

Reversing the Trend towards Species Extinction, or Merely Halting It? Incorporating the Recovery Standard into ESA Section 7 Jeopardy Analyses

*Jennifer Jeffers**

The purpose of the federal Endangered Species Act (ESA) is to conserve and recover populations of endangered and threatened species to a point at which legal protection is no longer necessary. One of the main tools employed by the ESA to accomplish this goal is its section 7 consultation mandate, which ensures that federal agency actions do not “jeopardize the continued existence of” listed species, or destroy or adversely modify listed species’ critical habitat. However, Congress’s failure to define key concepts within the ESA, including jeopardy, recovery, and survival, as well as the National Marine Fisheries Service (NMFS) and the United States Fish and Wildlife Service’s (FWS) (collectively “Services”) inconsistent interpretation of such directives, has led to a semantic conundrum as to what it means for a species to “recover” versus merely “survive” under the ESA.

The Ninth Circuit’s holding in National Wildlife Federation v. National Marine Fisheries Service (NWF) furthers an evolving trend by federal courts of requiring the Services to consider both recovery and survivability standards in their section 7 consultations. Most notably, the Ninth Circuit was the first federal appellate court to integrate a recovery standard into the jeopardy analysis prong of section 7, rather than solely focusing on the adverse modification consideration. This Note argues that as a result of the NWF decision, the Services’ jeopardy analysis mandate under section 7 must incorporate a recovery standard rather than simply a survivability standard.

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* J.D. candidate, University of California, Berkeley, School of Law (Boalt Hall), 2009; M.S. candidate, University of California, Berkeley, Department of Environmental Science, Policy, and Management, 2010; B.A., University of Colorado, Boulder, 2000. I am greatly indebted to Scott Birkey for his continuous guidance and insight, and would like to thank Professor Bob Infelise, Professor Holly Doremus, Tova Wolking, Nathan Matthews, Liz Skillen, Christie Henke, and Emily Jeffers for their rigorous challenges to my analysis and their skilled editorial assistance. And, of course, I owe infinite gratitude to Michael Balster, a constant voice of reason and never-ending support.

Although the judiciary has not provided clear guidance on what a recovery standard entails, this Note proposes that a recovery standard ensures a much more rigorous form of protection and ultimately serves as a blueprint for the conservation of a species.

Although the court in NWF held that NMFS's regulation requires analyses of the effects of proposed actions on recovery, the court did not address the question of whether the ESA itself requires the Services to consider both survival and recovery. As a result, it is now up to NMFS and FWS to determine how to move forward from the NWF decision. This Note attempts to provide an ecological and legal framework under which a sufficient recovery standard may be attained in future jeopardy analyses in order to achieve the ESA's ultimate mandate of species recovery and conservation.

Introduction.....	457
I. Endangered Species Act Overview	459
II. Section 7—Consultation and the Jeopardy Analysis Mandate	461
A. Ordinary Meaning of “Jeopardy”	463
B. Services’ Regulation Suggest that Jeopardy Involves Threatening the Survival and Recovery of Listed Species	463
C. Service Guidelines	464
1. Survival.....	464
2. Recovery	465
D. Integrating Survival and Recovery Standards into Jeopardy Analyses.....	465
III. <i>National Wildlife Federation v. National Marine Fisheries Service</i> ...	466
IV. Analysis of Other Recent Cases Discussing “Recovery” as Part of the Section 7 Mandate	470
A. <i>New Mexico Cattle Growers Association v. United States Fish and Wildlife Service</i>	471
B. <i>Sierra Club v. United States Fish and Wildlife Service</i>	471
C. <i>Gifford Pinchot Task Force v. United States Fish and Wildlife Service</i>	472
V. Impact of NWF and the Adverse Modification Decisions	474
VI. What is a “Recovery Standard”?	475
A. Congressional Intent	476
B. Guidance from <i>Gifford Pinchot</i>	476
C. ESA Section 4(f)—Recovery Plans	477
D. Recovery Standard: A Blueprint for the Conservation of a Species	478
VII. Moving Forward: How to Incorporate Recovery in Future Section 7 Jeopardy Analyses.....	480
A. Ecological Approach.....	480
1. Inclusion of Conservation Plans	481
2. Attention to Cumulative Effects	482

2008]	<i>INCORPORATING THE RECOVERY STANDARD</i>	457
	3. Monitoring Baseline Conditions	484
	4. Consideration of Time Scales	485
	5. Additional Ecological Considerations	485
	B. Policy Considerations	486
	1. <i>Gifford Pinchot</i> BiOp Guidance	487
	2. Other Factors	487
	Conclusion	488

INTRODUCTION

The purpose of the federal Endangered Species Act¹ (ESA or “the Act”) is to conserve and recover populations of endangered and threatened species to a point at which legal protection is no longer necessary. One of the major tools the ESA establishes to further this goal is its section 7 consultation process, which requires federal agencies to consult with either the National Marine Fisheries Service (NMFS)² or the U.S. Fish and Wildlife Service (FWS) to ensure that their actions do not “jeopardize the continued existence of” listed species, or destroy or adversely modify listed species’ critical habitat.³

However, there has often been confusion regarding the definition and, thus, the analysis of “jeopardy.” The ESA contains several other standards that could be implicated by the jeopardy mandate, particularly “survival” and “recovery,” but there has been no consensus as to which of these criteria must be considered under the section 7 process. This confusion stems in part from Congress’s failure to define key concepts within the Act, including jeopardy, recovery, and survival, as well as the Services historically interpreting these concepts differently in their agency regulations than the statute originally intended.

The “recovery” directive highlights the ongoing disagreement as to what it means for an endangered or threatened species to “recover.” It is unclear from the text of the ESA and associated agency regulations how the Services should define and apply recovery standards to determine whether proposed actions will threaten the continued existence of a species or its critical habitat. Further

1. 16 U.S.C. § 1531–1544 (2006).

2. The National Marine Fisheries Service (NMFS) is now called National Oceanic and Atmospheric Administration (NOAA) Fisheries Service. For purposes of this Note, however, I will refer to NOAA Fisheries by its former name, NMFS, since that was the agency’s name at the time of litigation in *National Wildlife Federation v. National Marine Fisheries Service*—the principal case discussed in this Note. 481 F.3d 1224 (9th Cir. 2007) [hereinafter *NWF*].

3. The ESA divides responsibility for listed species between the Department of Interior and the Department of Commerce. 50 C.F.R. § 402.01 (2008). NMFS is the federal agency charged with administering the ESA for oceanic and anadromous (fish that hatch in fresh water, migrate to the ocean to grow and mature, and migrate back to fresh water to spawn and reproduce) species. *Id.* § 223.102, 224.101. The U.S. Fish and Wildlife Service (FWS) is charged with administering the ESA for freshwater and land-based species. *Id.* § 402.01. The ESA assigns particular responsibilities to the Services (FWS and NMFS) beyond what is required of all other federal agencies. For clarity, I will refer to NMFS and FWS as the “Services” rather than “agencies.”

conflict arises in determining whether a Service's action speaks to "recovery"—the process by which the decline of an endangered or threatened species is arrested or reversed⁴ so that its long-term survival in nature can be ensured—or "survival"—the condition in which a species continues to exist in the future while retaining the potential for recovery.⁵

The Ninth Circuit's decision in *National Wildlife Federation v. National Marine Fisheries Service (NWF)*⁶ furthers an evolving trend by federal courts of requiring the Services to consider *both* recovery and survivability standards in their section 7 consultations. In essence, the court held that NMFS's actions under ESA's section 7 jeopardy analysis mandate must comport with a recovery standard *per se*, rather than simply a survivability standard. A recovery standard ensures a much more rigorous form of protection—to proactively restore a species to the level of health and well-being necessary to ensure delisting—and serves as a blueprint for the conservation of a species. As a result of the court's specific focus in *NWF* as to the jeopardy analysis prong of section 7, the court's holding could significantly impact the incorporation of recovery standards in future ESA jeopardy analyses.

But, the full extent of *NWF*'s impact is yet to be determined because the Services have not finalized guidance regarding the extent to which recovery standards will be applied during section 7 consultation, and no post-*NMF* court decisions have been published addressing this issue. Moreover, although the court in *NWF* held that *agency regulations* require analyses of the effects of proposed actions on recovery, the court did *not* address the question of whether the ESA itself requires the Services to consider both survival and recovery. As a result, it is now up to NMFS and FWS to determine how to move forward from the *NWF* decision.

The Services have the option to either revise their regulations, ignore the decision outside of the Ninth Circuit, or improve the methods by which they go about incorporating recovery into their ESA jeopardy analyses.⁷ In choosing among these options, the Services should remember that they have a congressional mandate to implement and enforce the goals of the ESA.⁸ In furtherance of this mandate, NMFS and FWS should adopt the latter option above and proactively determine the necessary ecological and legal parameters to incorporate into jeopardy analyses, ultimately preventing unnecessary delays in the consultation process caused by future litigation.

4. See U.S. FISH & WILDLIFE SERVICE, GUIDELINES FOR PLANNING AND COORDINATING RECOVERY OF ENDANGERED AND THREATENED SPECIES, 2 (Nov. 1989).

5. See U.S. FISH & WILDLIFE SERVICE, ENDANGERED SPECIES ACT CONSULTATION HANDBOOK: PROCEDURES FOR CONDUCTING SECTION 7 CONSULTATIONS AND CONFERENCES (1998), available at <http://www.fws.gov/endangered/pdfs/Sec7/handbook/TOC-GLOS.PDF>.

6. *NWF*, 481 F.3d. 1224.

7. The FWS has chosen the second option, ignoring the decision outside of the Ninth Circuit, in response to court decisions in *Gifford Pinchot*, *infra* note 113, and *Sierra Club*, *infra* note 102, with respect to incorporating recovery concepts into the adverse modification prong of section 7.

8. 50 C.F.R. § 402.01.

This Note focuses on the repercussions of the court's decision in *NWF* on the issue of recovery integration under ESA's section 7 consultation mandate, and attempts to provide a framework under which a sufficient recovery standard may be attained. Part I provides a background of the ESA and brief overview of ESA procedure. Part II focuses on ESA's section 7 consultation mandate, in particular the jeopardy analysis prong, and discusses what the concept of "jeopardy" may actually require in terms of survival and recovery of a species. Part III describes the background and holding of *NWF*. Parts IV and V analyze additional recent federal court cases that discuss recovery as integral to the adverse modification prong of section 7, and analogize how the holdings in these cases may shed light on implications arising from the decision in *NWF* directing NMFS to include recovery in jeopardy analyses. Part VI attempts to provide clarity into what a recovery standard entails and argues that such a standard is a blueprint for the conservation of a species. Finally, Part VII suggests how to incorporate recovery in future section 7 jeopardy analyses by assimilating a variety of ecological and legal considerations.

