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Adverse Modification of the Endangered Species Act: Regulatory Impediment or Tool?

Chuckie Sullivan

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ABSTRACT

In the past, the agencies charged with the implementation of the Endangered Species Act have shirked invoking the full range of regulatory tools at their disposal. They altered the structure of the Act in violation of Congressionally-granted authority to better accommodate both developmental and conservation interests. After a string of critical judicial decisions, the Services finally changed their implementation of the Act to parallel the protections envisioned by Congress. Though these changes will shift strength between provisions within the Act, they will not drastically alter the status quo by allowing the Services discretion in making judgments regarding the recovery of listed species and value of cost-benefit analysis.

AUTHOR NOTE

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I. INTRODUCTION

Destruction of habitat is the leading threat to species in North America.¹ Congress was aware of this danger when enacting the Endangered Species Act (“ESA”), and included powerful provisions to protect endangered or threatened species and their habitats.² In fact, some commentators have categorized these provisions as the boldest in the entirety of environmental law.³ Furthermore, the strongest provisions in the Act protect the habitats of endangered species.⁴ The Fish and Wildlife Service and National Marine Fisheries Service (“Services”), who are in charge of implementing the law, have received judicial backlash for not following the intent of the Act.⁵ The Services have recently altered their regulations to better adhere to the law in accordance with these judicial objections. Though the question remains: do the new regulations follow the fierce spirit of species conservation intended by Congress? Furthermore, will the implementation of such provisions actually alter the status quo? Or will the agencies’ response to judicial mandates just promote form over substance?

This paper argues the new regulatory scheme for adverse modification provides the Services with the necessary flexibility to customize habitat protection for endangered species, while accommodating developmental interest and avoiding political

¹ Kalyani Robbins, *Recovery of an Endangered Provision: Untangling and Reviving Critical Habitat Under the Endangered Species Act*, 58 BUFFALO L. REV. 1095, 1104 (2010) (citing Amy N. Hagen & Karen E. Hodges, *Resolving Critical Habitat Designation Failures: Reconciling Law, Policy, and Biology*, 20 CONSERVATION BIOLOGY 399, 400 (2006)).

² Amy Sinden, *The Economics of Endangered Species: Why Less Is More in the Economic Analysis of Critical Habitat Designations*, 28 HARV. ENVTL. L. REV. 129, 143 & n.65 (2004).

³ Sheila Baynes, *Cost Consideration and the Endangered Species Act*, 90 N.Y.U.L. REV. 961, 967 (2015) (citing Jonathan H. Adler, *Perverse Incentives and the Endangered Species Act, Resources for the Future* (Aug. 4, 2008), available at http://www.rff.org/Publications/WPC/Pages/08_08_04_Adler_Endangered_Species.aspx).

⁴ Robbins, *supra* note 1, at 1103.

⁵ See *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059 (9th Cir. 2004); *Cape Hatteras Access Pres. Alliance v. U.S. Dep’t of the Interior*, 344 F. Supp. 2d 108 (D.C. Cir. 2004); *Sierra Club v. United States Fish & Wildlife Serv.*, 245 F.3d 434 (5th Cir. 2001); *New Mexico Cattle Ass’n v. U.S. Fish and Wildlife Serv.*, 248 F.3d 1277 (10th Cir. 2001).

backlash. The agencies' available discretion, however, will shift from invoking adverse modification findings to designating critical habitat. Part II of the paper will address the legal structure of the Act. Next, Part III will address how the Services have interpreted the different parts of the ESA. Part IV will then specifically examine specific data regarding the Services' implementation of the adverse modification and critical habitat standards. In Part V and VI, the paper analyzes the judicial rejection to the Services interpretation of the Act, and the corresponding reaction by the Services. Finally, Part VII and VIII will predict the impact of these changes and whether they will make any difference to the status quo.

II. STATUTORY AND REGULATORY STRUCTURE OF THE ENDANGERED SPECIES ACT

The purpose of the ESA is “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.”⁶ The main mechanism to achieve this protection is to “list” a species as endangered or threatened.⁷ The Services are responsible for making listing determinations and enforcing the ESA to protect species on land and ocean.⁸ Such a listing invokes a wide-range of strong protections.⁹

Critical habitat, a protection afforded by Congress to listed species, is the only provision of the ESA aimed at promoting recovery, rather than just survival, of a species.¹⁰ The ESA delineates the critical habitat of a species to the areas “essential to the conservation of the [listed] species and . . . which may require special management considerations or protection” and areas outside the current habitat of the species “essential for the conservation of the species.”¹¹

⁶ 16 U.S.C. § 1531(a) (2012).

