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SWIMMING UPSTREAM: A LEGAL ANALYSIS OF LISTING ATLANTIC SALMON AS AN ENDANGERED SPECIES

*John Elmen**

I. INTRODUCTION

In 1993, a group of conservationists,¹ concerned with the survival of the Atlantic salmon (*Salmo salar*), petitioned the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) (collectively, Services) to list anadromous Atlantic salmon as endangered throughout their historic range in the United States. The petition, authorized under Section 4 of the Endangered Species Act (ESA),² presented information on declines of Atlantic salmon populations, threats to the fish consisting of commercial and sport fishing, pollution, barriers to their migration, adverse land use practices, and genetic disruption.³ In response to the petition, the Services published a ninety-day finding that stated that the petition contained substantial information and that the requested listing may be warranted. In 1995, after examining the data on Atlantic salmon described in the petition, a biological review team⁴ concluded that the salmon did not meet the definition of a species for purposes of the ESA. As such, the Services decided the request to list the salmon throughout its U.S. historic range was not warranted. Alternatively, the Services determined that there was a group of salmon, identified in seven rivers (later eight rivers), that met the definition of a "distinct population segment" (DPS) of Atlantic salmon that warranted protection as a species. The Services further

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1. Endangered and Threatened Wildlife and Plants, 59 Fed. Reg. 3067 (proposed Jan. 20, 1994). The petitioners included RESTORE: The North Woods, the Biodiversity Legal Foundation, and Jeffery Elliot.

2. Endangered Species Act, 16 U.S.C. § 1533(b)(3)(A) (2003); 5 U.S.C. § 553(e) (2003).

3. 59 Fed. Reg. at 3068.

4. Endangered and Threatened Wildlife and Plants, 60 Fed. Reg. 14,410 (proposed Mar. 17, 1995). The biological review team was composed of staff from the U.S. Fish and Wildlife Service and National Marine Fisheries Service.

indicated that a proposed rule to list the DPS was under development. Later in 1995, the Services published a proposed rule to list the DPS as threatened, rather than endangered, and a public comment period was opened.⁵ The proposed rule "encouraged" the State of Maine (State) to take a lead role and provide a conservation plan of its own that would "reduce threats and promote conservation[.]"⁶ The State, acting on the invitation, enacted legislation that established the Atlantic salmon Commission⁷ and developed an extensive conservation plan (State Plan).⁸ In December of 1997, after a public comment period and in light of the State Plan and other conservation measures, the Services published their intent not to list the DPS as threatened.⁹ The Services retained oversight of the conservation efforts and required an annual report from the State on the status of the program. In January of 1999, the State submitted its first annual report to the Services. Following a biological assessment team's review of the report, which indicated that the DPS continued to decline, the Services decided that the Atlantic salmon should be listed as endangered.¹⁰ After publishing a proposed rule to list the DPS as endangered in November of 1999, the Services initiated a public hearing process. Twelve months later in November of 2000, the Services published their final determination that the DPS was endangered.¹¹ Subsequent to the Services' determination, the State filed suit against the Services and requested that the court set aside the rule listing the DPS as endangered on the grounds that the Services'

5. Proposed Threatened Status for a Distinct Population Segment of Anadromous Atlantic salmon in seven Maine Rivers, 60 Fed. Reg. 50,530 (proposed Sept. 29, 1995) (to be codified at 50 C.F.R. pt. 17,227,425).

6. 60 Fed. Reg. at 50,530, 50,535.

7. 12 M.R.S.A. § 9901 (2003). "The Atlantic salmon Commission, referred to in this Part as the 'commission,' is established to protect, preserve, enhance, restore and manage the Atlantic salmon and its habitat; to secure a sustainable recreational fishery in the State; and to conduct and coordinate all projects involving research, planning, management, restoration or propagation of the Atlantic salmon." *Id.*

8. The Maine Atlantic Salmon Task Force, *Atlantic Salmon Conservation Plan for Seven Maine Rivers* (March 1997), available at <http://www.state.me.us/asa/ascpall.htm> (last visited Dec. 1, 2003) [hereinafter STATE PLAN].

9. Endangered and Threatened Wildlife and Plants, 62 Fed. Reg. 66,325 (proposed Dec. 18, 1997). This decision was based upon the "efforts being made to protect the species including development of the [State Plan], the extent of implementation of the [State Plan] to date, private and federal efforts to restore the species, and international efforts[.]" *Id.* at 66,337.

10. Endangered and Threatened Species, 64 Fed. Reg. 62,627 (Nov. 17, 1999). Citing among other things, prior inaccurate information regarding status of salmon, the continued decrease in returning "spawners," ineffectiveness of existing laws and incomplete implementation of conservation efforts. *Id.* at 62,628.

11. Endangered and Threatened Species, 65 Fed. Reg. 69,459 (proposed Nov. 17, 2000) (to be codified at 50 C.F.R. pt. 17, 224).

decision was, among other things, "arbitrary and capricious" and not based on the best scientific and commercial data available.¹² In 2003, the U.S. District Court of the District of Maine held, in *Maine v. Norton*, that the Services' determination of endangered status was supported by the facts in the record, and thus was not "arbitrary or capricious."¹³

This paper will examine the implications of the salmon listing as it affects the relationship Maine citizens have with their environment and the economy of the State. Part One provides background on the natural, socio-economic, and legal landscapes that are tied together in the federal government's efforts to protect a distinct segment of Maine's wild Atlantic salmon. Part Two presents the chronology of federal, state, commercial, and Non-Governmental Organization (NGO) actions that have shaped, and have been shaped by, the implementation of the ESA. It includes a relevant discussion of the ESA implementation process, from listing consideration through critical habitat designation, and Section 4(d) "take" delineation. Part Three focuses on critical habitat protection in the context of the ESA, judicial interpretation of habitat statutes, and how well critical habitat protection is working generally. Part Four considers the implementation of the ESA within the context of the DPS of Maine Salmon and suggests that, while the ESA does not allow implementation to be whittled away by socio-economic concerns, implementation of the ESA may be structured to accommodate the various stakeholders, but in the current state of implementation, problems can be anticipated.

II. NATURAL, SOCIO-ECONOMIC, AND LEGAL LANDSCAPES

The recovery of the DPS occurs within the context of Maine's natural environment, the economy, which is partially dependent on the environment, and the laws that govern the State. In order to understand the process of recovery directed by the ESA, an understanding of this natural, socio-economic, and legal context is important.

12. "Arbitrary and capricious" is a judicial standard of review, the determination of which is the basis for altering a decision of a federal agency. This standard requires that an agency's decisions are supported by facts in the record and are reasonable under the circumstances. "[A] court must consider whether the agency acted within the scope of its legal authority, whether the agency adequately explained its decision, whether the agency based its decision on facts in the record, and whether the agency considered the relevant factors." *Maine v. Norton*, 257 F. Supp. 2d 357, 389 (D. Me. 2003) (citing *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 378 (1989); *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 415-16 (1971); *Prof'l Drivers Council v. Bureau of Motor Carrier Safety*, 706 F.2d 1216, 1220 (D. C. Cir.1983)).

13. *Maine v. Norton*, 257 F. Supp. 2d 357 (D. Me. 2003).

A. Maine's Natural Environment

Maine's borders enclose roughly 33,215 square miles of land with a coastline of approximately 3,500 miles. It is the largest of the New England states, bordered by New Hampshire, the Canadian provinces of Quebec and New Brunswick, the Atlantic Ocean, and the Bay of Fundy. Approximately eighty percent of Maine's land is covered with forests consisting of white pine, hemlock, spruce, fir, and hardwoods. There are more than 2,200 lakes and more than 5,000 streams and rivers. The 2000 census stated Maine's population as 1,274,923 people.¹⁴ The location of the rivers that are home to the DPS – the Dennys, East Machias, Machias, Narraguagus, Ducktrap and Sheepscot Rivers and Cove Brook – are situated in areas that are lightly populated and are typically managed for forest products and low bush blueberry production.¹⁵ Extensive aquaculture activities occur where the mouths of the rivers intersect the ocean. The ocean in these areas provides an ideal environment for finfish aquaculture. Large numbers of islands dispersed throughout the area provide shelter from the open ocean and substantial tides provide an abundance of circulated water.

B. Maine's Economy and the Environment

Maine's economy is based in no small part on its natural resources. In addition to resource extraction industries such as lumber and paper mills, Maine's economy has a strong agricultural component. Aquaculture, salmon farming in particular, is another industry that significantly contributes to Maine's economy.