I. ENDANGERED SPECIES ACT OVERVIEW

The purpose of the ESA is "to provide a means whereby the ecosystems upon which endangered . . . and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered . . . and threatened species."⁹ To accomplish this goal, the ESA requires federal agencies¹⁰ to use all methods and procedures necessary to bring endangered and threatened species to the point where protection by the ESA is no longer necessary.¹¹

Since its passage in 1973, the ESA has been the subject of numerous lawsuits in federal courts. Historically, courts have often given deference to the conservation mandate established by the ESA when proposed federal actions would result in negative effects on listed species. The first and most famous ESA case heard by the U.S. Supreme Court was *Tennessee Valley Authority v. Hill (TVA)*.¹² The Court's decision to halt development of a federal dam because of the project's detrimental impact on the snail darter, an endangered fish species, not only affirmed the strength of the ESA, but also reinforced congressional intent to ensure that endangered species be given "the highest of

9. 16 U.S.C. § 1531(b) (2006). An "endangered species" is one that is "in danger of extinction throughout all or a significant portion of its range." *Id.* § 1532(6). A "threatened species" is "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." *Id.* § 1532(20). Species only receive protection under the Act when they are listed as "threatened" or "endangered", and so the "listing" process is a necessary prerequisite for species' protection and recovery.

10. *Id.* § 1531(c).

11. *Id.* § 1532(3).

12. *Tennessee Valley Auth. v. Hill*, 437 U.S. 153 (1978).

priorities.”¹³ This mandate that federal agencies “afford first priority to the declared national policy of saving endangered species”¹⁴ has been applied by numerous other courts since *TVA*.¹⁵

In order for a species to be afforded the protections of the ESA, it first must be listed as either endangered or threatened within the parameters of the ESA.¹⁶ Depending on the type of species in question,¹⁷ the Act requires FWS or NMFS to determine if a species is endangered or threatened based on the “present or threatened” condition of its habitat, the extent of the species’ overutilization, “disease or predation,” the “inadequacy of existing regulatory mechanisms,” or any other factors “affecting its continual existence.”¹⁸

Once a species is listed, several other provisions in the ESA apply. One of the most important is the “consultation” requirement set out under section 7 of the ESA.¹⁹ Under this mandate, *all* federal agencies (not just FWS and NMFS) must “insure that any [agency] action authorized, funded, or carried out . . . is not likely to jeopardize the continued existence of any . . . [listed] species or result in the destruction or adverse modification of habitat”²⁰ If a federal agency determines that its proposed action is likely to adversely affect a listed species, that agency must formally consult with FWS or NMFS, pursuant to section 7.²¹ FWS or NMFS then must prepare a Biological Opinion (“BiOp”) for the agency. The BiOp must explain “how the [proposed] agency action

13. *Id.* at 194.

14. *Id.* at 185.

15. *See Strahan v. Pritchard*, 473 F. Supp. 2d 230 (D. Mass. 2007); *United States v. Jim*, 888 F. Supp. 1058 (D. Or. 1995); *Pac. Coast Fed’n of Fishermen’s Ass’ns v. U.S. Bureau of Reclamation*, 426 F.3d 1082, 1090 (9th Cir. 2005). The notion that ESA be given highest priority was often considered a guiding principle by the judiciary until recently, with the Supreme Court’s 5-4 decision in *National Association of Home Builders v. Defenders of Wildlife*. 127 S. Ct. 2518 (2007). The Court held that ESA’s section 7 consultation and jeopardy analysis requirement should apply only to “discretionary” actions. *Id.* at 2536. Thus, once certain specified triggering events occur, consultation is not automatically required for actions that the ESA mandates an agency to undertake. The four dissenting justices argued that the majority’s decision was inconsistent with the text and history of NMFS’s and FWS’s joint ESA interagency regulation, and that the decision was fundamentally inconsistent with the ESA itself. *Id.* at 2538. The dissent concluded that Congress gave the ESA priority over the primary missions of federal agencies, and that it admitted no exception. *Id.* at 2542. The case was remanded to the lower court for further proceedings.

16. *See supra* note 9 for definitions of “endangered” and “threatened” under the ESA.

17. As mentioned in *supra* note 3, NMFS is the federal agency charged with administering the ESA for oceanic and anadromous species. 50 C.F.R. § 223.102, 224.101 (2008). FWS is charged with administering the ESA for freshwater and land-based species. 50 C.F.R. § 402.01.

18. 16 U.S.C. § 1533(a) (2008). Of note, the Services must not consider economic impacts when listing a species. Rather, the Services must rely “solely on the basis of the best scientific and commercial data available.” *Id.* § 1533(b)(1)(A). *See also* DAN FARBER ET AL., ENVIRONMENTAL LAW: CASES AND MATERIALS, 7TH ED. 211 (2006).

19. The section 7 consultation requirement is one of three procedural and substantive ESA provisions intended to restore a species’ population and ultimately prevent extinction. The other provisions are 16 U.S.C. § 1533(f) (recovery plans) and § 1538(a)(1)(B) and (G) (prohibition against takings).

20. 16 U.S.C. § 1536(a)(2).

21. *Id.* § 1536(c)(1).

affects the species or its critical habitat,”²² including an overall assessment as to whether the proposed action would lead to jeopardy or adverse modification. If a Service makes a finding of jeopardy or adverse modification, it must suggest “reasonable and prudent alternatives” to the proposed course of action.²³ Greater focus is given to section 7 consultation requirements and procedures in the next sub-part of this Note.

In addition to consultation, listing a species triggers ESA’s section 4(f), which guides the recovery of listed species. Under section 4(f), the Services are required to create a “recovery plan” for the “conservation and survival” of listed species.²⁴ These plans set out management actions and goals, criteria for delisting, and cost and time estimates necessary to sufficiently conserve listed species to the point where the species can be removed from the ESA.²⁵ Section 4(f) is a distinct and separate process from the analysis required under section 7 consultation. Part VI of this Note further discusses recovery planning. For now, note that the ESA does not impose strong requirements on recovery plans: recovery plans serve merely as “guidance documents” and not “decision-making documents,” and there is no deadline for their completion.²⁶

II. SECTION 7—CONSULTATION AND THE JEOPARDY ANALYSIS MANDATE

ESA’s section 7 consultation imposes a “duty to conserve” on all federal agencies: whenever an activity authorized by federal permit or approval has the potential to affect a listed species, the ESA requires federal agencies to “consult” with one of the Services on the potential affects of the proposed activity.²⁷ Once formal consultation is initiated under section 7, FWS or NMFS prepares a BiOp which details how the proposed agency action may impact the species or its critical habitat.²⁸ As the Court stated in *TVA*, section 7 expressly requires all federal agencies to address two specific prongs in its consultation process: (1) jeopardy and (2) adverse modification of critical habitat.²⁹

22. *Id.* § 1536(b)(3)(A).

23. *Id.*

24. *Id.* § 1533(f)(1).

25. *Id.* § 1533(f)(1)(B)(i–iii).

26. FARBER, *supra* note 18, at 252.

27. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a) (2008); *see* *Thomas v. Peterson*, 753 F.2d 754, 763 (9th Cir. 1985) (ESA imposes a procedural consultation duty when federal action may affect an ESA-listed species). However, defining what “constitutes an ‘action’ requiring consultation is the subject of much litigation.” Judi Brawer, *The Endangered Species Act: A Year In Review In The Ninth Circuit*, 50 THE ADVOCATE, June/July 2007, at 23, available at <http://www2.state.id.us/isb/advocate/PDF/07JuneJulyAdv.pdf>.

28. *See* 16 U.S.C. § 1536(b)(3)(A); *Ariz. Cattle Growers’ Ass’n v. U.S. Fish & Wildlife Serv.*, 273 F.3d 1229, 1239 (9th Cir. 2001).

29. The Court in *TVA* held that

One would be hard pressed to find a statutory provision whose terms were any plainer than those in § 7 of the Endangered Species Act. Its very words affirmatively command all federal agencies “to insure that actions *authorized, funded, or carried out* by them do not jeopardize

Although there is significant overlap between the concepts of jeopardy and adverse modification, they are distinct under the ESA. The jeopardy standard relates to the continued existence of a species and the potential effects of a proposed action on an actual listed species.³⁰ In making a section 7 jeopardy determination, the Services must “evaluate the current status of the listed species or critical habitat[,] . . . the effects of the action, and cumulative effects”³¹ In contrast, the adverse modification analysis relates to the “effects of an action on the species’ critical habitat.”³²

If the Services find that the federal proposed action is likely to “jeopardize the continued existence of” a listed species³³ or adversely modify its critical habitat, the action must be abandoned or modified.³⁴ As such, section 7 consultation serves as the “sole measuring stick” for evaluating the “legality of federal actions that affect listed species.”³⁵

Problems arise, however, because Congress failed to define what constitutes “jeopardy” under the Act.³⁶ This omission has resulted in considerable ambiguity throughout the ESA consultation process. Although the meaning of “jeopardy” may initially seem straightforward, how a Service is to

the continued existence’ of an endangered species or ‘result in the *destruction or [adverse] modification* of habitat of such species’ This language admits of no exception.

Tennessee Valley Auth. v. Hill, 437 U.S. 153, 173 (1978) (quoting 16 U.S.C. § 1536(a)(2)) (emphasis added).

The ESA requires that, “to the maximum extent prudent and determinable,” an agency must designate a species “critical habitat” at the time of its listing as threatened or endangered. 16 U.S.C. § 1533(a)(3). The ESA defines “critical habitat” as: “(i) the specific areas within the geographic area occupied by a species, at the time it is listed . . . on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical areas occupied by the species at the time it is listed . . . upon a determination that such areas are essential for the conservation of the species.” *Id.* § 1532(5)(A).

30. *Id.* § 1536(a)(2).

31. 50 C.F.R. § 402.14 (2008). “Effects of the action” include direct and indirect effects of an action that will be added to an environmental baseline. 50 C.F.R. § 402.02. An “environmental baseline” includes past and present impacts of federal, state or private actions and other human activities in the examined area and the anticipated impacts of all proposed federal projects in the area that have already undergone consultation under 16 U.S.C. § 1536.

32. *Greenpeace v. Nat’l Marine Fisheries Serv.*, 55 F. Supp. 2d 1248, 1265 (W.D. Wash 1999) (citing 50 C.F.R. §402.02 (“An action results in jeopardy when it ‘directly or indirectly . . . reduce[s] appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction numbers, or distribution of that species’” and “[a]dverse modification is a ‘direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species . . . [including] alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical’”).

33. 16 U.S.C. § 1536(a)(2).

34. *Id.* § 1536(b)(3); see *ALCOA v. Adm’r, Bonneville Power Admin.*, 175 F.3d 1156, 1159 (9th Cir. 1999).

35. Daniel Rohlf, *Jeopardy Under the Endangered Species Act: Playing A Game Protected Species Can’t Win*, 41 WASHBURN L.J. 114, 114 (2001).

36. See *id.* Congress also failed to define what constitutes “adverse modification,” but I focus specifically on the jeopardy omission for purposes of this Note.

apply the mandate is far from clear.³⁷ NMFS and FWS have assumed primary responsibility for defining the ESA jeopardy mandate in their interagency guidance regulation³⁸ as part of their primary role in administering the Act.³⁹ The regulation suggests that jeopardy involves actions that threaten the “survival” and “recovery” of listed species. However, the terms “survival” and “recovery” are not defined within the ESA, nor are they fully defined in the Services’ regulation. As discussed below, the Services’ regulation provides a starting point for the interpretation of these terms, but does not fully address the scope of ambiguity in determining what a finding of jeopardy actually requires.