⁷ *Id.* § 1533(a)(1) (articulating the criteria for listing a species include: possible destruction to habitat, overutilization, disease or predation, inadequacy of regulatory mechanisms, or other natural or manmade factors affecting a species' continued existence).

⁸ *Id.* § 1532(15). The Department of the Interior and Department of Commerce house the Fish and Wildlife Service and National Marine Fisheries Service, respectively.

⁹ *Id.* § 1536(a)(2); *id.* 1538(a)(1).

¹⁰ *Id.* § 1532(5). See Robbins, *supra* note 1, at 1103–04.

¹¹ *Id.* § 1532(5).

“Conservation” under the Act is synonymous with recovery.¹² Listing requires the simultaneous demarcation of a species’ critical habitat, but only to “maximum extent prudent and determinable.”¹³ The Services may pass on making a critical habitat designation if the lack of data makes the underlying scientific requisites impossible to ascertain¹⁴ or “the costs of such exclusion outweigh the benefits.”¹⁵ Importantly, unlike all other parts of the ESA, critical habitat benefits and costs can include economic evaluations.¹⁶

A. Agency Consultations

Every federal “action” is subject to the ESA under Section 7.¹⁷ The two substantive protections afforded to the Services under this section involve minimizing jeopardy to the existence of a species and adverse modification of a species’ critical habitat.¹⁸ These protections differ from the prohibition of taking a listed species, which falls under Section 9 and additionally applies to all non-federal parties.¹⁹ Substantively, Section 7 authority applies to “any action[s] authorized, funded or carried out by [a federal] agency” that affect an endangered species.²⁰ In practice, the Services apply these protections to projects undertaken on designated lands which require federal authorization, receive federal funding or otherwise have a federal nexus.²¹ The

¹² *Id.* § 1532(3) (defining “conserve” to mean any method necessary to “bring any endangered species or threatened species to the point which the measures provided pursuant to this chapter are no longer necessary”).

¹³ *Id.* § 1533(a)(3)(A).

¹⁴ 50 C.F.R. § 424.12(a)(2)(i)–(ii) (2012).

¹⁵ 16 U.S.C. § 1533(b)(2).

¹⁶ *Id.* (“The Secretary shall designate critical habitat . . . after taking into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat.”). See *New Mexico Cattle Ass’n v. U.S. Fish and Wildlife Serv.*, 248 F.3d 1277 (10th Cir. 2001); Sinden, *supra* note 2.

¹⁷ See 16 U.S.C. § 1536.

¹⁸ *Id.* § 1536(a)(2).

¹⁹ See *id.* § 1538.

²⁰ *Id.* § 1536(a)(2)

²¹ Andrew J. Turner & Kerry L. McGrath, *A Wider View of the Impacts of Critical Habitat Designation: A Comment on Critical Habitat and the Challenge of Regulating Small Harms*, 43 ENVTL. L. REP. 10678, 10681–82 (2013).

requirements do not apply to state, local, or tribal projects.²² A federal agency must consult with the Services to ensure an action does not violate either of these standards.²³

The Section 7 consultation process protects millions of acres of critical habitat.²⁴ They usually begin with more informal negotiations, allowing interested parties to modify their projects to comply with the Services requirements.²⁵ These modifications include conservation measures that are binding conditions the agency must implement for the project to gain approval by the Services.²⁶ They also may include conservation recommendations, which are non-binding conditions protecting the listed species.²⁷ Also, even if the Services find no jeopardy or adverse modification will occur, they still may deem a project to “take” a listed species under Section 9.²⁸ In response, the agencies issue “reasonable and prudent measures” which the action agency must follow to reduce the level of take.²⁹ The Services record all of the attached measures in a published biological opinion.³⁰ The adherence to a biological opinion, though not formally binding, is “virtually determinative” to whether a consulting agency may proceed with an action.³¹ The implementation of these standards, however, is very uneven and subject to much judicial review.³²

²² 16 U.S.C. § 1536(a)(2) (imposing obligations on “each federal agency”).

²³ *See id.* § 1536.

²⁴ Dave Owen, *Critical Habitat and the Challenge of Regulating Small Harms*, 64 FLA. L. REV. 141, 151 (2012) (citing § 1536).

²⁵ U.S. FISH & WILDLIFE SERV. & NAT’L MARINE FISHERIES SERV., *Endangered Species Consultation Handbook* (1998).