Forestry activities constitute a large source of revenue for Maine, however, these activities can potentially stress certain parts of the environment that are important to the DPS. Production of forestry materials in 1997 represented approximately eighteen percent of the State's economy,¹⁶ providing resources for pulp and paper industries, lumber production, and biomass energy production. Forestry activities affecting the DPS are generally related to harvesting trees and the associated road building activities. The related road construction may impact water quality in rivers by creating non-point source pollution in the form of silt when disturbed soil flows into the rivers from rain runoff.¹⁷ Another consequence of

14. Columbia Encyclopedia (6th ed. 2003). This source is also available at <http://www.infoplease.com/ce6/us/A0831252.html> (last visited Dec. 4, 2003).

15. 65 Fed. Reg. at 69,459, 69,460.

16. STATE PLAN, *supra* note 8, at 212.

17. Non-point source means those sources of pollution that do not meet the definition of point source as defined under 33 U.S.C. § 1362(14). The term "point source" means any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch,

forestry is the effect on river temperatures when riparian vegetation is harvested or damaged and subsequently reduces the amount of shade along rivers and streams.

Agriculture in Maine competes with salmon for fresh water resources. State agricultural activities include dairy farming, hay, silage corn, horse farming, sheep farming, beef cattle farming, Christmas trees, market vegetables, blueberries, cranberries, landscape and horticultural plants, and peat mining.¹⁸ The two areas of agriculture that have the most potential for affecting the Atlantic salmon are blueberry farming and cranberry farming. Both of these agricultural activities occur on a large scale in areas where salmon inhabit the rivers, and each requires substantial amounts of water for a variety of reasons.

Significant blueberry farming operations are found in the watersheds of the Narraguagus, Pleasant, Machias, East Machias and Dennys Rivers, covering approximately 6,000 acres of land.¹⁹ These operations are expected to double over the next few years. Blueberry farming uses water in three ways: irrigation, berry processing, and equipment cooling.

Cranberry farming is still relatively new to Maine, although it is growing. In 1997, when the State Plan was created, production consisted of 50 to 60 acres. By 2002 approximately 219 acres had been harvested.²⁰ For each acre of production, approximately three acre-feet²¹ of water are required even though water is "recycled." Cranberry production requires water to irrigate the crop, to protect the berries from frost beginning in late fall through the spring, and for harvesting the berries.²²

Aquaculture poses one of the most direct threats to the DPS. The term "aquaculture" describes a number of economic activities, including bait fish production, salmon, trout, mussel, and oyster farming. Finfish aquaculture presents the most serious problems. In 2002, aquaculture contributed \$180 million to Maine's economy. The largest single generator of this revenue

channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture. *Id.*

18. STATE PLAN, *supra* note 8, at 106.

19. *Id.* at 110.

20. New England Agricultural Statistics Service, 2002 U.S. Cranberry Production up Six Percent (Jan. 27, 2003), available at <http://www.nass.usda.gov/nh/cran03.pdf> (last visited Dec. 1, 2003) (citing Charles Armstrong, Cranberry Associate, University of Maine Cooperative Extension). Maine's 2002 cranberry production was 20,450 barrels, a 14 percent increase from the previous year. There were 219 acres of cranberries harvested in Maine in 2002, compared to 250.5 acres the previous year. *Id.*

21. An acre-foot of water is equal to an amount of water one foot deep covering an area one acre in size.

22. STATE PLAN, *supra* note 8, at 114.

was salmon finfish aquaculture. There are three primary companies that comprise the salmon aquaculture industry in Maine.²³ These salmon farms generate approximately \$50 million in revenue each year from direct sales and contribute a substantial portion of an additional \$50 million in indirect economic activity in Maine.²⁴ The fish farms also provide 240 jobs to an area of the State that struggles to provide employment opportunities to its residents.²⁵

C. State Laws and the Environment

The listing of the DPS as endangered reflects the reality that State laws alone have failed to protect the salmon. State statutes establish the parameters that guide public interaction with natural resources. For that reason State laws have a direct impact on the economy associated with the use of natural resources. To the extent that many of those resources comprise or directly affect the habitat of the DPS, a review of those laws provides a better understanding of the context in which the ESA operates. Resource-related statutes can be grouped into three broad categories: land use and forestry related statutes, marine resource statutes, and environmental protection statutes.

1. Land Use and Forestry Related Statutes

One of the threats to the DPS is the direct removal of water from rivers that comprise its habitats.²⁶ 12 M.R.S.A. §§ 681–689 establishes the Maine Land Use Regulation Commission (LURC), which is charged with managing the planning and zoning of land use through the promulgation of rules and regulations in the “unorganized” townships within the State;²⁷ “prevent[ing] the despoliation, pollution and inappropriate use of the water in these areas; and [preserving] ecological and natural values.”²⁸

23. Frank O'Hara, *Economic Impact of Aquaculture in Maine* (Oct. 14, 2003), available at <http://www.maineaquaculture.org/Aquaculture%20Report.pdf> (last visited Dec. 1, 2003). The three major stakeholders in the finfish aquaculture industry are Heritage Salmon, a Canadian company; Stolt Sea Farm Holdings, a subsidiary of Stolt-Nielson S.A.; and Atlantic Salmon of Maine, a subsidiary of Fjord Seafood. *Id.*

24. *Id.*

25. *Id.*

26. Fed. Reg. at 62,628.

27. 12 M.R.S.A. § 683 (2003). LURC is responsible for oversight and management of all land use issues in unorganized areas. “Unorganized” areas are those areas where there is no local government to provide administrative services. *Id.* § 682(1).

28. *Id.* § 681 (2003).

Two byproducts of forestry activities occurring in close proximity to rivers may threaten DPS. Silt from road building compromises gravel river bottoms required for DPS spawning. Refuse from the harvesting process may create barriers in a river, undermining DPS access to spawning grounds. The Forest Practices Act, 12 M.R.S.A. §§ 8867–8869, addresses “Cooperative Forestry Management.” Among other things, it states that “[t]he Commissioner of Conservation shall consult with the Commissioner of Environmental Protection and the Commissioner of Inland Fisheries and Wildlife to ensure that bureau rules are consistent with wildlife habitat and environmental protection.”²⁹ It allows the Commissioner of Conservation to “establish performance standards for timber harvesting activities in areas adjacent to rivers, streams, ponds, wetlands and tidal waters.”³⁰ These statutes establish forest harvest regulations that define standards. These standards “protect water quality, minimize soil erosion, ... address adverse impacts on wildlife habitat and provide for a healthy and sustainable forest.”³¹ 38 M.R.S.A. § 417 prohibits any person or entity from discharging, directly or indirectly, “[a]ny slabs, edgings, sawdust, shavings, chips, bark or other forest products refuse” into the inland waters or tidal waters of the State.³²

2. Marine Resource Statutes

In contrast to forest activities, dams do not pose a major problem to DPS rivers. However, future stocking projects that occur in rivers not currently populated with the DPS may be affected by dam regulations.³³ 12 M.R.S.A. §§ 6121–6125 provides authority to the Commissioner of Marine Resources to make determinations as to the need for fishways in dams in order to support the migration of anadromous fish and place the burden of the cost of construction on the owner or lessee of the dam. 12 M.R.S.A. sections 7701-A to 7702 grants the Commissioner of Inland Fisheries and Wildlife the same authority as the Commissioner of Marine Resources regarding fishways and dams.

In addition to addressing potential obstacles to DPS migration, marine resources statutes attempt to protect DPS genetic characteristics. Genetically, distinct fish stocks used or produced by aquaculture operations could

29. *Id.* § 8867–A (2003).

30. *Id.* § 8867–B (2003).

31. *Id.* § 8869(2) (2003).

32. 38 M.R.S.A. § 417(1) (2003).

33. See John Richardson, *Penobscot to Lose Dams, Gain Salmon*, PORTLAND PRESS HERALD, Oct. 7, 2003, at 9A (article about dams being decommissioned on the Penobscot River, involving state, and federal government).

compete for habitat and interbreed with native DPS stocks should they escape. Within this context, 12 M.R.S.A. section 6071 places a ban on the "import for introduction into any waters of the State any Atlantic salmon, live or as eggs, that originate in any Icelandic or European territorial waters or any other species of salmon, exclusive of rainbow trout, originating west of the North America continental divide."³⁴ 12 M.R.S.A. sections 7671–7675 addresses the establishment of, and procedures for, fish hatcheries. It also allows the Commissioner of Inland Fisheries and Wildlife to designate any inland water as a fish spawning area.