A. Ordinary Meaning of “Jeopardy”

One way to interpret statutory terms is to look to the ordinary meaning of the term.⁴⁰ Merriam-Webster’s dictionary defines “jeopardy” as “exposure to or imminence of death, loss, or injury.”⁴¹ But applying this definition to ESA’s jeopardy provision in the context of evaluating the risk of species loss is quite difficult. For instance, how much pressure or impact to a listed species is too much, and how does a Service define and quantify such pressure? Given that a species will generally continue to exist in the short term absent any new threats that move it toward extinction, do actions that increase existing risks to listed species meet these jeopardy criteria? Alternatively, since listed species are already threatened with extinction even without additional future impacts, do potential threats have to be more substantial, thus preventing and undermining a species’ recovery and potential for a “continued existence”?⁴² And, of course, what exactly does “continued existence” mean? These are just a few of the questions which illustrate the enormity and complexity of the section 7 consultation jeopardy analysis mandate for the Services.

B. Services’ Regulation Suggest that Jeopardy Involves Threatening the Survival and Recovery of Listed Species

Another source of authority for interpreting the “jeopardy” standard are NMFS’s and FWS’s agency regulations, specifically the Services’ joint

37. The Supreme Court has long recognized that BiOp’s are almost always authoritative on the issue of jeopardy. *Id.* at 120. Thus, the Services usually have the last word on what actions are prohibited under section 7’s jeopardy analysis. However, it has long been held that the jeopardy standard is ineffective at providing protections for listed species, mostly because of administrative interpretations and policies. *Id.* at 115.

38. See 50 C.F.R. § 402.02 (2008) (discussed in sub-part B of this section).

39. See Rohlfs, *supra* note 35, at 115.

40. “A fundamental canon of statutory construction is that, unless otherwise defined, words will be interpreted as taking their ordinary, contemporary, common meaning.” *Perrin v. U.S.*, 444 U.S. 37, 42 (1979); see, e.g., 2A N. SINGER, SUTHERLAND ON STATUTES AND STATUTORY CONSTRUCTION § 47:28 (rev. 6th ed. 2000); *Burns v. Alcalá*, 420 U.S. 575, 580-581 (1975).

41. Merriam-Webster online dictionary, <http://m-w.com/dictionary/jeopardy>.

42. Rohlfs, *supra* note 35, at 127.

interagency cooperation regulation, 50 C.F.R. § 402.⁴³ This regulation defines the phrase “jeopardize the continued existence of” as engaging in an action that “reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of *both the survival and recovery* of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.”⁴⁴

However, the joint interagency regulation leaves several questions unanswered. For one, the regulation does not explicitly equate “jeopardy” with the “jeopardize the continued existence of” standard articulated in the text of the ESA. Although this equation is not certain, it seems likely based on the definition provided. Another ambiguity lies in the terms the joint regulation uses to define its jeopardy standard—“survival” and “recovery”—since these terms themselves are undefined in the ESA. Broadly speaking, the regulation’s definition of “jeopardy” appears to include both survival *and* recovery of a listed species. Evaluating the details of additional Service regulations provides more guidance to the question of what a finding of jeopardy actually requires.

C. Service Guidelines

1. Survival

The term “survival” was not defined in the first Service regulatory definition of “jeopardize” and has not been addressed by any Service regulation or guidance document, with the exception of FWS’s Consultation Handbook for section 7 procedural guidance.⁴⁵ The Handbook defines “survival” as:

[T]he species’ persistence, as listed or as a recovery unit, beyond the conditions leading to its endangerment Said another way, *survival is the condition in which a species continues to exist in the future while retaining the potential for recovery*. This condition is characterized by a species with a sufficiently large population, represented by all necessary age classes, genetic heterogeneity, and number of sexually mature individuals producing viable offspring, which exists in an environment providing all requirements for completion of the species’ entire life cycle, including reproduction, sustenance, and shelter.⁴⁶

43. 50 C.F.R. § 402.02 (2008). Although not discussed in detail in this paper, the application of the “destruction and adverse modification” standard is still an ongoing discussion, as evidenced by the 9th Circuit’s decision in *Gifford Pinchot*. *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Serv.*, 378 F.3d 1059 (9th Cir. 2004).

44. 50 C.F.R. § 402.02 (emphasis added).

45. See U.S. FISH & WILDLIFE SERVICE, ENDANGERED SPECIES ACT CONSULTATION HANDBOOK: PROCEDURES FOR CONDUCTING SECTION 7 CONSULTATIONS AND CONFERENCES, *supra* note 5 (emphasis added).

46. *Id.*

2. *Recovery*

Neither the original ESA, nor the 1978 ESA Amendments, provide a definition of “recovery.” However, the term is defined in the joint regulation as an “improvement in the status of listed species to the point at which listing is no longer appropriate” under the criteria established in the listing process section of the ESA.⁴⁷ NMFS has not provided any additional guidance on this concept beyond the definition stated in the interagency regulation, but FWS further elaborated on the term and published separate guidelines for recovery planning.⁴⁸ FWS’s guidelines define “recovery” as:

[T]he process by which the decline of an endangered or threatened species is arrested or reversed, and threats to its survival are neutralized, so that its long-term survival in nature can be ensured. The goal of this process is the maintenance of secure, self-sustaining wild populations of species with the minimum necessary investment of resources.⁴⁹

D. *Integrating Survival and Recovery Standards into Jeopardy Analyses*

Differentiating between FWS’s “recovery” and “survival” definitions is difficult, if not impossible. However, understanding the difference becomes critical when agencies apply the terms of ESA’s section 7 mandate.

Guaranteeing the ultimate survival of a species is only possible if recovery efforts necessary to ensure survivability are considered. For instance, a species is listed on the ESA because its population size is already so decimated that it is “highly vulnerable to extinction without added pressure.”⁵⁰ Given that a listed species is already in a state of precarious survival and decreased population, any new adverse impacts to the species could significantly increase the risk of detrimental harm, and even lead to possible extinction. For sure, a listed species can often survive for a period of time without improvement in its listing status. However, there is a temporal link between “survival” and “recovery,” and conservation biology principles show that species at the brink of extinction “face increasing risks of continuing to decline or actually become extinct the longer they remain at depressed population levels.”⁵¹ In essence, a listed species will continue to decline in numbers over time unless its population and habitat are measurably moving in the direction of recovery.⁵² Indeed, “maintaining a handful of species members merely delays extinction.”⁵³ Thus,

47. 50 C.F.R. § 402.02.

48. U.S. FISH & WILDLIFE SERVICE, GUIDELINES FOR PLANNING AND COORDINATING RECOVERY OF ENDANGERED AND THREATENED SPECIES, *supra* note 4, at 2.

49. *Id.*

50. Richard Webster, *Habitat Conservation Plans Under the Endangered Species Act*, 24 SAN DIEGO L. REV. 243, 254 (1987).

51. Rohlf, *supra* note 35, at 152.

52. *See id.*

53. Federico Cheever, *The Road to Recovery: A New Way of Thinking About the Endangered Species Act*, 23 ECOLOGY L.Q. 1, 4 (1996). For instance, a “breeding pair of species is not sufficient to

any actions that would considerably reduce the likelihood of “recovery” would also negatively impact species’ ultimate ability to survive.⁵⁴

The necessary question, therefore, is whether section 7’s jeopardy provision requires consideration of both recovery and survival. NMFS and FWS discuss “survival” and “recovery” as two distinct concepts in their joint interagency regulation, and it appears that the Services interpret the section 7 analysis to *independently* consider *each* of these concepts during ESA’s section 7 consultation. However, lawyers, scholars, and at times even the Services themselves, reach the opposite conclusion—that demonstrating the proposed action will not appreciably reduce the likelihood of *either* survival *or* recovery is sufficient to satisfy the jeopardy analysis under section 7.⁵⁵ Given these conflicting conclusions, it is difficult to draw a clear distinction between the two terms. This uncertainty has led to a “semantic conundrum.”⁵⁶

NMFS, however, has taken the lead in considering survivability aspects as part of its jeopardy analyses, and “incorporat[ing] protections for recovery . . . for at least some listed species,” including certain Pacific salmonid species.⁵⁷ For instance, a 1999 NMFS policy paper states:

Impeding a species’ progress toward recovery exposes it to additional risk, and so reduces its likelihood of survival. Therefore, *for an action to not ‘appreciably reduce’ the likelihood of survival, it must not prevent or appreciably delay recovery* Available scientific information indicates no practical differences exist between degree of function essential for long-term survival and that necessary to achieve recovery.⁵⁸

Thus, in its policy paper, NMFS includes the necessity for both survival *and* recovery in its regulatory definition of jeopardy, by defining recovery as the ability to survive far into the future.⁵⁹ However, NMFS has not consistently held this position. For example, in some section 7 consultations, NMFS’s BiOps do not include “recovery” in its jeopardy analyses. One such BiOp, and the legitimacy of the interpretation of “jeopardy” put forth in the 1999 policy paper, was the issue facing the Ninth Circuit in *National Wildlife Federation v. National Marine Fisheries Service (NWF)*.

III. NATIONAL WILDLIFE FEDERATION V. NATIONAL MARINE FISHERIES SERVICE

In *NWF*, the Ninth Circuit addressed the extent to which recovery must be incorporated in the jeopardy analysis component of section 7 as defined by the

perpetuate a population . . . [nor] to ensure a reasonable probability of long-term persistence and adaptation of species.” *Id.* at 12 n.43.

54. See Webster, *supra* note 50.

55. See Rohlf, *supra* note 35, at 130.

56. See *id.*

57. See *id.*

58. See *id.* at 135 (emphasis added) (citing National Marine Fisheries Service, THE HABITAT APPROACH: IMPLEMENTATION OF SECTION 7 OF THE ENDANGERED SPECIES ACT FOR ACTIONS AFFECTING THE HABITAT OF PACIFIC ANADROMOUS SALMONIDS (1999) at 3).

59. See *id.* at 136.

Services' interagency regulation. Ultimately, the court held that although NMFS was required to consider the concept of recovery as part of its jeopardy analysis, it failed to do so.

The case first arose in regard to the application of the ESA to the protection of anadromous⁶⁰ fish species in the Pacific Northwest's Columbia River System. Each year, hundreds of thousands of fish journey up and down the Columbia River—hatching in fresh water, migrating downstream to the ocean until they are adults, and then returning up the river again to breed.⁶¹ Due to major declines in the salmon population over the last two decades, species of Columbia, Snake, and Willamette River salmon and steelhead have been listed as endangered under the ESA.⁶²

The conflict between fish and humans comes into full force when fish must pass through up to fourteen dams and power facilities managed by the Federal Columbia River Power System (FCRPS) on their way to the ocean, resulting in extremely high mortality.⁶³ Additional problems arise due to competition among a large number of federal, state, and tribal entities involved in the management of the Columbia River System.⁶⁴ Federal agencies must provide water and power to Northwest consumers, states govern water diversions from the river and regulate activities with their own fish and wildlife conservation programs, and Indian Tribes reserve fishing rights that are impacted by FCRPS operations.⁶⁵

Because of these conflicts, FCRPS's operations throughout the Columbia River have been "the subject of perpetual litigation" since the time salmon and steelhead trout species were first placed on the ESA in the early 1990s.⁶⁶ In 1993, NMFS, serving as the ESA section 7 consulting agency, issued a BiOp stating that proposed FCRPS dam operations would *not* jeopardize salmon and steelhead species covered by the ESA.⁶⁷ The BiOp was challenged in the U.S. District Court for the District of Idaho, where the National Wildlife Federation (NWF) alleged that NMFS failed to insure that FCRPS dam operations would not jeopardize the continued existence of endangered salmon species.⁶⁸ The court held that NMFS's action in drafting the biological opinion was arbitrary and capricious because the Service failed to explain key assertions in its

60. Fish that hatch in fresh water, migrate to the ocean to grow and mature, and migrate back to fresh water to spawn and reproduce.