²⁶ Owen, *supra* note 24, at 152.

²⁷ U.S. FISH & WILDLIFE SERV. & NAT’L MARINE FISHERIES SERV., *supra* note 25, at 4-62.

²⁸ Owen, *supra* note 24, at 152; U.S. FISH & WILDLIFE SERV. & NAT’L MARINE FISHERIES SERV., *supra* note 25, at xix (defining to “take” as “to harass, harm, pursue hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct”).

²⁹ 16 U.S.C. § 1536(b)(4) (2012).

³⁰ U.S. FISH & WILDLIFE SERV. & NAT’L MARINE FISHERIES SERV., *supra* note 25, at 4-13–4-14.

³¹ *Bennett v. Spear*, 520 U.S. 154, 170 (1997) (“The Service itself is, to put it mildly, keenly aware of the virtually determinative effect of its biological opinions.”).

³² *See Robbins, supra* note 1, at 1097-98.

III. THE SERVICES' INTERPRETATION OF THE RELATIONSHIP BETWEEN ADVERSE MODIFICATION, JEOPARDY, AND TAKING

A proposed agency action cannot (1) jeopardize the continued existence of any listed species, or (2) result in the destruction or adverse modification of designated critical habitat.³³ The Services consider many different factors to quantify if these events will occur. First, the agencies will consider a project's relation to the species.³⁴ The action agency should include a sufficiently detailed description of the action to allow the Services to judge the overall to the surrounding ecosystem.³⁵ The Services will also weigh the species' response to a proposed action and account for the cumulative effects, which include "future [s]tate, tribal, or private actions that are reasonably certain to occur in the action area considered in [the] biological opinion."³⁶

The Services define "jeopardized the continued existence" 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 by reducing the reproduction, numbers, or distribution of that species.*³⁷

Until 2004 the Services defined "adverse modification" as "a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species."³⁸ Applicable actions altered the biological features that were initially used to determine the habitat is critical.³⁹ Unlike the factors considered

³³ 16 U.S.C. § 1536(a)(4).

³⁴ This consideration should include the action's proximity, distribution, timing, nature of the effect, duration, disturbance frequency, disturbance intensity, and disturbance severity as related to the listed species. U.S. FISH & WILDLIFE SERV. & NAT'L MARINE FISHERIES SERV., *supra* note 25, at 4-23-4-26.

³⁵ The Services will analyze the action's beneficial effects, direct effects, interrelated and interdependent actions, and indirect effects. *Id.* at 4-26-4-29.

³⁶ These include the number of individuals and populations the species will affect, and the species' sensitivity to change, resilience, and recovery rate. *Id.* at 4-30-4-31.

³⁷ 50 C.F.R. § 402.02 (2009).

³⁸ *Id.* Judicial intervention forced the Services to change their regulatory definition of adverse modification. *Infra* Section V.

³⁹ *See* 50 C.F.R. § 402.02.

in listing and jeopardy, the Services did not consider the cost of designating critical habitat.⁴⁰

In the past, the jeopardy and adverse modification definitions were nearly substantively identical.⁴¹ In guidance, the Services attached a threshold limitation, finding adverse modification should only exist if the action “considerably reduce[d]” both the survival and recovery of the listed species.⁴² Given the substantive overlap between the two standards, this ambiguous threshold decreased the likelihood of an adverse modification finding.⁴³ In fact, the Services expressed their belief of this overlap through promulgation of past regulatory guidance⁴⁴ which has since been reversed through court action in some circuits.⁴⁵ As recently as 2010, the Fish and Wildlife Services stated that critical habitat adds no additional protections to the benefits of jeopardy.⁴⁶ This has come to be known as the “functional equivalence” doctrine, and has been subject to much scrutiny by courts and commentators.⁴⁷ The Services rarely made a decision solely based on an adverse modification finding, given their view of the standard being redundant.⁴⁸ Instead, many of the Services’ jeopardy⁴⁹ and taking⁵⁰

⁴⁰ 16 U.S.C. § 1533(b)(2) (2012). The definition of critical habitat in the past included qualifying scientific factors of a species’ relationship with a surrounding geography known as “Primary Constituent Elements.” *See also* 50 C.F.R. § 424.12(b)(5) (2009) (including such factors as spawning sites, seasonal wetland and dryland, vegetation types, and soil types). These factors have been slightly modified in the newly promulgated regulations. *Infra* Section VI.ii.