Uniquely directed towards the management of Salmon as a marine resource, the Atlantic Salmon Commission was established by 12 M.R.S.A. sections 9901–9909. Its mission is to "protect, preserve, enhance, restore and manage the Atlantic salmon and its habitat; to secure a sustainable recreational fisheries in the State; and to conduct and coordinate all projects involving research, planning, management, restoration or propagation of the Atlantic salmon."³⁵ The commission has broad authority to adopt rules and regulations dealing with the management of salmon.³⁶

3. Environmental Protection Statutes

Maine's Department of Environmental Protection (DEP) administers State water pollution control activities. The DEP was established to "prevent, abate and control the pollution of the air, water and land and preserve, improve and prevent diminution of the natural environment of the State."³⁷ These laws directly affect the quality of the DPS habitat.

12 M.R.S.A. §§ 401–407 addresses Maine's rivers and their management. Among other things, these statutes declare Maine's rivers to be "important natural resources, historically vital to the state's commerce and industry and to the quality of life enjoyed by Maine people"³⁸ and that the "well-being of the citizens of this State depends on striking a carefully considered and well-reasoned balance among the competing uses of the State's rivers and streams."³⁹ The statutes declare certain rivers as "outstanding" rivers that are afforded special protections from development, especially from hydropower.⁴⁰ Violations of the protections would be

34. 12 M.R.S.A. § 6071(4) (2003).

35. *Id.* § 9901(1) (2003).

36. *Id.* § 9902(4).

37. 38 M.R.S.A. § 341–A(1) (2003).

38. 12 M.R.S.A. § 401(1) (2003).

39. *Id.* § 402(1).

40. *Id.* § 403. Included in the list of outstanding rivers are the eight rivers identified by the Services where the Gulf of Maine DPS is located. *Id.*

violations of the State's water quality laws. Finally, the statutes call for the "State Planning Office, with assistance from the Department of Inland Fisheries and Wildlife, the Department of Marine Resources, the Department of Environmental Protection and other state agencies" to develop a river resource management plan that takes into consideration and identifies aquatic habitat requirements, including stream flows.⁴¹

Issues of water quality are addressed by Maine statutes 38 M.R.S.A. §§ 361–372, 401–404, 410–424, 451–452, 464–470, and 571. Maine has implemented a two-method approach to protect its waters from pollution. The first method that the State employs is a permitting system referred to as the Maine Pollutant Discharge Elimination System (MPDES), which requires that a permit be obtained to discharge "pollutants" into Maine's waters.⁴² The MPDES program is a partnership between the State and the Federal Government, authorized by the Clean Water Act (CWA).⁴³ One piece of the CWA is the National Pollutant Discharge Elimination System (NPDES), which requires national permits in order to legally discharge any pollutant into U.S. waters.⁴⁴ The NPDES program allows for local administration of the program by qualified state agencies. In 1999, Maine applied for administrative control, and, effective January 12, 2001, Maine received authorization to administer the program now known as MPDES.⁴⁵ Salmon aquaculture companies, as part of their operating agreement with the State, are required to obtain an MPDES permit.⁴⁶

The second method used by the State to control water quality is a water classification system, which describes water quality standards for various bodies of water and establishes minimum quantifiable measures of cleanliness.⁴⁷

41. *Id.* § 407.

42. Clean Water Act, 33 U.S.C. § 1362(6) (2003). The term "pollutant" means "dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water." *Id.*

43. Clean Water Act, 33 U.S.C. § 1251 (2003). The Clean Water Act is the federal regulatory mechanism that regulates the discharge of pollutants into the waters of the United States. *Id.*

44. *Id.* § 1342(b).

45. National Pollutant Discharge Elimination System Memorandum of Agreement Between the State of Maine and the United States Environmental Protection Agency Region 1, available at <http://www.state.me.us/dep/blwq/delegation/moa.pdf> (last visited Dec. 1, 2003) [hereinafter Agreement].

46. See Maine Pollutant Discharge Elimination System Permit and Maine Waste Discharge License, Fact Sheet, available at <http://www.maine.gov/dep/blwq/docstand/aquaculture/factsheetdec9.pdf> (last visited Dec. 1, 2003).

47. 38 M.R.S.A. § 465 (1)(A) (2003). Water quality standards are composed of two

The Mandatory Shore Land Zoning Act, 38 M.R.S.A. §§ 435–449, requires State municipalities to enact zoning laws regulating activities within 250 feet of any “great pond,” river, saltwater body, the upland edge of a coastal wetland, and the upland edge of a freshwater wetland.⁴⁸ It also requires zoning to regulate activity within seventy-five feet of the high-water line of a stream. “The purposes of these controls are . . . to protect fish spawning grounds, aquatic life, bird and other wildlife habitat.”⁴⁹

The Natural Resources Protection Act, 38 M.R.S.A. §§ 480–A to 480–U, requires that those performing certain activities in, around, on or in close proximity to, most water bodies, coastal and freshwater wetlands, and significant wildlife habitat, obtain a permit from the DEP. The activities, including “dredging, bulldozing, removing or displacing soil, sand, vegetation or other materials; . . . draining or otherwise dewatering; . . . [a]ny construction, repair or alteration of any permanent structure,” would have the potential to adversely affect DPS habitat.⁵⁰ Furthermore, the Maine Waterway Development and Conservation Act, 38 M.R.S.A. §§ 630–637, 640, controls the permitting of hydroelectric power facilities. The Maine Dam Registration, Abandonment and Water Level Act, 38 M.R.S.A. §§ 815–818, 830–843, provides that the State can create a water-level regime and, if applicable, minimum flow requirements for the body of water impounded by any dam that is not controlled by some other State or federal statute. It especially protects natural habitats.

38 M.R.S.A. sections 470–A–G requires comprehensive reporting of water consumption that exceeds certain thresholds from rivers, streams, lakes, ponds, and ground water sources. The purpose of this reporting is to support a statewide water utilization plan. These statutes were coincidentally established in 2001, shortly after the DPS was listed as endangered.

parts. First, there is a usage descriptor that indicates what activities are to be supported by a particular segment of water. For example, “Class AA waters [, of which the Dennys River is designated,] shall be of such quality that they are suitable for the designated uses of drinking water after disinfection, fishing, agriculture, recreation in and on the water, navigation and as habitat for fish and other aquatic life. The habitat shall be characterized as free flowing and natural.” *Id.* § 465(1)(A). These physical criteria provide a quantitative goal against which current water quality can be measured. Second, in addition to the usage description, there is a scientific criterion that specifically identifies the chemical and biological composition for each of the three designations. For example, “the aquatic life, dissolved oxygen and bacteria content of Class AA waters shall be as naturally occurs.” *Id.* § 465(1)(B). These biological and chemical criteria represent the minimum physical characteristics of the water necessary to support the described intended use.

48. 38 M.R.S.A. § 435 (2003).

49. *Id.*

50. *Id.* at § 480–C(2) (2003).

One of the problems in the DPS listing was the lack of a State law coordinating water utilization.⁵¹

While it seems as though these statutes are comprehensive, the fact remains that they have not been sufficient to prevent the decline of the DPS. Enforcement may be lacking or the statutes may simply not be stringent enough.

III. ENDANGERED SPECIES ACT

In 1973, Congress passed the Endangered Species Act⁵² (ESA) after determining that:

various species of fish, wildlife, and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation;⁵³ other species of fish, wildlife, and plants have been so depleted in numbers that they are in danger of or threatened with extinction[.]⁵⁴

Believing that nature needed a helping hand, Congress passed the ESA to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved."⁵⁵ In order for a species to receive protection under the ESA, it must be determined to be "threatened" or "endangered." The language of the Act defines a "threatened species" as one that is likely to become "endangered" within the "foreseeable future throughout all or a significant portion of its range."⁵⁶ An "endangered species" is one that "is in danger of extinction throughout all or a significant portion of its range."⁵⁷ For the purpose of the Act, the term "species" includes "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature."⁵⁸ Congress gave authority to the Secretaries of Commerce and Interior (Secretaries), who have delegated responsibility to the FWS and NMFS as lead agencies managing the process.⁵⁹ Any interested person may petition the Secretaries via the

51. 60 Fed. Reg. 50,530, 50,532 (Sept. 29, 1995).

52. Endangered Species Act, 16 U.S.C. § 1531 *et seq.* (2003).

53. *Id.* § 1531(a)(1).

54. *Id.* § 1531(a)(2).

55. *Id.* § 1531(b).

56. *Id.* § 1532 (20).

57. 16 U.S.C. § 1532(6).

58. *Id.* § 1532(16).