61. *See NWF*, 481 F.3d at 1229.

62. *See id.*

63. More than 9 out of every 10 fish die from impacts related to, and directly caused by, dam facilities. These impacts include extensive mortality from passing through turbines, trauma from gas supersaturation due to increased spill-over from dams (equivalent to the "bends" experienced by human scuba divers who surface too quickly), and exposure to predatory fish found in reservoirs behind the dams. *See Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 789 (D. Or. 2005).

64. *See id.*

65. *See id.*

66. *NWF*, 481 F.3d at 1243.

67. *See id.* at 1231.

68. *Idaho Dep't of Fish & Game v. Nat'l Marine Fisheries Serv.*, 850 F. Supp. 886 (D. Or. 1994).

jeopardy analysis.⁶⁹ The court also stated that “where section 7 consultation parameters end and section 4 recovery measures begin is not a proper matter for judicial bright-line decision making.”⁷⁰ The court affirmed the link between the two concepts of jeopardy and recovery by stating that long-term survival of a species (i.e. recovery) “is relevant in assessing whether an agency has violated the section 7(a)(2) jeopardy standard.”⁷¹

As a result of the Idaho litigation, NMFS proceeded to replace its 1993 BiOp with two subsequent biological opinions in 2000 and again in 2004, both of which were immediately challenged in separate suits by NWF in the federal district court of Oregon.⁷² In each of these suits, the district court found that the BiOps were inadequate and included a number of structural flaws in their jeopardy analyses,⁷³ leading to a consolidated appeal before the Ninth Circuit in *NWF*.

The 2004 BiOp was most relevant to whether recovery must be considered as part of the ESA’s jeopardy analysis. NMFS’s 2004 BiOp alleged that the proposed dam operations would not jeopardize thirteen listed fish species nor adversely modify their critical habitat.⁷⁴ The plaintiffs claimed this BiOp was flawed because NMFS’s jeopardy analysis failed to consider how the proposed dam operations would affect the listed species’ recovery opportunities.⁷⁵ In response, NMFS asserted that it met its ESA obligations by comparing the effects of proposed operations on the listed species to the risk caused by baseline conditions (in other words, the species’ current status).⁷⁶ NMFS argued that only if proposed effects were “‘appreciably’ worse than baseline conditions must a full jeopardy analysis be made” under the ESA.⁷⁷

In *NWF*, the Ninth Circuit focused on the issue of recovery as part of the section 7 consultation process, and affirmed the 2005 district court’s decision to reject the 2004 BiOp. The Ninth Circuit held that (1) the 2004 BiOp’s jeopardy analysis was flawed and not compatible with the goals of the ESA, despite NMFS’s “baseline” argument, (2) a jeopardy analysis, as defined by the text of the Services’ interagency regulation, must consider survival *and* recovery, (3) NMFS did not implicitly consider recovery in its jeopardy analysis, and (4) in

69. *See id.* at 893.

70. *Id.* at 895.

71. Cheever, *supra* note 53, at 56.

72. *See Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 254 F. Supp. 2d 1196 (D. Or. 2003); *Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 422 F.3d 782 (D. Or. 2005).

73. The second district court case in 2005 also determined that the 2004 BiOp omitted any consideration of proposed actions on the listed fish species’ chances of recovery. *See Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 422 F.3d at 792.

74. *See NWF*, 481 F.3d at 1229.

75. *See id.* at 1232.

76. *See id.* at 1230–31. The court stated that under 50 C.F.R. § 402.14(g)(2)-(3), baseline conditions “‘include the past and present impacts of all Federal, State or private actions and other human activities in the action area’ and ‘the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation.’”

77. *NWF*, 481 F.3d at 1235.

order to adequately consider recovery, the Services' must articulate a recovery standard, in addition to a survival standard, as part of their interagency regulation.

The Ninth Circuit agreed with the 2005 district court's holding that the 2004 BiOp's jeopardy analysis was "incompatible" with the ESA, and stated that the 2004 BiOp should have, but failed to, focus on whether the proposed action would push the listed species into jeopardy.⁷⁸ Thus, the "jeopardy" analysis put forth by NMFS did not adequately consider the proposed action's effects on *both* survival *and* recovery.⁷⁹ The court dismissed NMFS's argument that a jeopardy analysis is mandated only if proposed effects are "appreciably" worse than baseline conditions.⁸⁰

The court also concluded that the 2004 BiOp was "legally deficient" because NMFS did not consider "the proposed action's impacts on the listed species chances of recovery."⁸¹ The Services' joint interagency regulation interprets ESA's section 7 consultation mandate to require that the Services' consider survival *and* recovery when assessing proposed action affects on listed species.⁸² The court found that NMFS clearly failed to account for recovery considerations in its jeopardy analysis.⁸³ Instead, NMFS's flawed jeopardy reasoning would allow for the gradual elimination of a listed species, provided that each step in the process was sufficiently moderate.⁸⁴ The court criticized NMFS for ignoring a full jeopardy analysis on these grounds, reasoning that the ESA was drafted explicitly to prevent a species' "slow slide into oblivion," the very ill that NMFS was promoting.⁸⁵ The Ninth Circuit found that the continued operation of the FCRPS dams was a continual human activity that endangered the listed species' survival and recovery, contrary to the analysis put forth in NMFS's BiOp.⁸⁶

NMFS argued that although the BiOps did not explicitly mention recovery, the Service implicitly included recovery in its analysis.⁸⁷ The court disagreed and held that NMFS's silence on recovery in its 2004 BiOp was not sufficient to show that NMFS in fact considered recovery as part of its mandate.⁸⁸ As such, the court concluded that NMFS failed to include recovery

78. *Id.* at 1233.

79. *See id.* at 1237. The Fifth Circuit came to the same result in *Gifford Pinchot* regarding the adverse modification prong of section 7. *See infra* note 112.

80. *NWF*, 481 F.3d at 1235.

81. *Id.* at 1236.

82. *See id.* (referring to 50 C.F.R. § 402.02, which defines "jeopardize the continued existence of" as "to engage in an action that reasonably would be expected, directly or indirectly, to *reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild . . .*" (emphasis added)).

83. *See id.* at 1236–37.

84. *See id.* at 1235.

85. *Id.*

86. *See id.* at 1236.

87. *See id.* at 1237 n.9.

88. *See id.*

in its reading of the regulation by interpreting it as requiring “survival only,” thereby reading “and recovery” out of the text.⁸⁹ NMFS’s interpretation was considered unreasonable given previous ESA interpretation and application.⁹⁰

Most important to the Ninth Circuit’s holding is that a recovery standard must be considered by the Services’ when interpreting their jeopardy regulation under section 7.⁹¹ The court determined that the ESA’s mandate, as defined by the Services’ regulation, goes deeper than simply focusing on survivability.⁹² As such, NMFS must consider the impacts of the proposed action on the survival *as well as* the recovery of the listed species. A singular focus on “survival” violates the ESA, for “if there is no appreciable reduction of survival odds, there can never be jeopardy, even if recovery is completely impossible. . . . [A] species can often cling to survival even when recovery is far out of reach.”⁹³ Although the Ninth Circuit conceded that it is often difficult to differentiate between the concept of “recovery” and “survival,” a Service “may not resolve this difficulty by ignoring recovery needs and focusing entirely on survival,” as NMFS did.⁹⁴ The court concluded that NMFS’s application of the Services’ regulation was a “manipulat[ion] [of] the variable to achieve a no jeopardy finding. Statistically speaking, using the 2004 BiOp’s analytical framework, the dead fish were really alive.”⁹⁵

IV. ANALYSIS OF OTHER RECENT CASES DISCUSSING “RECOVERY” AS PART OF THE SECTION 7 MANDATE

NWF is not the only recent case to have considered whether and how section 7 incorporates recovery. In particular, three federal circuit court decisions preceding *NWF* specifically focused on the integration of recovery into the section 7 consultation process: *New Mexico Cattle Growers*

89. *Id.* at 1237.

90. *See id.* (“Until issuing the 2004 BiOp, the agency had consistently interpreted 50 C.F.R. § 402.02 as requiring a joint analysis of both survival and recovery impacts. Nothing in its prior approach indicates that NMFS may simply avoid any consideration of recovery impacts, as it admits it has done here.”).

91. *See id.* at 1236–37. Although the court in *NWF* held that agency regulations require analyses of the effects of proposed actions on recovery, the court did not address the question of whether the ESA itself requires the Services’ to consider both survival and recovery. *Id.* at 1237. A focus on the jeopardy prong was explicitly omitted from the courts’ decisions and analyses in *N.M. Cattle Growers Association*, *Sierra Club*, and *Gifford Pinchot*. *See infra* notes 97, 100, 113, respectively.

92. It is not clear from the *NWF* decision, however, if the *ESA* itself necessarily mandates NMFS to consider both recovery and survivability. The court stated that it did not need to focus on this issue (as the court determined to be the case in *Gifford Pinchot* for critical habitat) because “the text of the jeopardy regulation is not reasonably susceptible to the survival only interpretation NMFS now gives it.” *NWF*, 481 F.3d at 1237.

93. *Id.* at 1236–37.

94. *Id.* at 1238 n.10. In prior BiOps, NMFS consistently interpreted 50 C.F.R. § 402.02 as requiring “a joint analysis” of survival and recovery. *Id.* at 1238 (stating that NMFS considered both recovery and survival in its earlier BiOps, most notably in 1995 and 2000). This practice begs the question as to whether the Services are setting the bar higher than what *ESA* requires.

95. *Id.* at 1239.

Association v. FWS, Sierra Club v. FWS, and Gifford Pinchot Task Force v. FWS. However, these cases considered the adverse modification prong of section 7, rather than the jeopardy analysis component. Although these cases do not directly address the extent to which recovery must be incorporated in the jeopardy analysis,⁹⁶ they nonetheless provide an important context for *NWF* by articulating a link between the concept of recovery and section 7 generally. Given that the courts have consistently held that recovery must be incorporated as part of this analysis, these cases shed light on the evolving recovery standard under section 7 that was ultimately applied in *NWF*.

A. *New Mexico Cattle Growers Association v. United States Fish and Wildlife Service*⁹⁷

In *N.M. Cattle Growers*, the Tenth Circuit held that when evaluating the risk of “adverse modification” of critical habitat as part of a section 7 consultation, the Services must consider recovery in addition to mere survival. The New Mexico Cattle Growers Association’s challenged FWS’s critical habitat designation for an endangered bird species, the Southwestern Willow Flycatcher, claiming that FWS incorrectly applied the ESA.⁹⁸

The Tenth Circuit held that Congress’s intent in passing the ESA was to ensure the conservation of listed species and to provide a program to conserve such species.⁹⁹ The court briefly addressed the inclusion of recovery in the “adverse modification” analysis under section 7, and expressed its dissatisfaction with the ambiguous definitions of the jeopardy and adverse modification standards articulated in the Services’ joint regulation.¹⁰⁰ The court ultimately held that section 7’s adverse modification analysis must include *both* recovery and survival.¹⁰¹

B. *Sierra Club v. United States Fish and Wildlife Service*¹⁰²

The Fifth Circuit focused on a similar issue in *Sierra Club*, holding that FWS and NMFS should have, but failed to, consider recovery under the “adverse modification” standard in order to achieve the goals of the ESA. In that case, the Sierra Club brought an action against FWS and NMFS,

96. The Ninth Circuit was the first federal appellate court to integrate a recovery standard into the jeopardy analysis portion of section 7 in its decision of *NWF* (rather than solely focus on the adverse modification portion of section 7). *See generally id.*

97. *N.M. Cattle Growers Ass’n v. U.S. Fish & Wildlife Serv.*, 248 F.3d 1277 (10th Cir. 2001).