⁴¹ Beginning in the 1980’s, jeopardy was found when an action “directly or indirectly, [appreciably reduced] the likelihood of both survival and recovery of the listed species,” where adverse modification should be found if an action “appreciably diminishes the value of critical habitat for both the survival and recovery of listed species.” 50 C.F.R. § 424.12(b)(5) (2009) (amended in 2016).

⁴² U.S. FISH & WILDLIFE SERV. & NAT’L MARINE FISHERIES SERV., *supra* note 25, at 4-35.

⁴³ Robbins, *supra* note 1, at 1098.

⁴⁴ Notice of Intent to Clarify the Role of Habitat in Endangered Species Conservation, 64 Fed. Reg. 31,871, 31,872 (June 14, 1999).

⁴⁵ *Infra* Section V.

⁴⁶ Robbins, *supra* note 1, at 1106 (citing Critical Habitat, Frequently Asked Questions, U.S. FISH & WILDLIFE SERV., <http://www.fws.gov/endangered/what-we-do/critical-habitats-faq.html> (last updated June 10, 2010)).

⁴⁷ *See* Baynes, *supra* note 3, at 981; Robbins, *supra* note 1, at 1098.

⁴⁸ Owen, *supra* note 24, at 166 (finding very few opinions to cite adverse modification as the determinative reason for a Services action).

analyses included extensive discussion of the action's potential habitat effect.

One possible reason for this perceived redundancy is the unlikelihood of a federal action directly degrading a listed species habitat without harming the individual members of the population. Some federal projects may adversely modify a habitat, but not create enough harm to justify a jeopardy or taking finding to the members of the species.⁵¹ The degradation of unoccupied habitat would likely apply to this scenario.⁵² The National Marine Fishery Service provides an example of this occurrence with salmonid populations in watersheds.⁵³ In a guidance document, the agency articulates that listed salmonids will “likely” be adversely affected if the baseline conditions of their habitat are degraded.⁵⁴ This degradation would occur through the presence of “excess fine sediment, high cobble embeddedness, or poor pool frequency/quality.”⁵⁵ Although, such a finding would not require the presence of the species in the habitat.⁵⁶ Additionally, federal actions may also adversely modify habitat, but have an uncertain effect on the species' survival, invoking the adverse modification standard but not jeopardy or taking.⁵⁷ Determining the destruction to an ecosystem is relatively easier than biologically quantifying the likelihood of a species' survival due to a certain project.⁵⁸ For example, clear-cutting a small section of forest inhabited by a listed spotted owl may have an unclear impact on the individual

⁴⁹ *Id.* at 153 (noting that every biological opinion analyzed in the study included analysis of the project's effect on a species habitat).

⁵⁰ 50 C.F.R. § 402.02 (2009) (qualifying “jeopardize the continued existence” to include effects on a species that could be caused by habitat destruction).

⁵¹ Owen, *supra* note 24, at 155.

⁵² *See id.*

⁵³ *See* National Marine Fisheries Service, *Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (Aug. 1996) at 9, http://www.oregon.gov/odot/hwy/geoenvironmental/docs/biology/nmfs_matrix.pdf.

⁵⁴ *Id.* at 9.

⁵⁵ *Id.*

⁵⁶ *See id.*

⁵⁷ Owen, *supra* note 24, at 156.

⁵⁸ *See id.*

members of the population.⁵⁹ On the other hand, such an action would certainly destroy the owl's habitat.⁶⁰ In some instances, the availability of data to understand these impacts could determine the possibility such findings.⁶¹

In the past, the functional equivalence doctrine has also enabled another assumption by the Services: the baseline doctrine.⁶² This doctrine pertains to the Services' calculation of the benefits associated with critical habitat designations.⁶³ The baseline approach involves "comparing the state of the world without or before the [habitat] designation, the baseline, with the state of the world with or after the designation."⁶⁴ Only impacts protected by a critical habitat designation above the jeopardy standard would be considered as a benefit, as the Services explained in *Cape Hatteras*⁶⁵ "on occupied critical habitat, consultations and project modifications are likely to flow from the listing of the species, and no additional consultations or project modifications are likely to result as a 'but-for' effect of the critical habitat designation."⁶⁶ Since the Services deemed the jeopardy and adverse modification standard to be functionally the same (i.e. the functional equivalence doctrine), the agencies rarely ever designated critical habitat.⁶⁷

The Fifth and Ninth Circuits rejected this approach, noting that the functional equivalence doctrine effectively cut out the recovery standard by only focusing on the survival of the listed species in occupied habitat.⁶⁸ The Tenth Circuit, while not directly striking down

⁵⁹ *See id.*

⁶⁰ *Id.*

⁶¹ *See generally id.*

⁶² *Cape Hatteras Access Pres. Alliance v. United States Dept. of Interior*, 344 F. Supp. 2d 108, 127 (D.C. Cir. 2004).