59. *Id.* § 1532(15); Endangered and Threatened Wildlife and Plants 50 C.F.R. § 402.01(b) (2003). "The Secretary shall by regulation promulgate in accordance with

appropriate Service, with the support of substantial and credible information, to have a species listed as threatened or endangered.⁶⁰ The Services must list a species as endangered if they determine that any of five enumerated criteria have been met.⁶¹ When listing factors are considered, the ESA requires that all decisions be based "solely" on the "best scientific and commercial data available," free from any economic influences.⁶² When a final rule listing a species as endangered or threatened is promulgated, the Act requires that the Secretary, "to the maximum extent prudent and determinable," concurrently "designate" the habitat of the species that is considered to be "critical habitat."⁶³ After listing, the ESA mandates that the Secretary develop and implement a recovery plan "for the conservation and survival of [listed] endangered and threatened species . . . , unless he finds that such a plan will not promote the conservation of the species."⁶⁴ A recovery plan presents a set of "site specific management actions" and "measurable criteria" to help determine when a species may be de-listed, and it also includes cost information.⁶⁵ The ESA imposes a two prong consultative requirement between the Secretaries and other federal agencies to prevent "any action authorized, funded, or carried out" by a federal government agency from injuring listed species. This is to ensure that the agency actions will not (1) "jeopardize the continued existence of any [listed] species" or (2) "result in the destruction or adverse modification of [critical habitat] of such species."⁶⁶ The agency is obligated to seek alternative means of accomplishing the objective or must obtain an exemption if the agency's actions jeopardize or adversely affect a species or its habitat.⁶⁷ The ESA applies to persons, as well as the federal

subsection (b) of this section determine whether any species is an endangered species or a threatened species." 6 U.S.C. § 1533(a)(1). "The U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) share responsibilities for administering the Act." 50 C.F.R. § 402.01(b).

60. 16 U.S.C. § 1533(b)(3)(A); 5 U.S.C. § 553(e) (2003).

61. 16 U.S.C. § 1533(a)(1)(a)-(d). "Criteria for listing include the present or threatened destruction, modification, or curtailment of [a species's] habitat or range; over utilization for commercial, recreational, scientific, or educational purposes; disease or predation; the inadequacy of existing regulatory mechanisms; or other natural or manmade factors affecting its continued existence." *Id.*

62. *Id.* § 1533(b)(1)(a).

63. *Id.* § 1533(a)(3). There is a requirement that the critical habitat regulation be published in conjunction with the regulation for listing an endangered species, except where the urgency of the situation requires an immediate publishing of the listing regulations or where the habitat will not be ascertained for some period of time. 50 C.F.R. § 424.12(a).

64. 16 U.S.C. § 1533(f).

65. *Id.*

66. *Id.* § 1536(a)(2).

67. *Id.* § 1536(b)(3)(B).

government, by making it illegal to “take” any endangered species without a permit.⁶⁸ The term “take” is defined as to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect” an endangered species.⁶⁹ The Services’ regulations define “harm” to include an act that significantly modifies or degrades a species’s habitat, resulting in actual death or injury to the species.⁷⁰ Due to the objective of educating the public, the Services include in the rule a list of actions that they will consider to be “take violations, sometimes referred to as a 4(d) take.

A. Maine’s Experience

The listing of an endangered species and the designation of its critical habitat is a process that, by its very nature, affects many different constituents with competing interests. This is reflected in the statement of congressional findings and in the statement of purpose of the ESA itself. On one side, you there are interests of the species, typically represented by NGOs. On the other side of the process, there are the interests of those people and organizations who are ultimately affected financially by the outcome of the application of the ESA. This coalition is typically comprised of industry, private landowners, state government, and, in certain instances, other departments of the federal government who are sponsors of federal projects. The following discussion examines in greater detail the major components of the ESA and the interplay of competing interests within the context of the listing of the Gulf of Maine DPS.

As mentioned earlier, the first step in the conservation process is the listing of a threatened or endangered species. Any “interested person” may petition the Secretary or the appropriate Service to have a species listed as threatened or endangered.⁷¹ The petitioner must provide “substantial scientific or commercial information indicating that the petitioned action may be warranted.”⁷² Once the petition has been presented, the Secretary has ninety days in which to evaluate the petition data and determine whether it is substantial enough to warrant proceeding further.⁷³ In practice,

68. *Id.* § 1539(a)(1)(A) and (B).

69. 16 U.S.C. § 1532(19).

70. Endangered and Threatened Species, 50 C.F.R. § 17.3(c)(3) (2003).

71. 16 U.S.C. § 1533(b)(3)(A); 5 U.S.C. § 553(e) (2003).

72. *N. Spotted Owl v. Hodel*, 716 F. Supp. 479, 479 (W.D. Wash. 1988) (Petition for listing); *Endangered Species Comm. of the Bldg. Indus. Ass’n of S. Cal. v. Babbitt*, 852 F. Supp. 32, 33 (D.D.C. 1994) (failure to make raw data available requires new notice and comment proceeding for listing of Coastal California Gnatcatcher); *Or. Natural Res. Council v. Daley*, 6 F. Supp. 2d 1139, 1161 (D. Or. 1998) (finding that NMFS’s decision not to list Coho was arbitrary and capricious).

73. 16 U.S.C. § 1533(b)(3)(A) (2003).

NGOs have played a big role due to their ability to muster the resources for gathering the scientific data and expertise required by the statute to sustain a listing. This was the case in the 1993 petition to have the DPS of Atlantic salmon listed as endangered.⁷⁴

The NGOs that filed the petition for the Atlantic salmon provided current and historical information on salmon populations, provided numerous scientific articles, and identified possible threats, which included commercial and sport fishing, pollution, barriers, land use practices, and genetic disruptions.⁷⁵ In January of 1994, the Services published their ninety day finding in the Federal Register, concluding that there was credible information provided and announcing that they would commence a more extensive twelve month investigation of the status of the species.⁷⁶

The conclusions reached during this extensive investigation must be based on the "best scientific and commercial data available" and be free of any economic considerations.⁷⁷ The ESA requires that the Secretaries, after an additional twelve months, publish one of three possible determinations in the Federal Register: first, that there is no basis to the petition; second, that the petition for action is warranted and will be followed by a proposed rule to list the species; or third, that the petition is reasonable but must be delayed due to some other agency activity related to listing.⁷⁸ The Services' twelve month investigation concluded that the salmon identified in the petition did not meet the definition of a species for the purposes of the ESA. As such, there was no reason to list the salmon as endangered throughout its historical range in the United States. Alternatively, the review team concluded that the identified salmon did meet the criteria for a "distinct population segment" and could be treated as a species for purposes of the ESA. This language has been the source of debate and has produced litigation over how to apply those words to various living organisms.⁷⁹

74. See STATE PLAN *supra* note 8; see also *Ctr. for Biological Diversity v. Norton*, 212 F. Supp. 2d 1217 (S.D. Cal. 2002) (suit brought by NGO against Secretary of the Interior claiming violation of ESA by determining critical habitat designation for certain species was arbitrary and capricious); *Forest Guardians v. Babbitt*, 174 F.3d 1178 (10th Cir. 1999) (suit brought by NGO to compel Secretary of Interior to designate critical habitat for Silvery Minnow).

75. 59 Fed. Reg. at 3068.

76. 59 Fed. Reg. at 3067.

77. 16 U.S.C. § 1533(b)(1)(A) (2003). "The Secretary shall make determinations required by subsection (a)(1) of this section *solely* on the basis of the best scientific and commercial data available to him." *Id.* (emphasis added).

78. *Id.* § 1533(b)(3)(B).

79. Holly Doremus, *Listing Decisions Under the Endangered Species Act: Why Better Science Isn't Always Better Policy*, 75 Wash. U. L.Q. 1029 (1997). Recognition of subspecies and distinct population groups, by contrast, has often been highly controversial. The boundaries between subspecies and population groups, which can be crucial in

The Atlantic salmon is found in the United States, Canada, Greenland, and Europe. At one time in the United States, it could be found as far south as Connecticut's Housatonic River and as far north as tributaries feeding the St. Johns River.⁸⁰ According to the Services, indigenous salmon populations found south of Maine's Kennebec River were extirpated during the 1800s.⁸¹ Any Atlantic salmon found in those rivers now are the result of restoration efforts using non-indigenous stocks. Hence, listing Atlantic salmon as an endangered species throughout its historic range in the contiguous United States was unwarranted.⁸² There are remaining isolated subgroups of indigenous Atlantic salmon that return to certain rivers in Maine to spawn. Maine represents the southernmost point of the Atlantic salmon's present day range. The best available scientific information concludes that Maine's salmon populations retain genetically unique characteristics that help them to survive in this southerly environment due to the segregation of reproductive activities over time. These traits improve the extended outlook for the survival of the Atlantic salmon as a whole. For this reason, Maine's native salmon subgroup is deemed a "distinct population segment."⁸³ Six months after concluding that the Maine rivers' salmon population was a DPS, the Services published a proposed rule listing the DPS as threatened because of the determination that the "salmon [population] in these rivers [was] likely to become endangered in the foreseeable future"⁸⁴ This determination was made after considering five factors, including "the present or threatened destruction, modification, or curtailment of [a species'] habitat or range; over utilization for commercial, recreational, scientific, or educational purposes; disease or predation;

determining whether a group is entitled to the protections of the ESA, may turn on distinctions easily made to appear trivial.