98. *See id.* at 1280.

99. *See id.* at 1282.

100. *See id.* at 1283. The court also commented that other federal courts (such as the Fifth Circuit in *Sierra Club v. U.S. Fish & Wildlife Serv.*, 245 F.3d 434 (5th Cir. 2001)) were starting to recognize that the guidelines provided in 50 C.F.R. § 402.02 resulted in determinations of adverse modification “inconsistent with the intent and language of the ESA.” *Id.* at 1283 n.2.

101. *Id.* at 1283.

102. *Sierra Club*, 245 F.3d at 434.

challenging the Services' failure to designate critical habitat for a threatened fish species.¹⁰³ The Sierra Club claimed that the Services' joint interagency regulation, which requires an action affect both the recovery *and* survival of a listed species to ensure a finding of adverse modification, conflicted with the intent of the ESA.¹⁰⁴

The Sierra Club argued that the ESA's adverse modification standard can require consultation where an action affects only recovery, even when it does not affect survival.¹⁰⁵ The court held in favor of the Sierra Club, stating that the objective of ESA is not only to allow listed species to survive, but to recover.¹⁰⁶ The court further reasoned that "'conservation' is a much broader concept than mere survival,"¹⁰⁷ and that "conservation," as defined under the ESA, "speaks to" the recovery of a listed species.¹⁰⁸

The court also held that the "adverse modification" standard of the joint interagency regulation was inconsistent with the purpose of the ESA and that the Services' interpretation was incorrect because it read recovery out of the ESA.¹⁰⁹ As a result, the court mandated that recovery be put back in section 7 analyses, and held that requiring consultation only where an action affects recovery *and* survival of a species "imposes a higher threshold than the statutory language permits."¹¹⁰

The court briefly addressed the connection between recovery and the jeopardy prong of section 7, stating that "jeopardy" is similar to "adverse modification" in that both standards look at survival *and* recovery of listed species.¹¹¹ However, the court limited its holding to only the "adverse modification" definition of section 7 and not to any other part of 50 C.F.R. § 402.02 (including the definition of "jeopardize the continued existence of").¹¹²

C. Gifford Pinchot Task Force v. United States Fish and Wildlife Service¹¹³

The most detailed court decision to discuss the issue of recovery vis-a-vis the adverse modification standard was *Gifford Pinchot*. The Gifford Pinchot Task Force sued FWS, challenging the Service's six biological opinions allowing incidental takes¹¹⁴ of a threatened owl species.¹¹⁵ The BiOps were

103. *See id.* at 437.

104. *See id.* at 441.

105. *See id.*

106. *See* 50 C.F.R. § 402.02; *Sierra Club*, 245 F.3d at 438.

107. *Sierra Club*, 245 F.3d at 441.

108. *Id.*

109. *See id.* at 443.

110. *Id.* at 442.

111. *Id.* at 439.

112. *Id.* at 443.

113. *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059 (9th Cir. 2004).

114. The definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19) (2006). "The ESA

contested under both the jeopardy and adverse modification prongs of the section 7 consultation.¹¹⁶ The Ninth Circuit agreed with the reasoning in *N.M. Cattle Growers* and *Sierra Club*, concluding that the adverse modification standard of ESA's section 7 requires consideration of species recovery.

Similar to the courts' holdings in *N.M. Cattle Growers* and *Sierra Club*, the Ninth Circuit agreed that the Services' requirement that effects on critical habitat must affect *both* survival and recovery "sets the bar too high" because an action would have to considerably degrade critical habitat necessary for survival *and* recovery before the "adverse modification" standard could be met.¹¹⁷

The court further stated that it is "inevitable that a species requires more critical habitat than is necessary for species survival."¹¹⁸ For instance, if FWS approved the "complete elimination of critical habitat necessary only for recovery, and so long as the smaller amount of critical habitat necessary for survival not appreciably diminished, then no destruction or adverse modification, as defined by the regulation, has taken place."¹¹⁹ As a result, FWS's regulatory definition of adverse modification becomes centered solely on *survival*, violating the ESA's objective (and congressional intent of the ESA) because it ignored the recovery goal of critical habitat.¹²⁰

If the court accepted FWS's requirement that a proposed action "adversely modifies" critical habitat only if the value of the habitat is diminished for both survival *and* recovery,¹²¹ the result would "drastically narrow the scope of protection Congress commanded under the ESA."¹²² Rather than protecting habitat for a species recovery and eventual delisting, the Service's regulation merely delayed extinction.¹²³ The court did not address the issue of recovery in the jeopardy analysis prong of section 7.

It is important to note that in *Gifford Pinchot*, the Ninth Circuit held that the ESA itself, through its section 7 adverse modification mandate, requires a Service to consider *both* survival and recovery. Recall that the Ninth Circuit's

authorizes NMFS to exempt parties from its take prohibitions under certain circumstances. Under section 10(a)(1)(B), NMFS may permit non-Federal parties to take a listed species if such a taking is incidental to, and not the purpose of, an otherwise legal activity." Endangered and Threatened Wildlife and Plants; Definition of "Harm," 63 Fed. Reg. 24148, 24148-49 (May 1, 1998).

115. See *Gifford Pinchot*, 378 F.3d at 1062.

116. See *id.* at 1065. With regard to arguments raised concerning the jeopardy prong, the plaintiffs argued that the FWS jeopardy methodology was insufficient and did not accurately reflect the level of threat that would result from proposed logging actions. *Id.* The court denied the plaintiffs claims on various grounds. *Id.* at 1068. The plaintiff's arguments under the critical habitat prong of section 7 were upheld by the court. *Id.* at 1069.

117. *Gifford Pinchot*, 378 F.3d at 1069.

118. *Id.*

119. *Id.* at 1069-70.

120. See *id.* at 1069.

121. See *id.* at 1069-1070.

122. *Id.* at 1070.

123. See *id.*

decision in *NWF* did not conclude whether the ESA specifically mandates consideration of both survival and recovery under the Act's second prong of section 7—the jeopardy analysis. Instead, the court in *NWF* concluded that the *Services' regulation* required both survivability and recovery, and thus, since NMFS violated its own mandate, the court was not required to look further into the issue of what the ESA mandates for jeopardy analyses.¹²⁴

V. IMPACT OF *NWF* AND THE ADVERSE MODIFICATION DECISIONS

After *NWF* and the other decisions discussed above, the *Services'* are now required to consider *both* survival *and* recovery impacts on listed species in section 7 consultations, in accordance with their interagency regulation. The courts' holdings could be read to require that the *Services'* actions under section 7 must comport with a recovery standard, rather than just the survival standard traditionally used by NMFS and FWS. However, the court decisions have been vague in their mandates or have failed to define key terms and concepts, and this uncertainty raises concerns about applicability and sufficiency under section 7.

The first problem arises when NMFS and FWS must determine how to fulfill court mandates to include both recovery and survival in section 7 analyses. There is very little guidance, for such incorporation in previous court decisions rejecting BiOps is insufficient. An exception to this is *Gifford Pinchot*, but even there, the court did not adequately address how to achieve the terms of its holding. As a result, there is little clarity for how the *Services* should include recovery into their future jeopardy analyses.¹²⁵

Another difficulty with fulfilling the courts' directive is that a recovery standard must be balanced with the understanding that it may be difficult, if not impossible, to sufficiently recover a particularly sensitive or highly endangered species. Often,

[B]y the time a species has been listed under the Act, [the species] population is so low that recovery efforts may be unable to succeed, or will take extraordinary amounts of time and money to succeed. As a result, the ESA makes recovery and conservation efforts harder than they otherwise might be by delaying intervention until the threshold of 'endangered' or 'threatened' status has been reached.¹²⁶

Because it is not clear what courts' vision of a recovery standard entails, agencies face difficult decisions within both legal and scientific spheres. As a result, future legal battles over the definition and applicability of a recovery standard are likely, given that ESA actions affect a variety of societal,

124. See *NWF*, 481 F.3d at 1237.

125. For instance, while courts have generally given deference to the *Services'* interpretation of recovery as a meaningful component of jeopardy analysis, "no clear legal roadmap emerges from [past] decisions to provide guidance on recovery's proper role in the jeopardy standard" under section 7. Rohlif, *supra* note 35, at 145.

126. FARBER, *supra* note 18, at 211.

economic, and biological interests. For instance, in *NWF*, the impacts of the court's decision touches upon issues of water supply and allocation, dam infrastructure and activities, human development, energy production, and the health of fish populations.

Below I suggest some practical guidance to the Services for applying the recovery standard to jeopardy analyses under section 7. Such considerations may help further the purpose of the Act, fill existing gaps in evaluating recovery, and prevent increased future litigation.

VI. WHAT IS A 'RECOVERY STANDARD'?

In order to determine how to properly incorporate recovery into a section 7 jeopardy analysis, it is necessary to understand the meaning of the recovery standard concept. As described above, the court in *NWF* held that the Services *must* incorporate both survival and recovery into section 7 analyses, per the text of the Services' interagency regulation. Thus, *NWF* can be read to require the application of a recovery standard as part of the Services' overall jeopardy analysis mandate under section 7. This standard would suggest that the Services contribute affirmatively to recovery of a listed species and ensure no increase in the likelihood of extinction of such species.

A recovery standard is noticeably distinct from the traditional survival standard often applied by the Services. Whereas a recovery standard serves to proactively restore a species to the level of health and well-being necessary to ensure delisting, a survival standard constitutes a less rigorous form of protection under the ESA and "is akin to keeping a patient on life support without any chance of recovery."¹²⁷

However, determining what a recovery standard must include in order to fulfill the mandate espoused by the judiciary is still unclear. The court in *NWF* did not provide any guidance on this issue other than to state that a recovery standard is broader than what is encompassed under an ESA recovery plan.¹²⁸ Therefore, this part of my Note attempts to provide an interpretation of a recovery standard, considering the available sources of guidance: congressional intent underlying the ESA, judicial discussions of recovery from recent cases, and the discussion of recovery in section 4 of the ESA.

127. 151 Cong. Rec. H 8536 (Statement of Rep. Rahall), *available at* http://www.house.gov/list/press/ii00_democrats/esafloor.pdf.

128. *See NWF*, 481 F.3d at 1241 ("Requiring some attention to recovery issues does not improperly import the ESA's separate recovery planning provisions into the section 7 consultation process. Rather, it simply provides some reasonable assurance that the agency action in question will not appreciably reduce the odds of success for future recovery planning, by tipping a listed species too far into danger"). Recovery plans are discussed in more detail later in this section.