⁶³ *See Baynes, supra* note 3, at 990.

⁶⁴ 344 F. Supp. 2d at 127.

⁶⁵ *Id.*

⁶⁶ Defendant's Brief in Opposition at 29, *Cape Hatteras Access Pres. Alliance v. United States Dept. of Interior*, 344 F. Supp. 2d 108 (D.C. Cir. 2004) (No. 03-217).

⁶⁷ *See Baynes, supra* note 3, at 978–79.

⁶⁸ *Gifford Pinchot Task Force v. United States Fish & Wildlife Serv.*, 378 F.3d 1059, 1070 (9th Cir. 2004); *Sierra Club v. United States Fish & Wildlife Serv.*, 245 F.3d 434, 441–42 (5th Cir. 2001); *infra* Section V.

the regulation, disagreed with the Services' related reasoning.⁶⁹ The D.C. Circuit agreed with the baseline approach without substantively considering functional equivalence.⁷⁰ Citing Congress' prohibition of considering costs while listing a species, the court found that the Services should only consider costs above those inherent in taking and jeopardy designations.⁷¹

IV. THE APPLICATION OF PAST ADVERSE MODIFICATION AND CRITICAL HABITAT STANDARDS

A. Critical Habitat Implementation

Throughout the 1980s and 1990s, the Services used economic exclusions to consistently rule against critical habitat designations.⁷² In the early 2000s, the agencies changed their approach in response to a Ninth Circuit decision striking down the Services' economic analysis approach.⁷³ After the pervasion of economic cost-benefit analysis in many different areas of federal law, the Services began to attempt to monetarily quantify the cost and benefit of critical habitat designations.⁷⁴ Most of the Services' efforts focused on the cost of designation.⁷⁵ The agencies' methodology, however, included multiple layers of assumptions, which compounded inaccuracies with estimated data.⁷⁶ Their approach included estimating the number of projects to occur in the habitat during the next ten years, the resulting Section 7 consultations and associated project modifications, and the cost of such modifications.⁷⁷ These estimates included data from willingness-

⁶⁹ See *New Mexico Cattle Ass'n v. U.S. Fish and Wildlife Serv.*, 248 F.3d 1277, 1284 (10th Cir. 2001).

⁷⁰ See *Cape Hatteras*, 344 F. Supp. 2d at 130.

⁷¹ *Id.*

⁷² Sinden, *supra* note 2, at 158. The Services only used economic considerations to support a critical habitat designation once in this time period. See generally *Northern Spotted Owl Critical Habitat Designation*, 57 Fed. Reg. 1796 (Jan. 15, 1992).

⁷³ *Arizona Cattle Growers' Ass'n v. U.S. Fish and Wildlife Serv.* 273 F.3d 1229, 1244 (9th Cir. 2001) (finding that the baseline utilized by the Services did not adequately account for critical habitats added protection).

⁷⁴ See Sinden, *supra* note 2, at 175.

⁷⁵ *Id.* at 175.

⁷⁶ See *id.* at 175–80.

⁷⁷ *Id.*

to-pay surveys—polling Americans as to the amount they would be willing to pay to prevent the extinction of a species—and references to other administrative guidance documents quantifying economic benefits associated with the preservation of similar species.⁷⁸

B. Biological Opinions’ Inclusion of Adverse Modification

Professor Owen of the University of Maine School of Law completed an extensive analysis of how the Services implemented adverse modification protections.⁷⁹ The study includes the review of 4,000 biological opinions and interviews with agency staff.⁸⁰ Owen concluded that, though the adverse modification provisions should have a significant independent legal effect, the implementation of the standard reflects the Services’ perceived redundancy of the provision.⁸¹ Furthermore, the Services have treated small-scale habitat degradation as outside the purview of the adverse modification standard.⁸² These problems are compounded by the fact that the Services had not articulated a coherent standard explaining adverse modification since 2004.⁸³

Within the set of biological opinions analyzed by Professor Owen, the Services found jeopardy and adverse modification 7.2% and 6.7% of the time, respectively.⁸⁴ Eighty percent of the opinions found taking of a listed species to occur, and no jeopardy or adverse modification finding.⁸⁵ No biological opinion included adverse modification without jeopardy.⁸⁶ Also, critical habitat designations in areas affected by a federal project have little impact on the findings articulated in biological opinions.⁸⁷ Professor Owen attributes the devaluing of this protection to the Services’ classifying most effects on critical habitat as minor, and falling below the threshold of “considerably reducing”

⁷⁸ *Id.* at 182.