For example, one recent listing dispute depended on the taxonomic status of the California gnatcatcher, a small songbird found in the southwestern United States and northwestern Mexico. FWS determined that the species included two distinct subspecies, differing slightly in bill length and other minor morphological characteristics. One subspecies was found north of about 30 degrees north latitude in Baja, California and the other south of that line. The location of the boundary drawn between the subspecies led to listing of the northern subspecies, which was reduced to a very small population. If considered as a whole, the species likely would not have qualified for listing.

Id. at 1104.

80. 60 Fed. Reg. 14,410 (Mar. 15, 1995).

81. *Id.*

82. *Id.*

83. 16 U.S.C. § 1532(16) (2003). The term "species" includes any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife that interbreeds when mature. 50 C.F.R. § 81.1(h) (2003).

84. 60 Fed. Reg. at 50,530.

the inadequacy of existing regulatory mechanisms; or other natural or manmade factors affecting its continued existence."⁸⁵ After reviewing and considering the best scientific and commercial information, the biological review team determined that poaching, low survival of fish during the first winter at sea, and activities related to aquaculture posed a threat to the DPS.⁸⁶

A rule is proposed once a threat is determined. All stakeholders have an opportunity to provide input to the rule making process⁸⁷ so that the "final action resulting from the proposal will be as accurate and effective as possible."⁸⁸ These stakeholders especially include State government,⁸⁹ as well as other federal agencies, affected industry, and private citizens. The Services requested that the State develop a conservation plan that would allow the State "to maintain the lead role in the management" of conservation activities relative to the DPS.⁹⁰

The State's objective in participating in the conservation effort was, arguably, to avoid the listing of the DPS as a threatened or endangered species. The State's anxiety over listing the DPS can be understood in the context of the overarching nature of the ESA. Its nature was demonstrated in *Tennessee Valley Authority v. Hill*.⁹¹ There, the Supreme Court considered whether the plain language of the ESA would protect another endangered fish, the snail darter, by blocking the completion of a hydroelectric dam project on which millions of federal dollars had already been spent. The Court stated that "[t]he plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost."⁹² The Court enjoined the completion of the dam while speculating that Congress would ultimately pass separate legislation allowing the project's completion.⁹³ State concerns were succinctly articulated in comments made by Angus King, former governor of Maine, during the public hearing process for the second proposed rule to list the DPS as endangered in 1999. Governor King expressed the underlying anxiety of affected industry and the State when he stated, "[w]e're concerned principally about two dangers. One is regulation, the other is [private citizen lawsuits]."⁹⁴

85. 16 U.S.C. § 1533(a)(1)(A)-(E) (2003).

86. 60 Fed. Reg. at 50,533.

87. 50 C.F.R. § 424.13 (2003).

88. 60 Fed. Reg. at 50,537.

89. 16 U.S.C. § 1535(a) (2003).

90. 60 Fed. Reg. at 50,535.

91. *Tenn. Valley Auth. v. Hill*, 437 U.S. 153 (1978).

92. *Id.* at 184.

93. *Id.* at 210.

94. Transcripts of comments by Maine Governor Angus King at Ellsworth Middle

With this concern in mind and presented with the opportunity to affect decisions about listing, the State embarked on the development of the State Conservation Plan, which included input from affected parties.⁹⁵ As part of the effort, the State, through legislation, reorganized the bureaucracy responsible for Atlantic salmon issues. The legislation created a new Atlantic Salmon Commission whose purpose was "to protect, preserve, enhance, restore and manage the Atlantic salmon and its habitat ... and to conduct and coordinate all projects involving research, planning, management, restoration or propagation of the Atlantic salmon."⁹⁶ The Services, obligated to take into consideration State conservation efforts,⁹⁷ determined that the rule listing the DPS as threatened was not necessary in light of all conservation measures and withdrew the rule in 1997.⁹⁸ The potential for influencing the process through participation in it was thus demonstrated. Listing of the DPS as endangered ultimately did occur in November 2000, two years after the State's 1998 Annual Progress Report on the implementation of the State Conservation Plan. The report indicated that the plight of the DPS was worsening.⁹⁹ In response, the Services left the door open to review their decision,¹⁰⁰ and proposed a new rule in 1999 to list the DPS as endangered.¹⁰¹ Unhappy with the newly proposed rule, a coalition of interested parties, which included the State and other business interests, embarked on a path of litigation culminating in *Maine v. Norton*.¹⁰² They challenged the characterization of the salmon as a "distinct population segment" and asserted that the determination was "arbitrary and capri-

School on the proposed listing of the U.S. Gulf of Maine-stocks of wild Atlantic salmon as endangered pursuant to the federal Endangered Species Act, *available at* <http://www.penbay.org/kingsalm.html> (last visited Sept. 14, 2003).

95. STATE PLAN *supra* note 8.

96. 12 M.R.S.A. § 9901(1) (2003).

97. 16 U.S.C. § 1533(b)(1)(A) (2003).

98. Withdrawal of Proposed Rule to List a Distinct Population Segment of Atlantic Salmon (*Salmo salar*) as Threatened, 62 Fed. Reg. 66,325 (Dec. 18, 1997).

99. 65 Fed. Reg. at 69,459, 69,475–69,477. Lists the categorical threats to the DPS of Atlantic salmon, which include Present or Threatened Destruction, Modification or Curtailment of Habitat; Over-Utilization for Commercial, Recreational, Scientific, or Educational Purposes; Disease and Predation; Inadequacy of Existing Regulatory Mechanisms; and Other Natural or Man-Made Factors Affecting its Continued Existence.

100. 62 Fed. Reg. at 66,338. The Services indicated that if the DPS became threatened or endangered in the future as a result of inadequate Conservation Plan implementation, inability to adapt to new threats, or as a result of an unforeseen emergency, the listing process might be reinstated. *Id.*

101. See Proposed Endangered Status for a Distinct Population Segment of Anadromous Atlantic Salmon (*Salmo salar*) in the Gulf of Maine, 64 Fed. Reg. 62,627 (Nov. 17, 1999) (to be codified at 50 C.F.R. pts. 17,224).

102. *Me. v. Norton*, 257 F. Supp. 2d 357 (D. Me. 2003).

cious.”¹⁰³ In 2003, the District Court ruled in favor of the Services, and the State appealed. The appeal was subsequently withdrawn as a result of the 2002 change in the State’s political administration.

Once the final rule listing a species as endangered or threatened is promulgated, several activities must take place. First, the Act requires that the Secretaries, to the extent possible, publish the species’ “critical habitat.”¹⁰⁴ This process is discussed in greater detail in part IV of this discussion. Second, the Secretaries, as they deem necessary, are required to issue regulations to protect the species from a take.¹⁰⁵ In the case of the DPS, the Services listed a variety of activities that on their face meet the definition of a “take.”¹⁰⁶ Such activities would be a violation of federal

103. *Id.* at 361–62. The State asserted that the rule was “arbitrary, capricious, and abuse of discretion, and/or otherwise not in accordance with law.” *Id.* Other business interests asserted:

(1) that the distinct population segment designation is both procedurally and factually illegal because it was not based on the best scientific and commercial data; (2) that the listing failed to provide a summary showing the relationship of the data relied upon to the final listing rule and that the designation of the Gulf of Maine distinct population segment is overly broad and unduly vague so as to violate the constitutional requirements of due process; (3) that the decision to list the Gulf of Maine distinct population segment now, without extending time for decision to allow for consideration of the National Academy of Sciences’ study and without allowing interested parties sufficient notice and opportunity to comment, is arbitrary and capricious, an abuse of discretion, and against substantial evidence; and (4) that the ESA unconstitutionally delegates legislative authority regarding what constitutes a distinct population segment and that the ESA provision authorizing the listing of a distinct population segment is an unconstitutional violation of the Commerce Clause.