A. Congressional Intent

Looking to congressional intent for guidance on the linkage of recovery and jeopardy is difficult. Congress declined to define “jeopardy” in the ESA, and as a result, the concept of “recovery” is only defined in the Services’ interagency regulation and subsequent FWS guidance documents.¹²⁹ However, many legal scholars believe that “Congress had greater goals in mind than merely avoiding extinction when it passed the Act; the purposes of the ESA include *conservation—i.e., recovery—*of listed species and the ecosystems they inhabit.”¹³⁰ As such, “given lawmakers’ focus on recovery, it stands to reason that the principle regulatory elements of the [ESA] should advance this goal rather than merely attempt to maintain species on the brink of extinction.”¹³¹

B. Guidance from Gifford Pinchot

Another source that may provide answers to the question of a recovery standard is the Ninth Circuit’s holding in *Gifford Pinchot*. *Gifford Pinchot* currently serves as the most comprehensive guidance from the judiciary as to the question of incorporating recovery into section 7 consultations. Although *Gifford Pinchot* focused exclusively on recovery in terms of adverse modification rather than jeopardy, looking at each of the analyses for FWS’s six BiOps may provide guidance as to what constitutes a sufficient recovery standard in the eyes of the judiciary.¹³² The court held that based on FWS’s language in the six BiOps, the Service’s “definitional error” of omitting recovery was not harmless, and that FWS fully “ignored the recovery aspect of critical habitat analysis.”¹³³ Out of the six challenged BiOps, there was no recovery discussion in four of them and the other two BiOps only mention recovery in a cursory, descriptive fashion. The court held that the recovery standard mandate was not met because there was insufficient discussion on lost recovery value of habitat and a complete lack of discussion as to the question of specific recovery impact by a loss of critical habitat.¹³⁴

129. See *supra* notes 44–46.

130. Rohlf, *supra* note 35, at 125–26 (emphasis added).

131. *Id.* at 150.

132. As discussed earlier, section 7 requires all federal agencies to address two prongs in its consultation process: (1) jeopardy and (2) adverse modification of critical habitat. See 16 U.S.C. § 1536(a)(2) (2006). The jeopardy standard “relates to the overall continued existence of a species” and potential effects of a proposed action on an actual listed species, while in contrast, the adverse modification analysis relates to the “effects of an action on the species’ critical habitat.” *Greenpeace v. Nat’l Marine Fisheries Serv.*, 55 F. Supp. 2d 1248, 1265 (W.D. Wash. 1999) (citing 50 C.F.R. § 402.02 (2007)). Although there is significant overlap between the concepts of jeopardy and adverse modification, the two standards are specifically distinct under the ESA.

133. *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1073 (9th Cir. 2004).

134. See *id.* at 1072–74.

C. *ESA Section 4(f)—Recovery Plans*

In addition to Congressional intent and guidance from previous court decisions, looking to other sections of the ESA can also provide insight into the role of recovery in the section 7 consultation process. ESA's section 4(f) lays out the guidelines for recovery plans for listed species. Although the court in *NWF* stated that "[r]equiring some attention to recovery issues does not improperly import the ESA's separate recovery planning provisions into the section 7 consultation process," it is worthwhile to consider the recovery plan section of the ESA and see how particular aspects of it might fit into the notion of a recovery standard, if at all.

Under section 4(f)'s mandate, FWS and NMFS are required to create a "recovery plan" for the "conservation and survival of listed species . . . unless the agency finds that such a plan will not promote the conservation of the species,"¹³⁵ and this process is distinct and separate from the mandate and analysis required under section 7 consultation. Each recovery plan shall include:

- (i) a description of such site-specific management actions as may be necessary to achieve the plan's goal for the *conservation and survival of the species*; (ii) objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of this section, that the species be removed from the list; and (iii) estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal.¹³⁶

Section 4(f) recovery plans are an important tool to organize and guide the recovery process of listed species. The plans are generally used to provide a framework for incorporating NMFS's science, enforcement, and management actions to conserve species, and the ultimate purpose is to de-list species.¹³⁷ However, it is well established that these plans serve merely as "guidance documents" and not as "decision-making documents."¹³⁸ For instance, recovery plans do not play a prominent role in "day-to-day implementation of ESA,"¹³⁹ nor have courts generally been eager to enforce recovery plans.¹⁴⁰ As a result, many critics have stated that the ESA "effectively manages species to avoid extinction rather than to promote recovery."¹⁴¹

135. 16 U.S.C. § 1533(f)(1).

136. § 1533(f)(1)(B) (emphasis added).

137. See Eric Biber, *The Application of the Endangered Species Act to the Protection of Freshwater Mussels: A Case Study*, 32 ENVTL. L. 91, 116 n.135 (2002).

138. FARBER, *supra* note 18, at 252; Cheever, *supra* note 52, at 27.

139. FARBER, *supra* note 18, at 252.

140. See Cheever, *supra* note 53, at 59.

141. FARBER, *supra* note 18, at 263. Interestingly, FWS's recovery planning internal guidelines (see U.S. FISH & WILDLIFE SERVICE, *supra* note 48, at 2) "indicate that 'recovery' . . . need not be the objective of the recovery plan. [The guidelines] do not require the objective to include a demonstrably viable population." Cheever, *supra* note 53, at 41. Thus, the goal of insuring a minimum viable population of a species can be helpful in drafting a recovery plan, but is not required to be included.

Although currently only guidance documents, the role of recovery plans in the integration of a recovery standard under section 7 might continue to evolve over time. “The case can be made that, since section 7(a)(1) of the ESA requires all federal agencies to ‘conserve’ endangered wildlife species, and that since the ESA defines ‘conservation’ in terms of species recovery, recovery plan elements are powerful limits, if not mandates, for agency action.”¹⁴²

D. Recovery Standard: A Blueprint for the Conservation of a Species

Neither Congress, the judiciary, nor the text of the ESA provide a complete definition for what a recovery standard requires and at what scale it is to be applied. If recovery plans are not fully equivalent to the parameters required by a recovery standard, as the court held in *NWF*, then what *is* a recovery standard? Given the congressional purpose of conserving endangered species and the Supreme Court’s mandate that the protection of endangered species be afforded the highest of priorities, a recovery standard must serve as a blueprint for the conservation of a species.

Specifically, the purpose of the ESA is “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be *conserved*, to provide a program for the *conservation* of such endangered species and threatened species.”¹⁴³ The term “conservation” is defined by the Act as “the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided [by the ESA] are no longer necessary.”¹⁴⁴ Thus, the goal of conservation is to move a species to a position where it is no longer listed or in need of protection under the ESA.¹⁴⁵ Delisting is also an integral component of recovery.¹⁴⁶ In fact, conservation, as defined by the ESA, comprises the regulatory definition of “recovery,” and thus “conservation” and “recovery” are synonymous under the ESA.¹⁴⁷ As such, “the concept of recovery has provided courts with an interpretive key, linking the terms of the Act with its purpose: the conservation of species and the ecosystems on which they depend.”¹⁴⁸

However, NMFS published its own guidelines in 1992 which “indicate that ‘recovery’ is the ‘overall objective’ of all recovery plans.” *Id.* at 42.

142. ROHLF, THE ENDANGERED SPECIES ACT 98 (1989).

143. 16 U.S.C. § 1531(b) (emphasis added).

144. *Id.* § 1532(3). The protections afforded by the ESA become obsolete only when a listed species recovers and is de-listed (or, of course, if the species becomes extinct).

145. See generally Federico Cheever & Michael Balster, *The Take Prohibition in Section 9 of the Endangered Species Act: Contradictions, Ugly Ducklings, and Conservation of Species*, 34 ENVTL. L. 363, 367–72 (arguing that courts should interpret section 9’s take prohibition in the context of the ESA’s purpose to bring species to the point where protection under the Act is no longer required).

146. Recall that 50 C.F.R. § 402.02 (2008) defines recovery as “improvement in the status of listed species to the point at which listing is no longer appropriate.”

147. According to 63 Fed. Reg. 9967, 9968 (Feb. 27, 1998), “the Act defines ‘conservation’ to mean recovery of the species.”

148. Cheever, *supra* note 53, at 48. In regards to the linkage between conservation and survival, Congress, as evidenced within the text of the ESA, intended that conservation and survival serve as two

The legislative history of the ESA provides further evidence of the ESA's conservation goal. In a 1973 address to the United States House of Representatives regarding an uncertain future for grizzly bear populations, Congressman John Dingle, one of the primary drafters of the ESA, stressed the specific conservation mandate of the Act:

The purposes of the bill include the *conservation of the species and the ecosystems upon which they depend*, and every agency of Government is committed to see that these purposes are carried out. The agencies of Government can no longer plead that they can do nothing about it. They can, and they must. The law is clear.¹⁴⁹

In addition, the House committee report supplementing the ESA's passage in 1973 also indicated the ESA's conservation mandate and lawmakers' intent to have the ESA serve conservation purposes, suggesting that NMFS's actions must do more than just avoid additional threats to species.¹⁵⁰

The judiciary has also held that conservation requires recovery as well as survival. The Supreme Court's decision in *TVA* illustrates that survival must not be emphasized above recovery and conservation. As the Court stated, the "plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost."¹⁵¹ Survival merely halts the trend towards species extinction, but recovery requires the actual *reversal* of the trend.¹⁵² Thus, the Services must ensure that federal actions will not jeopardize *recovery* of a species.¹⁵³ Other federal courts have also applied this legal analysis. For instance, in *Sierra Club*, the court stated that "'conservation' is a much broader concept than mere survival,"¹⁵⁴ and that "conservation," as defined by the ESA, "speaks to" the recovery of a listed species.¹⁵⁵

Addressing survivability and recovery in terms of the ESA's conservation objectives is consistent with the ultimate goal of the ESA. By taking a conservation approach to ESA's section 7 mandate, the Services will be better poised to address potential questions and concerns regarding the sufficiency of future jeopardy analyses. Congress and the judiciary have made it clear that conservation of species, and thus, the ultimate goal of the ESA generally,

different (though complementary) goals of the Act. *See* 16 U.S.C § 1533(f)(1) (2006) (stating that "[t]he Secretary shall develop and implement [recovery] plans . . . for the *conservation* and *survival* of endangered species and threatened species listed pursuant to this section, unless he finds that such a plan will not promote the conservation of the species" (emphasis added)). "'Conservation'—returning a species to health—must insure survival and therefore logically incorporates the term." Cheever, *supra* note 53, at 36 n.174.

149. Rohlf, *supra* note 35, at 127 (emphasis added).

150. *See id.* at 128. Even if one doesn't agree with the proposition that a major goal of the ESA is species' recovery, it is difficult, if not impossible, to confine one's thinking to the narrow interpretation NMFS historically has given interpretation of 7(a)(1)'s conservation mandate. *See id.* at 163 n.58.

151. *Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 184 (1978) (emphasis added).

152. *See Webster, supra* note 50, at 254.

153. *See id.*

154. *Sierra Club v. U.S. Fish & Wildlife Serv.*, 245 F.3d 434, 441 (5th Cir. 2001).

155. *Id.* at 441.

demands the consideration of recovery. The creation of a recovery standard as a blueprint for long-term species conservation provides the initial building blocks for achieving such ends.