⁷⁹ Owen, *supra* note 24, at 144.

⁸⁰ *Id.*

⁸¹ *Id.* at 146.

⁸² *Id.*

⁸³ Please note, however, that the Services have proposed new regulations addressing this void, but have yet to give them effect. *See infra* Section V.

⁸⁴ Owen, *supra* note 24, at 164.

⁸⁵ *Id.* at 166-67.

⁸⁶ *Id.* at 166.

⁸⁷ *Id.*

both the survival and recovery of the listed species.⁸⁸ Interestingly, the Services regularly attributed habitat modification as a partial reason to issue a taking finding.⁸⁹ Of the biological opinions examined by Professor Owen, 84% of them anticipated a taking through habitat modification.⁹⁰

The Services' utilization of other protections that indirectly protect such habitats somewhat remediate the lack of adverse modification findings.⁹¹ For example, as mentioned above, the Services and consulting agencies have many opportunities to revise a project to avoid the Services including a jeopardy or adverse modification finding.⁹² The Services "almost always" addressed the threat of adverse modification through measures mentioned above.⁹³ In many instances, the Services actually anticipated an overall benefit to the area through the use of these measures.⁹⁴

The threat of degradation to a critical habitat, however, makes little difference to the level of protection afforded to a species habitat.⁹⁵ Owen found little difference among biological opinions involving critical habitat and those lacking such designation.⁹⁶ However, some subtle effects could exist with the presence of a critical habitat.⁹⁷ For example, critical habitat designations slightly increased the likelihood that action agencies would engage in informal consultation prior to the formal process.⁹⁸

⁸⁸ *Id.* at 157. See U.S. FISH & WILDLIFE SERV. & NAT'L MARINE FISHERIES SERV., *supra* note 25, at 4-35.

⁸⁹ Owen, *supra* note 24, at 170.

⁹⁰ *Id.*

⁹¹ *Id.* at 146.

⁹² U.S. FISH & WILDLIFE SERV. & NAT'L MARINE FISHERIES SERV., *supra* note 25, at 19-20.

⁹³ Owen, *supra* note 24, at 170. These measures include reasonably prudent measures, conservation measures, and conservation recommendations.

⁹⁴ *Id.* at 172.

⁹⁵ *Id.*

⁹⁶ *Id.* at 173.

⁹⁷ *Id.*

⁹⁸ *Id.*

C. Limits of Professor Owen's Findings

Professor Owen's findings, though a nearly complete study of the Services' application of the ESA, does not paint the complete picture.⁹⁹ For example, Owen does not account for the preemptive effect on land-use interests.¹⁰⁰ Knowing the existence of a critical habitat might change a party's intended use of the land, and therefore provides a selection bias in the examined data set.¹⁰¹ Given the extra limitations on development within critical habitats, an agency would hesitate to propose an action just to be struck down or severely altered during the consultation process.¹⁰² Therefore, the actions analyzed by the Services might already be altered by the action agency to avoid an adverse modification finding, offering a possible explanation for the Services' lack of such findings.¹⁰³

The ambiguous meaning of adverse modification might also explain the results of Professor Owen's study. His analysis includes small impacts to critical habitat as possibly being considered adverse modification.¹⁰⁴ The Services, however, may only allow for large impacts to qualify under the standard, given the large economic costs associated with critical habitat designations.¹⁰⁵

D. Perceived Amount of Litigation Resulting from Specific Biological Opinions

Professor Owen's paper also contradicts the unfounded belief of some commentators that the consultation process involves extensive litigation.¹⁰⁶ His study only found twenty-six judicial decisions specifically invoking the adverse modification prohibition.¹⁰⁷ To put

⁹⁹ Turner & McGrath, *supra* note 21, at 10679–80.

¹⁰⁰ *See id.*

¹⁰¹ *See id.* at 10,679.

¹⁰² *See id.* at 10,679–80.

¹⁰³ Owen, *supra* note 24, at 166.

¹⁰⁴ Turner & McGrath, *supra* note 21, at 10,680.

