pledged to do in 1999.

In its oversight role, EPA should ask a number of basic questions of Ecology. Besides having the physical words on paper for an antidegradation policy, how is the policy being implemented? Where are the implementation methods for Tier I antidegradation? What activities will be reviewed by Ecology – and what activities will not be reviewed? How will Tier I antidegradation be met for those latter activities? This is particularly important because salmon recovery and watershed restoration plans continue to state that habitat protection (and therefore, biological integrity) will be accomplished through the protection provided by the GMA, the SMA, the Forest Practices Act, and voluntary measures. Can the writers of these plans or Ecology demonstrate that this protection equals or exceeds that found in Tier I antidegradation? The bottom line is that EPA has a responsibility to ensure that Tier I antidegradation is actually applied to protect biological integrity and is not reduced to words on paper that can be disregarded simply because other laws assign similar responsibilities to local governments.

NOAA Fisheries and the USFWS, under their ESA Section 7[376] consultation authority, and their review of Habitat Conservation Plans under ESA Section 10,[377] should be asking similar questions. Tier I antidegradation was not an issue when EPA approved the water quality standards revisions,[378] and likewise was not raised by the Services.[379] There will be other opportunities, however, for the Services to make their voices heard in Section 7 consultations. EPA provides oversight on the entire NPDES program, reviews and approves general NPDES permits, and awards funds under a number of CWA programs. As a first step, the Services should ask EPA to ensure that Ecology is actually implementing and enforcing the water quality standards as part of the stormwater program and the nonpoint source program.

The Services should be more rigorous in their review of regional salmon recovery plans that stem from the Salmon Recovery Planning Act,

376. 16 U.S.C. § 1536(a)(2).

377. 16 U.S.C. § 1539(a)(1)(B).

378. Letter from EPA, Region 10, to Wash. Dep't of Ecology (May 2, 2007), *available at* http://www.ecy.wa.gov/programs/wq/swqs/epa-antideg_policy_approval.pdf (last visited Dec. 3, 2008); Letter from EPA, Region 10, to Ecology, (Feb. 11, 2008), *available at* http://www.ecy.wa.gov/ programs/wq/swqs/wa-wqs_00306_final_appvl.pdf (last visited Dec. 3, 2008).

379. Letter from USFWS, Western Washington Fish and Wildlife Office, to EPA Region 10 (Feb. 11, 2008); Letter from NOAA Fisheries, Northwest Region, to EPA Region 10 (February 5, 2008).

because those plans rely on the GMA, the SMA, and voluntary measures to protect existing biological integrity, and that suite is untested. The 1999 "Statewide Strategy to Recover Salmon" did not give a role to the CWA in protection of habitat.[380] Now, a regional recovery plan like the Puget Sound Recovery Plan asserts that it contains adequate tools to protect biological integrity, and implementation is left to local governments and voluntary efforts. The Services need to ensure that any regional recovery plan offers protection at least equivalent to that of the CWA. As it stands now, because these plans rely on hundreds of jurisdictions implementing the GMA and SMA (plus voluntary efforts), they likely fall short of meeting the CWA standard.

It is the duty of NOAA Fisheries and the USFWS to ensure that habitat is protected as fully as the law provides. Therefore, when regional plans are being developed, the federal agencies should ask and receive answers to some basic questions:

- §How well is biological integrity (existing uses) protected using the GMA and SMA *as those laws are implemented by the municipalities submitting the plan*? Does the recovery plan project future water quality and habitat conditions at the "build-out" scenario?
- §How are the municipalities going to ensure that water quality and biological integrity are addressed on a watershed scale rather than in terms of political boundaries? Do the land use planning ordinances and other regulations protect habitat-forming and habitat-maintaining processes on a landscape scale?
- §What is the "best available science" for protecting small watersheds, and what assurances are there that it is being applied consistently by those municipalities?
- §How often will the best available science be updated? How will the protective ordinances be updated to reflect the research?
- §What research is available to demonstrate the effectiveness of buffer zones in urbanizing watersheds? What additional research is needed?
- §Are the restoration plans more than sufficient to offset the degradation that will be caused by anticipated future development?

The goals of the CWA and the ESA are practically identical when considering the needs of ESA-listed aquatic species. There is simply no reason for NOAA Fisheries and the USFWS to accept recovery plans that do not apply the CWA, or equivalent protection, when that law clearly applies. The watershed and regional approach outlined in the Puget Sound

380. S*ee supra* notes 307-311 and accompanying text.

Partnership's Action Agenda is a good start, and an explicit recognition of the duty to protect uses is needed in any guidance document speaking to habitat protection that the Partnership develops.

One possible scenario for ensuring existing uses will be protected, and salmonid or watershed recovery accomplished, involves a greater role for the Services and Ecology at the watershed level. In each watershed (in Washington, this could be done at the WRIA[381] level, or a large WRIA could be sub-divided), a panel of scientists and experts made up of staff from state and federal agencies, local governments, and tribes should examine the suite of plans in each WRIA (e.g., stormwater management, land-use planning, salmonid recovery plans, habitat protection and restoration measures) in order to ensure that habitat-forming processes are maintained and that water quality standards are met (including biological indicators). There will be a need to consider build-out conditions and proposed restoration efforts, as well as sufficient assurances that the plan will be implemented. Afterwards, Ecology would "certify" that the watershed plan will result in attainment of water quality standards by issuance of a watershed-based stormwater permit, with conditions if necessary. This would be akin to a CWA Section 401 certification.