VII. MOVING FORWARD: HOW TO INCORPORATE RECOVERY IN FUTURE SECTION 7
JEOPARDY ANALYSES

Following the Ninth Circuit's holding in *NWF*, the major issue facing NMFS and FWS, working under their interagency regulation to fulfill ESA's section 7 mandate, is the question of how to ensure jeopardy analyses include a sufficient recovery standard. Indeed, "a key issue in applying the jeopardy standard is how [the Services] should take into account the past, present, and future impacts that together will affect the species."¹⁵⁶

The ESA's implementing regulations require a Service to reinitiate formal consultation if "new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered."¹⁵⁷ Following this guidance, it should be expected that, as a result of the court's holding in *NWF* (as well as the court decisions in *N.M. Cattle Growers*, *Sierra Club*, and *Gifford Pinchot*), the Services may receive requests to "reinitiate formal consultation to 'examine more closely 'no destruction or adverse modification' conclusions'" and analyses of "no jeopardy" findings.¹⁵⁸

Given such risk of reopening section 7 consultation processes, how do the Services ensure their jeopardy consultations are sufficient to satisfy challenges by industry, landowners, and environmental groups? Is every BiOp doomed to fail or end up legally contested if a species is not expected to eventually recover? In order to allay possible repercussions of the type of "business as usual" practices challenged by the plaintiffs in *NWF*, the Services must actively consider and address both the "scientific *and* legal considerations in charting a path back from the edge of extinction."¹⁵⁹ Addressing these questions within the framework of the conservation objective discussed above allows the Services to integrate ecological and legal approaches in defining how to sufficiently incorporate a recovery standard into section 7 jeopardy analyses.

A. *Ecological Approach*

Since the early 1990s, many environmental scientists, policymakers, and academics have called for the consideration of an "ecological approach" as part

156. Rolhf, *supra* note 35, at 113.

157. 50 C.F.R. § 402.16 (2008).

158. MORRISON & FOERSTER, LEGAL UPDATES & NEWS, FISH AND WILDLIFE SERVICE ISSUES INTERIM GUIDANCE FOR "DESTRUCTION OR ADVERSE MODIFICATION" DETERMINATIONS (Dec. 2004), available at <http://www.mofo.com/news/updates/files/update1398.html> (stating that the court's decision in *Gifford Pinchot* may lead to "a number of requests to reinitiate formal consultation" for existing BiOps which asserted findings of "no destruction or adverse modification." Likewise, it is plausible that NMFS may experience similar fallout in response to the *NWF* holding.).

159. Cheever, *supra* note 53, at 77 (emphasis added).

of the ESA implementation process. This line of thinking stresses a particular focus on protecting whole functioning ecosystems, rather than merely focusing on singular individual species.¹⁶⁰ Applying these concepts to the ESA's section 7 jeopardy analysis may be an ideal way to evince recovery considerations as part of the ESA's consultation process. While an ecological approach to legal thinking is not new,¹⁶¹ this application is still in its infancy.¹⁶² One encouraging sign is that courts are increasingly considering ecological factors in their decisions, both in the ESA cases already discussed, and in Clean Water Act cases such as the Supreme Court's decision in *Rapanos v. United States Army Corps of Engineers*¹⁶³ and the Ninth Circuit's decision in *Northern California River Watch v. City of Healdsburg*.¹⁶⁴

Integrating ecological information into the ESA legal process can be challenging. Often, biological information and data are difficult to obtain, and even non-existent, due to the paucity of information available to biologists about specific species. This lack of data also spans ecological, physical, behavioral, and genetic sciences, and highlights a general lack of knowledge as to potential threats to many species. Notwithstanding such challenges, there are a number of well-proven methodologies and ecological factors that federal agencies could incorporate into BiOps and section 7 consultations which may better integrate notions of recovery into the ESA jeopardy analysis process.

1. *Inclusion of Conservation Plans*

One of the best ways to integrate ecological standards into the jeopardy analysis is to work within the existing frameworks of Services' regulations and

160. For instance, "as one commentator argued, ecosystems all over the nation are quickly shrinking, but nothing is being done about them until they shrink far enough that a particular species in that ecosystem is listed under the Act: 'the Endangered Species Act is treating the symptom and not the disease.'" Biber, *supra* note 137, at 143.

161. See Biber, *supra* note 137, at 143 n.269.

162. Historically, there has been a vast disparity "between legal theory and biological reality in managing species in danger of extinction." Rohlf, *supra* note 35, at 152. For instance, the history of NMFS's efforts at survival and recovery have "resulted in a biologically bankrupt yet politically expedient legal approach to jeopardy." *Id.*

163. *Rapanos v. U.S. Army Corps of Eng'rs*, 547 U.S. 715 (2006). The Army Corps claimed that four Michigan wetlands fell within the scope of the Clean Water Act (CWA) (33 U.S.C. §§ 1251-1387 (2006)), and thus, such classification made it unlawful for landowner to discharge fill and dredged material into such areas. *Id.* at 720-21. In a 5-4 decision, the plurality held that the Court of Appeals' analysis (holding the areas as "adjacent to navigable waters" and thus subject to the CWA) was incorrect and remanded the case. *Id.* However, the dissent argued that the wetlands provided critical ecological functions and thus sufficiently met the criteria necessary to be defined as a "water of the United States." *Id.* at 787-94.

164. *N. Cal. River Watch v. City of Healdsburg*, 496 F.3d 993 (9th Cir. 2007). An environmental organization alleged that the City of Healdsburg violated the CWA by "discharging sewage from its wastewater treatment plant into waters covered by the Act." *Id.* at 995. The Ninth Circuit held that the waters in question were covered by the CWA, in part because the waters "significantly affect the physical, biological, and chemical integrity" of a nearby river and there is a significant ecological interconnection between the two bodies of water. *Id.* at 1000-01.

policies. NMFS and FWS's joint interagency regulation states that "[t]he Service may provide with the biological opinion a statement containing discretionary conservation recommendations. Conservation recommendations are advisory and are not intended to carry any binding legal force."¹⁶⁵ Thus, conservation *plans* are expressly discretionary (both in action and in enforcement). However, including such recommendations as part of every section 7 consultation may be a useful way to better ensure that recovery is integrated into the jeopardy analysis. For instance, conservation plans could serve three major goals: (1) the inclusion of conservation plans in BiOps naturally fits within the Services' regulation directive and provides a stronger platform on which the Services can ensure ESA goals are carried out; (2) actively considering and planning for recovery measures as part of a conservation plan will reinforce the Services' ability to think about, and plan for, recovery generally; and (3) a focused concentration on recovery measures as part of the BiOp process will aid the Services in developing their final jeopardy analyses.

In addition, evincing conservation principles as part of the jeopardy analysis mandate may aid in satisfying the court's focus on achieving inclusion of a recovery standard. For instance, conservation plans focus not only on short-term species *survival*, such as minimizing and alleviating habitat damage for listed species, but also provide for long-term species *recovery*, perhaps by ensuring that healthy and productive habitat is available to species so they can sufficiently recover and restore their populations. Thus, as discussed further in Part VII.A.4 below, the application of conservation recommendations to section 7 could provide both immediate and long-term benefits to agencies in their determination of and prevention of jeopardy under section 7.

2. *Attention to Cumulative Effects*

To better incorporate recovery standards into jeopardy analyses, the Services must look at cumulative impacts and systemic threats to species rather than just individual outcomes. This approach mandates an ecosystem-wide strategy, since actions may have small immediate impacts, while posing a substantial risk when compiled over a long period of time.¹⁶⁶ If a Service only focuses on an immediate risk or a particular action in its jeopardy analysis framework, it is likely that cumulative effects may be overlooked or ignored. Often, the effects of such variables accumulate and result in deleterious consequences for species.

165. 50 C.F.R. § 402.14(j) (2008).

166. See Rohlf, *supra* note 35, at 148. There is a balance between focusing at the ecosystem scale and focusing at a site-specific scale. It is important to note that concentrating on too vast a scale without any consideration of site-specific impacts has the potential to conceal aggregate small-scale effects that could have significant risks on species. See Pac. Coast Fed'n of Fishermen's Ass'ns v. Nat'l Marine Fisheries Serv., 265 F.3d 1028, 1035–37 (9th Cir. 2001).

One example of the importance of cumulative effects on recovery involves the effects between water quality and the abundance of trout species.¹⁶⁷ The threats of cumulative effects on water quality are many: agricultural run-off from nearby areas causes excessive nutrient loading in streams, a failure to protect riparian zones around rivers leads to increasing water temperatures, erosion from forestry operations results in a build-up of river sedimentation, and dam operations cause the supersaturation of water at spillways which injures or kills fish and impacts breeding population sizes. If a Service does not adequately consider and apply conservation and recovery principles in its evaluation of a proposed action affecting water quality, there is a strong probability that a species may “survive” for an extended time in the new conditions imposed by cumulative effects. Ultimately, however, its recovery is doomed in the long-term.

The Services’ joint regulation defines “cumulative effects” as the effects of future activities “that are reasonably certain to occur within the . . . area of the Federal [proposed] action subject to consultation.”¹⁶⁸ FWS interprets actions “reasonably certain to occur” only as those actions *already* subject to the section 7 consultation process. This approach results in a greatly limited scope of impacts considered, for it disregards actions that may have significant impacts on overall cumulative effects, but which have not already been considered under section 7.¹⁶⁹

Interestingly, the Ninth Circuit’s holding in *NWF* peripherally addressed this issue of cumulative effects. The court stated that NMFS need not have included an entire environmental baseline in its review and BiOp, but should have considered cumulative impacts “of other existing human activities that impact the listed species.”¹⁷⁰ The court’s statement advances the term “reasonably certain” to include more than just those impacts already considered by consultation processes. This allows for further integration of cumulative effects into future jeopardy analysis frameworks.¹⁷¹

167. See generally JunJie Wu, Richard Adams & William Boggess, *Cumulative Effects and Optimal Targeting of Conservation Efforts: Steelhead Trout Habitat Enhancement in Oregon*, 82 AMER. J. OF AGRIC. ECON. 400 (2000).

168. 50 C.F.R. § 402.02 (2008).

169. See Rohlf, *supra* note 35, at 141.

170. *NWF*, 481 F.3d at 1236.

171. According to Council on Environmental Quality (CEQ) regulations, cumulative effects must be assessed in National Environmental Policy Act (NEPA) documents. CONSIDERATION OF CUMULATIVE IMPACTS IN EPA REVIEW OF NEPA DOCUMENTS, U.S. ENVIRONMENTAL PROTECTION AGENCY, EPA 315-R-99-002 (May 1999), available at <http://www.epa.gov/compliance/resources/policies/nepa/cumulative.pdf>. Analysis of cumulative effects should help inform the Environmental Protection Agency as to those activities that may negatively affect “resources of concern” and help in suggesting mitigation measures to “avoid or minimize adverse effects to the environment.” *Id.* However, such effects are “often not fully addressed in NEPA documents due to the difficulty in understanding the complexities of these impacts, a lack of available information on their consequences, and the desire to limit the scope of environmental analysis.” *Id.*

3. *Monitoring Baseline Conditions*

Another ecological standard to consider in the ESA process is monitoring baseline conditions. As mentioned earlier in this Note, the Services' joint interagency regulations define an "environmental baseline" as "past and present impacts of federal, state or private actions and other human activities in the examined area and the anticipated impacts of all proposed federal projects in the area that have already undergone consultation" under ESA's section 7 process.¹⁷²

A Service should therefore have a firm understanding of changes and trends in ecological baseline conditions before it states with certainty that any new proposed action will not jeopardize a listed species. Although a species may appear to have a satisfactory survival rate over time, analyzing baseline condition data which provides rates of change over an extended time period may tell a very different story. For instance, a species' population size or rate of reproduction could actually be gradually decreasing each year, but a Service may be unaware of this information until the species is well beyond the point of recovery. Surprisingly, however, there is no current official system in place within either the NMFS or FWS for monitoring baseline conditions for use in jeopardy analyses.¹⁷³

In order to evaluate existing ecological information and determine how such factors may be impacted by future actions, data must be gathered on the status of endangered species and their habitats before any proposed actions come into play. Depending on the species and habitat in question, a great deal of information may already be available from ongoing or previous studies completed by educational and scientific institutions, non-profit and public sector organizations, or privately-funded groups. Monitoring data should include information related to environmental conditions, population estimates and species distribution, habitat characteristics, and seasonal affects on habitat, to name a few. Monitoring conditions at different time and spatial scales is also a helpful way to highlight trends that may not be apparent when only considering current conditions.