¹⁰⁵ *See* Sinden, *supra* note 2, at 168–174 (commenting on the reluctance of the Services to designate critical habitat due to the perceived low extra value designation provided for the protection of the species compared to the very large cost to construction interests through future Section 7 consultations).

¹⁰⁶ Owen, *supra* note 24, at 175.

¹⁰⁷ *Id.* at 177. Interestingly, plaintiffs have won these challenges nineteen of the twenty-six cases. *Id.*

the small size into perspective, the Services issued 4,000 biological opinions between 2005 and 2009 just for fish species.¹⁰⁸ When the courts consider both standards, they treat them as separate issues.¹⁰⁹ Adverse modification mostly holds separate legal weight, though its invocation differs between jurisdictions.¹¹⁰ Professor Owen concludes his study by stating that the Services have replaced the adverse modification standard with a more discretionary approach, which permits the incremental degradation of critical habitat.¹¹¹ He postulates, however, that the insertion of discretionary power may be a shrewd political move rather than an example of agency capture.¹¹² Through reasonable and prudent measures attached to a project, the Services avoid the inflexible structure of the adverse modification standard.¹¹³ Furthermore, they can give concessions to construction interests while also attaching caveats to benefit a listed species critical habitat.¹¹⁴ The main issue heading forward is fitting this flexibility into rigid statutorily-mandated factors, which the Services can address by including a large set of factors in their adverse modification standard.¹¹⁵

¹⁰⁸ *Id.* at 176.

¹⁰⁹ *Id.* at 178.

¹¹⁰ Compare *Am. Rivers v. Nat'l Marine Fisheries Serv.*, No. 97-36159, 1999 U.S. App. LEXIS 3860 (9th Cir. Jan. 11, 1999) (finding the jeopardy standard to fully include adverse modification), with *Ctr. for Biological Diversity v. U.S. Bureau of Land Mgmt.*, No. 09-CV-8011-PCT-PGR, 2011 WL 4551175 (D. Ariz. 2011) (requiring a full recovery analysis in adverse modification finding). See Owen, *supra* note 24, at 178-79 (noting that some courts have criticized the Services for allowing incremental habitat degradation, while others have explicitly allowed a step-wise relationship to exist between critical habitat degradation and adverse modification).

¹¹¹ Owen, *supra* note 24, at 186.

¹¹² *Id.* at 187.

¹¹³ *Id.* at 186.

¹¹⁴ *Id.*

¹¹⁵ See *e.g.* 16 U.S.C. § 1532(5)(A) (requiring critical habitat to be occupied by the listed species, or essential to the conservation of the species and require special management considerations).

V. COURTS REVIEW OF THE SERVICES' INTERPRETATION OF THE ESA STANDARDS

Several appellate courts have held that the past standard for adverse modification was contrary both to the statute and the Congressional intent of the ESA. These cases attacked the prohibition of federal actions “appreciably diminish[ing] the value of critical habitat to the conservation of a listed species.”¹¹⁶ The main issue with this standard involved the effective exclusion of the recovery protection for listed species.

A. *Sierra Club v. United States Fish & Wildlife Service*

The first case addressing the Services' standard involved the decision not to delineate a critical habitat for the Gulf Sturgeon, a listed species.¹¹⁷ In its biological opinion, the Services concluded that a critical habitat finding would “not provide any additional benefit to the species beyond other statutory regimes and conservation programs in place.”¹¹⁸ The Fifth Circuit overruled the decision due to the Services' interpretation of the adverse modification standard, which required a decreased chance of both the survival and recovery of a species.¹¹⁹ This rule effectively read out the consideration of a species' recovery, as recovery is a smaller subset subsumed by survival.¹²⁰ Any action that would affect survival would also impact recovery, but the reverse was not true.¹²¹ In its reasoning, the Fifth Circuit referenced the Congressional intent of the ESA “to bring any endangered species or threatened species to the point at which the measures provided [by the ESA] are no longer necessary.”¹²² Furthermore, since the ESA defines critical habitat to include areas “essential to conservation” of a listed species—and conservation includes more than just survival—the Services' focus solely on the survival of a species was improper.¹²³

¹¹⁶ 50 C.F.R. § 402.02 (2009) (amended in 2016).

¹¹⁷ *Sierra Club v. United States Fish & Wildlife Serv.*, 245 F.3d 434, 436–37 (5th Cir. 2001).

¹¹⁸ *Id.* at 437.

¹¹⁹ *Id.* at 440–41.