Id.

104. 16 U.S.C. § 1533(a)(3) (2003) (requiring the publishing of critical habitat regulation in conjunction with the regulation for listing as endangered except where the urgency of the situation requires an immediate publishing of the listing regulations or where the habitat is as yet unascertained and will not be for some period of time). *See also* 50 C.F.R. § 424.12(a) (2003).

105. 16 U.S.C. § 1533(d) (2003). The term “take” means to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” *Id.* § 1532(19).

106. 65 Fed. Reg. 69,459 (Nov. 17, 2000).

Activities that the Services believe could result in violation of section 9 prohibitions against “take” of the Gulf of Maine DPS of anadromous Atlantic salmon include, but are not limited to, the following: (1) the escapement of reproductively viable non-North American strain or non-North American hybrid Atlantic salmon in freshwater hatcheries within the DPS range; (2) the escapement from marine cages or freshwater hatcheries of domesticated salmon such that they are found entering or existing in rivers within the DPS range; (3) failure to adopt and implement fish health practices that adequately protect against the introduction and spread of disease; (4) siting and/or operating aquaculture facilities in a manner that negatively impacts water quality and/or benthic habitat; (5) targeted recreational and commercial fishing, bycatch associated with commercial and recreational fisheries, and illegal harvest; (6)

law.¹⁰⁷ Any conflicting State laws are preempted because the ESA explicitly declares that federal law takes precedence in these matters.¹⁰⁸ Third, the Secretaries must implement a recovery plan that will work toward removing the species from the endangered list at some point in the future.¹⁰⁹ The plan must include "site specific management actions," "objective measurable criteria" for determining when goals have been met, and an estimate as to the duration and the cost of such a plan.¹¹⁰ Final plans must allow for public comment and feedback and must consider public input. Finally, the FWS and NMFS "may procure the services of appropriate public and private agencies and institutions, and other qualified persons."¹¹¹ These aspects of a recovery plan represent another opportunity for stakeholders to affect their own activities. While the Services have not proposed a recovery plan as of yet, one can speculate what the plan will contain based on the identified threats to the salmon outlined in the final listing rule.¹¹²

Section 7 of the ESA compels other federal agencies to be part of the conservation process. The Act imposes a dual consultative requirement on federal agencies when their actions are likely "to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat of such species."¹¹³ Acting as a clearinghouse for listed species and critical habitat information, other agencies must inquire with the Services whether any endangered species or critical habitats are present within the areas affected by their actions.¹¹⁴ To the extent that private lands are affected by a federal agency

discharging (point and non-point source) or dumping toxic chemicals, silt, fertilizers, pesticides, heavy metals, oil, organic wastes or other pollutants into waters supporting the DPS; (7) blocking migration routes; (8) destruction and/or alteration of the species' habitat; (9) violations of discharge or water withdrawal permits that are protective of the DPS and its habitat; (10) unauthorized collecting or handling of the species; and (11) other activities not identified here will be reviewed on a case-by-case basis to determine if violation of section 9 of the ESA may be likely to result from such activities. We do not consider these lists to be exhaustive and provide them as information to the public.

Id. at 69,479.

107. 16 U.S.C. § 1538(g) (2003).

108. *Id.* § 1535(f).

109. *Id.* § 1533(f)(1)(B)(ii).

110. *Id.* § 1533(f)(1)(B).

111. *Id.* § 1533(f)(2).

112. The recovery plan could include specific water level requirements and flow rates for DPS river habitats, periods of time during which water withdrawals are allowed, caps on various agriculturally related chemicals detected in water, and more stringent rules on hatchery practices, etc.

113. 16 U.S.C. § 1536(a)(2) (2003).

114. *Id.* § 1536(c)(1).

decision, such as forestry or mining operations, those private holdings may be impacted. A "biological assessment" is performed to determine whether any species or habitat is within an affected area. If so, a "biological opinion" must be obtained to assess the impact the action is likely to have on the species or habitat.¹¹⁵

The consultative relationship has been demonstrated in Maine through the MPDES program referred to earlier in the discussion. In 2003, the State completed work on a MPDES permit for Atlantic salmon aquaculture.¹¹⁶ While the State has administrative control over the MPDES program, the EPA has oversight responsibilities and, therefore, must consult with the Services regarding actions that would impact the DPS.¹¹⁷ Many of the "take" actions in the final rule that lists the DPS as endangered are directly attributable to salmon aquaculture activities. As a result, there are various requirements within the MPDES permit to protect the DPS.¹¹⁸

Section 9 of the ESA proscribes taking of any species, plant, or animal. The definition of "take" is rather expansive. However, it has withstood challenges at the Supreme Court level.¹¹⁹ Among other things, "take" means that it is illegal to "possess, sell, deliver, carry, transport, or ship, by any means whatsoever, any such [endangered or threatened] species." Further developing the broad definition of "take," federal regulations define "[h]arm in the definition of 'take' in the Act [as meaning] an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."¹²⁰ This definition of "take" reflects an actor's intention to directly affect the species, however, there are activities that may result in a "take" without the intent of harm. Those results are referred to as an "incidental take."¹²¹

115. See 50 C.F.R. § 402.14 (2003).

116. Maine Pollutant Discharge Elimination System General Permit for Atlantic Salmon Aquaculture, available at <http://www.state.me.us/dep/blwq/docstand/aquaculture/MEG130000.pdf> (last visited Dec. 1, 2003) [hereinafter MPDES].

117. Agreement, *supra* note 45.

118. See MPDES, *supra* note 116. In order to minimize the potential for diseases to be transmitted from domestic to wild salmon, the recently defined MPDES permit maintains certain requirements for fish densities within net pens, fallowing periods, use of chemicals to control parasites, and protocols for the use of various antibiotics. Some of the permit requirements are to prevent farmed fish from escaping, and marking and tagging fish so that they are recognizable as farmed fish. One of the most dramatic impacts of this permit will be the requirement that salmon farms not be allowed to raise non-North American species.

119. *Babbitt v. Sweet Home Chapter of Comms. for a Greater Or.*, 515 U.S. 687, 704 (1995).

120. 50 C.F.R. § 17.3 (2003).

121. *Id.* "Incidental taking" means "any taking otherwise prohibited, if such taking is

Congress recognized that there were certain situations where an endangered species could not absolutely be protected and would allow certain “incidental takings.”¹²² The statute allows an agency action that otherwise would violate the “no jeopardy” standard so long as the action is significant “regionally or nationally” and there are no “reasonable and prudent alternatives to the agency action” and “reasonable mitigation and enhancement measures [are in place] ... as are necessary and appropriate to minimize the adverse effects of the agency action upon the endangered species, threatened species, or critical habitat concerned.”¹²³ Congress, in Section 10 of the ESA, provided a similar opportunity to non-federal actors. Upon receipt of a permit, an actor can incidentally “take” during projects where there is no intent to do harm to a species or its habitat. The permit requires a Habitat Conservation Plan (HCP) that articulates the likely impact of the taking, how the party intends to “mitigate and minimize” the impact, the alternatives that were considered and why the alternatives were rejected.¹²⁴

incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.” *Id.*

122. 16 U.S.C. § 1536(b)(4)(C)(I) (2003).

123. *Id.* § 1536(h)(1).

124. *Id.* § 1539(a)(2)(A).

IV. CRITICAL HABITAT

In its final form, the ESA's stated purpose is "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved."¹²⁵ In *Tennessee Valley Authority*, the Court noted that, when considering the legislation that would eventually become the ESA, "Congress started from the finding that '[t]he two major causes of extinction are hunting and destruction of natural habitat.'"¹²⁶ It is noted that, "[o]f these twin threats, Congress was informed that [the] greatest was the destruction of natural habitats."¹²⁷ It is not the simple act of listing a species that is all-powerful: "Of equal or more importance is the determination of the habitat necessary for the species' continued existence ... the ultimate effectiveness of the [ESA depends] on the designation of critical habitats."¹²⁸ In *Middle Rio Grande Conservancy District v. Babbitt*,¹²⁹ the court points out that the "ESA gives designation of critical habitat the same priority as the listing [of the species]."¹³⁰ The court also noted the broader importance of critical habitat stating:

[t]he [ESA] clearly intends to do more than save endangered species and threatened species from jeopardy; it is intended to bring endangered and threatened species back from the brink of extinction to a point where statutory protections are no longer necessary.¹³¹ The designation of critical habitat therefore serves as the principal means for conserving an endangered species, by protecting not simply the species, but also the ecosystem upon which the species depends.¹³²

Recognizing its importance, Congress made identification of critical habitat a non-discretionary act. In *Forest Guardians v. Babbitt*,¹³³ the court held "that [the Service] violated [its] non-discretionary duty by failing to designate the critical habitat for the Rio Grande silvery minnow by the

125. *Id.* § 1531(b).