Tracking and monitoring baseline conditions may also be beneficial because it is very likely that by gaining new, and possibly the only, data on distribution and population sizes of species, significant new populations may be found.¹⁷⁴ For instance, some species have little or no recorded data on file about their overall distribution, abundance, or range size. It is in these situations that simple tracking and monitoring of baseline conditions could result in critically important new information about such species. This new data may indicate previously unknown population groups of the species, which may

172. 50 C.F.R. § 402.14 (2008).

173. See Rohlf, *supra* note 35, at 142.

174. See Cheever, *supra* note 53, at 39 n.196.

correlate to a more stable and abundant population than originally thought. Thus, it may be possible to relatively quickly move a currently listed “endangered” species down to a “threatened” status, or potentially even remove the species from the ESA altogether.¹⁷⁵ The result of such discoveries and delisting would lead to successful recovery and survival of populations.

4. *Consideration of Time Scales*

New proposed actions often result in both long-term and short-term impacts on species recovery. Usually, long-term survival is more closely aligned with recovery than short-term survival. However, sometimes long-term habitat restoration efforts have “short-term negative impacts on the very species they seek to benefit.”¹⁷⁶ Thus, it is imperative that agencies do not disregard either of these time scales in making jeopardy assessments.

There are a number of immediate ways agencies can better incorporate time-scale impacts in their section 7 consultation procedures. Agencies should consider the species’ current abundance when estimating future impacts to and mortality of species. Also, since jeopardy analyses must not be conducted in a vacuum, degraded baseline conditions should be incorporated into the analysis. Agencies can also better grasp species interactions and population density by taking into account changes on an intermediate time scale, rather than only looking short- or long-term. As the court in *NWF* noted, agencies should also look to “what jeopardy might result from the Service’s proposed actions in the present and future human and natural contexts.”¹⁷⁷ Consideration of time scale factors results not only in short-term mitigation, but also monitoring of potential sources of longer-term harm.

5. *Additional Ecological Considerations*

In addition to the ecological approaches suggested above, there are many other factors useful for promoting and advancing recovery integration into the current jeopardy analyses processes.

In assessing the impact of new proposed actions, agencies should consider factors such as the current viability of existing populations and the potential for increased vulnerability to predation and adverse environmental effects caused or exacerbated by such actions. Such effects on fish, for example, could include changes in temperature, salinity, and existing habitat structures, introduction of invasive and/or predatory species populations, new barriers to food and shelter, and detrimental impacts on species’ reproductive ability or overall health. For instance, the FCRPS dam facilities built along the Columbia River not only

175. *See id.*

176. Rohlf, *supra* note 35, at 150 n.152.

177. *NWF*, 481 F.3d at 1236 (referring to the court’s decision in *Pac. Coast Fed’n of Fishermen’s Ass’n v. Nat’l Marine Fisheries Serv.*, 265 F.3d 1028, 1093 (9th Cir. 2001)).

created new reservoir habitat areas for predatory fish, but disrupted historical fish spawning grounds, presented new barriers along fish migration routes, and caused deleterious health impacts and massive mortality for listed salmonid species. Such impacts ultimately reduce, and perhaps eliminate, a species' ability to recover.

Another strategy the Services should consider is to apply the "precautionary principle" in drafting jeopardy analyses. The precautionary principle is generally defined as the conservation of resources and management of risk when scientific knowledge is uncertain.¹⁷⁸ It encompasses anticipation and prevention and should be utilized to "prevent harm, not [to] measure and manage it."¹⁷⁹

In general, the precautionary principle underlies all endangered-species decisions that have some degree of scientific uncertainty In particular, the principle is institutionalized in the consultation process of Section 7 of the ESA, which requires that no federal agency carry out activities that potentially harm listed species.¹⁸⁰

Some state judiciaries have expressed support for the incorporation of precautionary principle ideologies in the prevention of environmental harm. For instance, in addressing when state citizens have a "right to prevent harm", the Supreme Court of Montana stated that "[o]ur constitution does not require that dead fish float on the surface of our state's rivers and streams before its farsighted environmental protections can be invoked."¹⁸¹

Lastly, agencies should consider how listed species will recover with *or without* impacts from the proposed action. Sometimes it is simply not possible to recover species if population sizes are too small or the species has exceeded necessary critical mass numbers for breeding and reproducing. It may be difficult to claim that a species "still persists," even at the lowest recorded abundance levels, if the species' "persistence" is at or near extinction.¹⁸²

B. Policy Considerations

As with all ESA jeopardy analyses, there comes a point when the use of science ends and law and policy decisions begin. "Many people find it difficult to accept that judging jeopardy involves a significant policy component . . .

178. See S.J. HOLT & L.M. TALBOT, *New Principles for the Conservation of Wild Living Resources*, 59 WILDLIFE MONOGRAPHS 5 (1978) ("Management decisions should include a safety factor to allow for the facts that knowledge is limited and institutions are imperfect . . . [and] [t]he magnitude of the safety factor should be proportional to the risk").

179. *Id.*

180. Leah Gerber, *Grey Whales and the Value of Monitoring Data in Implementing the U.S. Endangered Species Act*, 13 CONSERVATION BIOLOGY 5 1215, 1219 (1999).

181. Carolyn Raffensperger, *Constitutional Experiments: Protecting the Environment and Future Generations*, 17 CONSERVATION BIOLOGY 6 1487, 1487 (2003) (quoting Justice Terry Trieweiler).

182. See *Natural Resources Def. Council v. Kempthorne*, 506 F. Supp. 2d 322, 371 (E.D. Cal. 2007).

[but] [p]egging acceptable levels of risk for species . . . involve policy choices rather than ‘scientific’ determinations.”¹⁸³

1. Gifford Pinchot *BiOp* Guidance

This policy component is most clearly seen within the court’s critical habitat assessments of FWS’s six challenged *BiOps* in *Gifford Pinchot*.¹⁸⁴ Even though the decision in *Gifford Pinchot* focused solely on the adverse modification prong of section 7, rather than the jeopardy prong, it is possible to relate the court’s determination of what it considers to be sufficient incorporation of recovery with what may be necessary under a jeopardy analysis.

Satisfaction of the recovery and survival standards require a few vital components. First, the Services should address not only the jeopardy standard independently, but also relate the standard to concepts of recovery and conservation. As the court in *Gifford Pinchot* remarked, concern about species recovery should leave a footprint on the jeopardy analysis.¹⁸⁵ Second, even when explicitly referring to recovery as part of the jeopardy standard, a Service should ensure that it includes thorough, rather than cursory, discussions of recovery. Applying the guidance suggested by the Ninth Circuit, the Service should also discuss or analyze the lost recovery value of species, just as the *Gifford Pinchot* court said FWS should have done with critical habitat. Last, and considered most important in *Gifford Pinchot*, the Services must discuss a proposed action’s specific impact on recovery, and show how it considered more factors than just its joint interagency regulation in concluding whether the action should be allowed under the jeopardy analysis prong of section 7.

By following the guidance above, the Services gain the upper hand if questioned by the judiciary as to whether they truly considered recovery *and* survival in a jeopardy analysis. Even so, the guidance put forth by the Ninth Circuit in terms of defining a recovery standard and determining if each *BiOp* is sufficient under the mandate of the ESA is vague at best. Thus, the more initial preventative work the Services can do in considering recovery standards within jeopardy analyses, the better.

2. Other Factors

In addition to guidance gleaned from the court’s holding in *Gifford Pinchot*, other policy considerations may be able to play a role in the incorporation of recovery into future section 7 jeopardy analyses. For instance,

183. Rohlf, *supra* note 35, at 159 n.174.

184. See *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1072–74 (9th Cir. 2004).

185. See *id.* at 1074 (stating that “concern about species recovery has left no footprint in the critical habitat analysis”).

the inclusion of recovery plan language from ESA's section 4 into a section 7 jeopardy analysis is also a potentially useful legal strategy. But agencies must recognize, as directed by the court in *NWF*, that this approach is not synonymous to a recovery standard.¹⁸⁶ In addition, section 4 recovery plans are not binding and serve as planning and guidance documents only—they do not create legally enforceable obligations.

Lastly, from a policy perspective, recovery may not be possible, even after a thorough consideration and inclusion of ecological and legal factors above. "Recovery planning is no cure-all,"¹⁸⁷ and many species will not make it to the delisting point because "[b]y the time a species has been listed under the Act, its population is so low that recovery efforts may be unable to succeed, or will take extraordinary amounts of time and money to succeed."¹⁸⁸ Even so, the inclusion of recovery considerations and measures for implementation in jeopardy analyses has a tremendously beneficial role in conserving listed species by improving chances for survival, and ultimately, perhaps recovery.¹⁸⁹

CONCLUSION

Opponents of the ESA have challenged the Act since its inception, claiming detrimental impacts to economic interests and private property rights.¹⁹⁰ Conversely, others have contested the Act as fatally flawed and in need of serious overhaul, as evidenced by a continuous trend of declining population numbers of listed species.¹⁹¹ Data on species delisting are grim: less than 0.01 percent of endangered or threatened species have been delisted from the ESA over the past three decades. Moreover, only about a quarter of the currently listed species are considered stable, and less than ten percent are actually improving.

The reality regarding continuing species decline is stark and highlights the need for improved and intensified concentration on ESA recovery efforts, including those found under section 7. NMFS and FWS must determine how they will proceed on the consideration of recovery standards into ESA section 7 jeopardy analyses, especially in light of numerous federal court decisions requiring recovery considerations under current ESA regulations. Although the ecological and legal recommendations discussed above may be more comprehensive than the Services can implement or address in every ESA

186. See *NWF*, 481 F.3d at 1241.

187. Cheever, *supra* note 53, at 33.

188. Biber, *supra* note 137, at 144.

189. See Cheever, *supra* note 53, at 33.

190. See EARTHJUSTICE, CITIZEN'S GUIDE TO THE ENDANGERED SPECIES ACT, at 44–46 (2003), http://www.earthjustice.org/library/reports/Citizens_Guide_ESA.pdf; see Brian Gray, *The Endangered Species Act: Reform or Refutation?*, 13 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 1, 16–19 (2007); see FARBER, *supra* note 18, at 263.

191. See EARTHJUSTICE, CITIZEN'S GUIDE TO THE ENDANGERED SPECIES ACT, *supra* note 190, at 44–46.

2008] *INCORPORATING THE RECOVERY STANDARD* 489

consultation, incorporation of some of these considerations into the jeopardy and adverse modification prongs of section 7 may help further the purpose of the Act, fill the gaps in the ESA, and prevent future litigation on this issue. Congress mandated that endangered species and the habitat they occupy must be conserved, and thus, section 7 must include the necessary tools to satisfy that mandate.

We welcome responses to this Note. If you are interested in submitting a response for our online companion journal, *Ecology Law Currents*, please contact ecologylawcurrents@boalt.org. Responses to articles may be viewed at our website, <http://www.boalt.org/elq>.