VIII. Conclusion

This paper can be distilled to one simple question: How can Washington use the antidegradation policy to protect biological integrity? The answer isn't simple. Endangered species recovery or watershed recovery is seen as a threat by many economic and political interests. There are many agencies involved and the relevant laws overlap, leading inevitably to bureaucratic friction. Perhaps most significantly, enforcement and a high standard for reviewing permit applications are not popular; there is a definite trend away from "command and control" and regulation of people, and a trend toward cooperative efforts, gathering input from local "stakeholders," and reaching consensus.

Daniel Jack Chasan investigated the enforcement of all environmental laws in regard to salmon recovery and painted a bleak picture. Of the Clean Water Act, he concludes:

> If one takes the legislative language seriously, [the Clean Water Act] protects the biological health of all the nation's waters; therefore, it focuses not simply on salmon – which cannot live in isolation – but on the complex aquatic systems that salmon need. But since the federal Environmental Protection Agency has delegated enforcement of the Clean Water Act to the states, the law joins the list of statutes and

381. *See supra* note 255 and accompanying text.

> ordinances that depend on state or local interpretation, enforcement and monitoring – which is precisely where most of the current problem lies.[382]

Citizens can and should ask their state legislators why critical areas ordinances do not meet Clean Water Act standards or why local governments are not *required* to use best available science. They can demand that their local government protect uses as the Clean Water Act mandates, even if that means greater enforcement actions against nonpoint source polluters, or saying "no" to permit applicants.

The public may have not used the phrase "protection of existing uses," but they have been demanding better enforcement. A series of public forums was held in May 2006 as part of an effort by the Puget Sound Partnership to gauge public opinion regarding the Sound.[383] At these forums, the public expressed the thought that the "Partnership must have the political will to ensure the existing laws are enforced, and also recommend new ones that will be unpopular with some constituencies."[384] The public realizes that cooperation and collaboration does not mean that all parties must agree all of the time, and that enforcement of environmental laws is incompatible with consensus, even if decision-makers will not admit it.

The late author Marc Reisner was speaking about dams and Western water quantity issues, but he could have easily been speaking about watershed recovery, and especially the enforcement of existing laws:

> The problem with consensus is that we abdicate an ability to make anything happen whenever an outspoken minority doesn't want it to. So we waste money on solutions everyone can buy into, but which achieve little. Consensus-seeking makes us all feel good. But it is, in Margaret Thacher's apt phrase, the negation of leadership[385]

This is not to say that all will be well if Tier I antidegradation protection is implemented by Ecology at the same time the input of local

382. DANIEL JACK CHASAN, *The Rusted Shield: Government's Failure to Enforce or Obey Our System of Environmental Law Threatens the Recovery of Puget Sound's Wild Salmon* 33 (2000), *available at* http://www.wildfishconservancy.org/what-we-do/advocacy/laws-and-regulations/Rusted%20Sheild%20FINAL.pdf.

383. COCKER FENNESSY, PUGET SOUND PARTNERSHIP, OPINION RESEARCH AND OUTREACH SYNOPSIS (2006).

384. *Id*. at 9.

385. Marc Reisner, The Age of Dams and Its Legacy, EARTHMATTERS, Winter 1999-2000, *available at* http://www.earthscape.org/p2/em/em_win00/win18.html.

citizens and governments is ignored. The processes set up in the numerous state laws discussed above are valuable, and participation from local citizens and governments is absolutely indispensable, if watershed recovery is to be realized. The Washington Legislature said in the Salmon Recovery Planning Act, "it is in the interest of the citizens of the state of Washington for the state to retain primary responsibility for managing the natural resources of the state, rather than abdicate those responsibilities to the federal government"[386]

So it bears repeating that Tier I antidegradation is a *state* regulation, that a state agency has the primary responsibility for enforcing it, and, it applies to all activities.[387] It does not serve the public interest to ignore a state law that directly applies, and applying and enforcing this state standard would certainly not abdicate anything to the federal government. The regulation has been on the books for years and the recent revisions only made the language more explicit. A failure to apply our own law cannot be blamed on the federal government. The buck starts and stops here in Washington.

The chance to restore watersheds and native fish is a limited time opportunity. Between 1991 and 1999, it is estimated that the Puget Sound region lost 2.3% of its forest cover, while adding 10.4% of impervious surface in the lowlands (areas less than 1000 feet in elevation).[388] In many watersheds, we will likely not be able to restore our way back to the best biological conditions "on or after November 28, 1975."[389] But as we identify the best candidates for restoration, and spend millions of dollars to restore them, it only makes sense to hold on to what we presently have. We are actually *required* to do so. We were supposed to be doing that for the last thirty-three years. Isn't it time we started?

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386. 1998 Wash. Sess. Laws 246 § 1.

387. WASH. ADMIN. CODE 173-201A-300(2)(e)(i) (2009).

388. PUGET SOUND PARTNERSHIP, ACTION AGENDA at 25.

389. The date from which existing uses are established. 40 C.F.R. § 131.3(3) (2009).

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