126. *Tenn. Valley Auth.*, 437 U.S. at 179.

127. *Id.* (quoting statement of Associated Deputy Chief for National Forest System, Dept. of Agriculture, 1973 House Hearings 236).

128. *Ctr. for Biological Diversity v. Norton*, 240 F. Supp. 2d 1090, 1098 (D. Ariz. 2003) (quoting H.R. REP. No. 94-887, at 3 (1976)) (emphasis added).

129. *Middle Rio Grande Conservancy Dist. v. Babbitt*, 206 F. Supp. 2d 1156, 1169 (D. N.M. 2000).

130. *Id.* at 1169.

131. *Id.* (citing *Tenn. Valley Auth.*, 437 U.S. at 184).

132. *Id.*

133. 164 F.3d 1261 (10th Cir. 1998).

statutory deadline.”¹³⁴ More recently, the Fifth Circuit, in *Sierra Club v. U.S. Fish and Wildlife Service*,¹³⁵ reaffirmed that “[t]he ESA requires the Secretary of the Interior to ‘designate any habitat of such species which is then considered to be critical habitat’ concurrently with the listing of a threatened species, unless a statutory exception applies.”¹³⁶ The general rule is that designation occurs simultaneously with the final rule listing a species.¹³⁷ However, the statute does provide some leeway regarding the timing.¹³⁸ The only exceptions to designation are when the designation is not “prudent” or when the habitat is not “determinable.”¹³⁹ While the ESA does not define what prudent means, the Services’ regulations interpret “not prudent” to include: (1) if critical habitat would increase the threat to the endangered species or (2) if the designation of habitat would not have any benefit to the species.¹⁴⁰ Judicial construction of the Services’ rules defining “prudence” requires that “the Service[s] adequately ‘conside[r] the relevant factors and articulat[e] a rational connection between the facts found and the choice made,’” rather than use “prudence” as a mechanism to not consider or designate critical habitat.¹⁴¹

“When considering the designation of critical habitat, the Secretaries shall focus on the principal biological or physical constituent elements within the defined area that are essential to the conservation of the species.”¹⁴² Determination of critical habitat is made “on the basis of the best scientific data available and after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat.”¹⁴³ Critical habitat is limited to an area “on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection; and specific areas outside the geographical area occupied by the species ... [if] such areas are essential for the

134. *Id.* at 1274.

135. 245 F.3d 434 (2001).

136. *Id.* at 436 (challenging the decision of the Services not to designate critical habitat for the Gulf sturgeon).

137. 16 U.S.C. § 1533(b)(6)(C) (2003).

138. *Id.* §§ 1533(b)(6)(A), 1533(b)(6)(C)(ii).

139. *Id.* § 1533(a)(3).

140. 50 C.F.R. § 424.12(a)(1)(i)(ii).

141. *NRDC v. U.S. Dep’t of Interior*, 113 F.3d 1121, 1125 (9th Cir. 1997) (citing *Res. Ltd., Inc., v. Robertson*, 35 F.3d 1300, 1304 (9th Cir. 1993) (quoting *Pyramid Lake Paiute Tribe v. U.S. Dep’t. of Navy*, 898 F.2d 1410, 1414 (9th Cir. 1990)).

142. 50 C.F.R. § 424.12(b)(5) (2003). Relative to the DPS, constituent elements may include, but are not limited to: spawning sites, feeding sites, water quality or quantity, geological formation, vegetation type along riparian areas, and river bottom characteristics.
Id.

143. 16 U.S.C. § 1533(b)(2) (2003).

conservation of the species."¹⁴⁴ Habitat outside the immediately occupied areas may be designated only if the Secretaries determine "that such areas are essential for the conservation of the species."¹⁴⁵

The Secretaries can exclude habitat after performing a benefits analysis unless they determine that "failure to designate such areas as critical habitat will result in the extinction of the species concerned."¹⁴⁶ Private land may be designated as critical habitat if it contains the constituent elements necessary for survival of the species and the economic or other impacts do not outweigh the benefit of designation.¹⁴⁷ The courts have noted two benefits to critical habitat designation on private lands. "First, even if no federal activity currently occurs on the land, there may be such activity in the future, ... [and] [s]econd, the designation itself informs the public as well as the state and local governments [that the species is endangered or threatened and which areas are important to the species]."¹⁴⁸

As a result of the 1978 amendments to the ESA, the designation of critical habitat allows for economic impact considerations. The designation of critical habitat is the only time the ESA allows for the consideration of economics. As such, this process should be important to all stakeholders. Courts have ruled that the economic parameters to be considered include all costs resulting from listing and any incremental costs of critical habitat designation.¹⁴⁹

Full consultation under Section 7 of the ESA discussed earlier is dependent on a designation of critical habitat.¹⁵⁰ In *Defenders of Wildlife v. Norton*,¹⁵¹ the D.C. Circuit stated that species "cannot, by definition, receive the full extent of protection provided by the ESA and the Section 7 consultation process until its critical habitat is designated."¹⁵² The court enjoined the Services from conducting a Section 7 consultation until they completed critical habitat designation for the endangered Canadian Lynx.¹⁵³

144. *Id.* § 1532(5)(A)(i)-(ii).

145. *Id.* § 1532(5)(A)(ii).

146. *Id.* § 1533(b)(2).

147. *See Middle Rio Grande Conservancy v. Babbitt*, 206 F. Supp. 2d at 1173.

148. *Conservation Council for Hawaii v. Babbitt*, 2 F. Supp. 2d 1280, 1286 (D. Haw. 1998); *see also Middle Rio Grande Conservancy District*, 206 F. Supp. 2d at 1174.

149. *New Mexico Cattle Growers Ass'n v. U.S. Fish and Wildlife Service*, 248 F.3d 1277, 1285 (10th Cir. 2001).

150. It should be noted that under the current statute, Section 7 recognizes two conditions that require consultation by federal agencies. First, if an agency action would "jeopardize the continued existence of any endangered species or threatened species[,] or result in the destruction or adverse modification of habitat of such species . . ." *Bennet v. Spear*, 520 U.S. 154, 158 (1997) (quoting 16 U.S.C. § 1536(a)(2) (1994)).

151. *Defenders of Wildlife v. Norton*, 239 F. Supp. 2d 9 (D.D.C. 2002).

152. *Id.* at 24.

153. *Id.* at 25.

In another critical habitat case, the U.S. District Court for the District of Arizona, in *Center for Biological Diversity v. Norton*,¹⁵⁴ recognized the diminished protection provided by Section 7 consultations as a result of failing to designate critical habitat on certain lands in Arizona and New Mexico for the Mexican spotted owl.¹⁵⁵

While the above discussion has described in detail how important critical habitat protection is to fulfill Congress's vision of preserving the ecosystems on which species depend, the reality is that critical habitat has not been designated for many endangered and threatened species. As of the date of the writing of this paper, the Services, in violation of the plain language of the ESA, have not issued a rule identifying the critical habitat of the DPS in Maine.¹⁵⁶ Failure to designate is due in large measure to the backlog of court-ordered critical habitat designations for other species as a result of under-funding by Congress.¹⁵⁷

154. *Center for Biological Diversity*, 240 F. Supp. 2d at 1090.

155. *Id.* at 1102.

156. The Federal Register rule publication occurred in November of 2000. The deadline for critical habitat designation was November 2002, which means that the designation is nearly two years overdue.

157.

Status of Court-Ordered Critical Habitat Actions	
The following court-ordered critical habitat actions (proposed or final rulemakings) requiring work in FY 2003 will be proposed for deferral into FY 2004 due to lack of funding:	
Case Name	Species
Bldg. Indus. Legal Def. Found., et al. v. Gale Norton, et al. Case No. 01-cv-231 1 JDB (D.D.C.)	Southwestern Arroyo toad (proposed and final rule) Riverside fairy shrimp (proposed and final rule)
Biodiversity Legal Found. Civ. No. 00-118 0 (D.Colo.)	Topeka shiner (final rule)
CBD v Norton (01-cv-2101 IEG (LAB)) and BILD v Norton (01-cv-2145 IEG (LAB)) (cons.)	Lane Mountain milk-vetch (proposed rule); Fish slough milk-vetch (proposed rule); Spreading navaretia and San Jacinto crown scale (proposed rule)
Nat'l Ass'n of Home Builders v. Norton and Defenders of Wildlife (CIV-00-0903-PHX-SRB)	Cactus ferruginous pygmy-owl (final rule)
Alliance for the Wild Rockies Inc., Friends of the Wild Swan, Inc v. Badgley et al. (CV 01-127 -JO (D. Ore.)	Bull trout (St. Mary, Puget Sound and Jarbidge DPS) (proposed rule); Bull trout (Columbia Basin/Klamath DPS) (final rule)
CBD v. USFWS, (C-01-0352 SI (ADR) N.D.Cal.)	Ventura Marsh milk-vetch (final rule)

The reasons for the under-funding, which began in 1995 and continue today, are beyond the scope of this paper.¹⁵⁸ Assistant Secretary of the Interior Craig Manson has indicated that he would like to see Congress overhaul the critical habitat designation rule because he views it as “[a] process that provides little real conservation benefit[,] consumes enormous agency resources and imposes huge social and economic costs.”¹⁵⁹ As mentioned above, the issue of whether critical habitat designation is mandatory has been addressed in the courts on several occasions. Courts are unwilling to grant the Services an exemption from having to declare critical habitat for lack of funding. Nevertheless, courts recognize that the Services must have funding in order to perform critical habitat designation. This has resulted in courts’ decisions making designations conditional on

CBD, Dine Care, and Ctr. for Native Ecosystems v. Norton (CIV-01-409-TUCACM)	Mexican spotted owl (proposed rule)
SWCB et al v. Babbitt et al (C-99-2992 CRB;D-CA/N)	La Graciosa thistle (final rule)
S. Appalachian Biodiversity Project v. Norton (CN 2 :00-CV-3 61 (E.D. TN))	Eggert’s sunflower (proposed rule); Mobile basin bivalves (includes 11 TN bivalves) (final rule); Cumberlandian elktoe and 4 TN bivalves (final rule)
CBD and BLF v. Babbitt (CV 00-1980 D. CO)	Colorado butterfly plant (proposed rule) Southwestern Arroyo toad (proposed and final rule)
Home Builders Ass’n of N. Cal., et al. v. Norton et al. (CV01-1291 RJL) D.D.C.	California red-legged frog (proposed rule)
Santa Ana Sucker, Cal. Trout v. Babbitt, No. 97-3779 SI (N.D. Cal.)	Santa Ana Sucker (final rule)

available at <http://endangered.fws.gov/criticalhabitat/ch-actions.pdf> (last visited Dec. 1, 2003).

158. See generally Thomas F. Darin, *Designating Critical Habitat Under the Endangered Species Act: Habitat Protection Versus Agency Discretion*, 24 HARV. ENVTL. L. REV. 209 (2000).

159. Craig Manson, *Testimony of Craig Manson, Assistant Secretary for Fish and Wildlife and Parks, Department of the Interior, Before the Subcommittee on Fisheries, Wildlife and Water of the Senate Committee on Environment and Public Works, Regarding the Designation of Critical Habitat Under the Endangered Species Act*, Apr. 10, 2003, available at <http://laws.fws.gov/TESTIMON/2003/2003april10.html> (last visited Apr. 16, 2004). Assistant Secretary Manson has, in a news release and on the Fish and Wildlife Service Website, indicated that the process for designating critical habitat is “broken” based on his observation of two conditions. First there is a shortfall of available funding, and second, there is a high level of litigation surrounding unfulfilled habitat designation. According to Assistant Secretary Manson, litigation has increased since a 1997 rule stating that “not prudent” determinations were not an acceptable place-holder for no determinations at all. See NRDC, 113 F.3d at 1121. In addition, Manson suggests litigation was further fueled by a 1999 Tenth Circuit ruling that held that courts do not have the authority to exempt the FWS from issuing habitat rules, when due, even when resources are unavailable. *Forest Guardians v. Babbitt*, 174 F.3d 1178 (10th Cir. 1999).

the Services' receipt of funds from Congress.¹⁶⁰ Regardless of the Assistant Secretary's personal beliefs, the statutory and judicial construction require that the Services designate critical habitat.

V. CONCLUSION

It can be concluded from this discussion that courts will not allow the application of the ESA to wander outside of the four corners of the statute regardless of socio-economic pressures. To the extent that the language of the ESA is vague, it provides some flexibility to the executive agencies in how they implement the statute as reflected in the Services' regulations. Beyond that, the only flexibility found is in the exceptions provided by the statute itself and the willingness of those on the ground to enforce the ESA rules. The ESA, while not allowing major deviations, will accommodate financial stakeholders to the extent that they do not seriously compromise endangered species and to the extent that they provide some net benefit to conservation efforts, notwithstanding "takes" of species. In Maine, salmon farms are allowed to raise Atlantic salmon within the constraints of MPDES permits, forest harvesters can operate so long as they do not disturb riparian habitat or create non-point source pollution, and blueberry and cranberry producers may use water resources. However, they will have to do so within the constraints of a future water management plan.

The current state of the ESA in Maine can be described as only partially implemented in light of the absence of a declaration of critical habitat. By not considering critical habitat at the same level as that of the species, the designation's importance is diminished. Without a formal designation of critical habitat, there are, arguably, other ways in which critical habitat could be accounted for. The Services could consider critical habitat in other provisions of the ESA, such as a conservation plan, or list it explicitly as part of the Section 4(d) "takes" articulated in a listing rule. This approach is clearly not what Congress had envisioned. Regardless of one's opinion as to the merits of Congress's approach to protection of species and their ecosystems, the ESA must be viewed as a system, not as a group of isolated functions. The ESA works because one component supports and drives the other components, *i.e.*, critical habitat designation acts as a trigger for consultation. If one arbitrarily decides not to enforce one aspect of the ESA, such non-action ripples through and diminishes the whole process. Another aspect of the system that Congress created is the ability to

160. *Env'tl. Def. Ctr. v. Babbitt*, 73 F.3d 867 (9th Cir. 1995) (ruling that an appropriations rider limiting funds available for listing, while not modifying obligations under the ESA to list species, prevented the Secretary of the Interior from complying with the ESA requirements).

incorporate input from those stakeholders affected by it. Critical habitat designation represents a significant aspect of the stakeholder input process, recalling that it is the only point where economics are considered. Failure to execute this aspect of the system potentially removes the possibility that economics can be legitimately considered. Finally, failure to designate critical habitat may signal that habitat is not important. Rules do send messages. Maine legislated for a centralized water plan shortly after promulgation of the rule listing the DPS as endangered. Lack of water resource coordination was listed as a threat and possible Section 4(d) "take" in the rule. Whether the timing was coincidental or not is unknown.

One can only speculate how this will play out in Maine. If one considers the backlog of court-ordered habitat declarations, the current budgetary limitations of the Services, the perception of key administrators that declaration of critical habitat is non-productive, and an intent by those same administrators to request that Congress limit funds available for critical habitat, it is reasonable to conclude that concerned citizens will have to pursue habitat declaration through the courts just as others are doing. In Maine, conservationists have shown a willingness to litigate where they see environmental failures. This has been demonstrated by the protracted litigation involving the DPS listing.¹⁶¹

Ironically, the agency administrators who complain that the system is failing due to spiraling litigation are increasing the likelihood that litigation will occur by altering the system to their liking. Not only will environmentalists continue to file suit for failure of the Services to fulfill their non-discretionary duties, but other unhappy stakeholders who have lost their economic voice due to the removal of certain feedback mechanisms¹⁶² will become potential litigants as well. Additionally, the failure to declare critical habitat injects a quantum of risk into any business activities that utilize the rivers as a resource. This risk may stifle legitimate use of river resources because of the unresolved regulatory forces. New businesses might be loath to take advantage of a public resource not knowing if their use of the resource will be the basis for a legal challenge if and when the critical habitat regulatory regime is finally implemented. Economic interest may be better served with onerous but fully executed known policies.¹⁶³

161. *See Me. v. Norton*, 257 F. Supp. 2d 357 (D. Me. 2003).

162. Economic considerations are only allowed during the consideration of critical habitat.

163. The legal troubles that Atlantic Salmon of Maine confronted reflect the risks for businesses operating in an environment with unpredictable regulatory forces. *See David Sharp, Maine Salmon Farm, Crippled by Court Decisions, is Put Up For Sale*, available at http://www4.fosters.com/news2004/March2004/March_11/News/reg_me_0311.04j.asp (last visited Mar. 31, 2004).

The struggle that salmon populations endure as they swim upstream to perpetuate their own survival seems to be a metaphor for the struggle in which conservationists currently find themselves.