¹²⁰ *Id.* at 441.

¹²¹ *Id.*

¹²² *Id.* at 438 (citing 16 U.S.C. § 1532(3) (2012)).

¹²³ *Id.* at 441–443.

B. Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service

The Services, however, did not immediately change the adverse modification standard. Instead, another case in 2004 forced the Services to abandon their old interpretation. *Gifford Pinchot*¹²⁴ involved the challenge of six biological opinions permitting the harvesting of timber and taking of Northern Spotted Owl in the Northwest Forest of Oregon.¹²⁵ The court began by explicitly allowing critical habitat modification to be considered in the Services' jeopardy analysis, citing the ambiguity of the ESA as affording the agency wide discretion in determining jeopardy findings.¹²⁶ The court then addressed the issue of adverse modification applying to both recovery and survival of a listed species.¹²⁷ The court noted that the regulations' singular focus became survival because "it is logical and inevitable that a species requires more critical habitat for recovery than is necessary for species survival."¹²⁸ Therefore, the agency could effectively ignore the recovery of a listed species, which was one of the main motivations Congress possessed in enacting the ESA.¹²⁹ The Services argued that the protection was implicitly included in their issued biological opinions.¹³⁰ The court answered this assertion by analyzing each biological opinion involved in the case, searching for any references to the recovery standard.¹³¹ Though the agency briefly mentioned the existence of a recovery standard in one biological opinion, it did not adequately relate to an adverse modification finding.¹³² Consequently, the language of the biological opinion did not prove "that the agency [had] . . . ignored their own regulation, and . . . considered species recovery."¹³³

¹²⁴ 378 F.3d 1059 (9th Cir. 2004).

¹²⁵ *Id.* at 1062–63.

¹²⁶ *Id.* at 1065–67.

¹²⁷ *Id.* at 1069.

¹²⁸ *Id.*

¹²⁹ *Id.* at 1070.

¹³⁰ *Id.* at 1072.

¹³¹ *Id.* at 1072–75.

¹³² *Id.* at 1073–74.

¹³³ *Id.* at 1074.

VI. SERVICES' REACTION TO JUDICIAL REJECTION

A. Adverse Modification Findings

Due to these cases, the Services disavowed their past interpretation of adverse modification in December 2004, and instructed staff to rely only on the statutory definition.¹³⁴ After a period of using the ambiguous statute, the Services have recently proposed new regulations to define adverse modification and critical habitat, which the agency finalized in February, 2016.¹³⁵ In the final action, the agency amended the interpretation of both standards to more closely follow the ESA and separate the adverse modification from jeopardy analyses under Section 7.¹³⁶ The new definition of adverse modification is a “direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species.”¹³⁷ In the regulatory guidance for the new rule, the agency

¹³⁴ Letter from Marshall Jones, Department of Interior Director, to Regional Directors, Department of Interior, *Application of the “Destruction or Adverse Modification” Standard under Section 7(a)(2) of the Endangered Species Act* (Dec. 9, 2004), <http://www.endangeredspecieslawandpolicy.com/files/2011/01/Adverse-Modification-Guidance.pdf>.

¹³⁵ See Proposed Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 79 Fed. Reg. 27,060 (May 12, 2014); Final Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 81 Fed. Reg. 7214 (Feb. 11, 2016); Draft Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act, 79 Fed. Reg. 27052 (May 12, 2014); Final Rule on Implementing Changes to the Regulations for Designating Critical Habitat, 81 Fed. Reg. 7413 (Feb. 11, 2016); Proposed Rule on Implementing Changes to the Regulations for Designating Critical Habitat, 79 Fed. Reg. 27,066 (May 12, 2014); Final Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act, 81 Fed. Reg. 7226 (Feb. 11, 2016).

¹³⁶ Proposed Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 79 Fed. Reg. at 27,061; Final Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 81 Fed. Reg. at 7216. The proposed and final rule substantively implement the same requirements upon the Service’s implementation of adverse modification. In the final rule, the Service only alters some minor aesthetic changes to accommodate comments. See Proposed Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 79 Fed. Reg. at 27061; Final Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 81 Fed. Reg. at 7216.

¹³⁷ Proposed Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 79 Fed. Reg. at 27,061 (explaining that such alterations “may include, but are not limited to, effects that preclude or significantly delay the

notes the term “conservation value” is intended to capture the role that critical habitat should play in the recovery of a species.¹³⁸ Specifically, the rule will accommodate “ephemeral or dynamic habitat conditions.”¹³⁹ The Services elaborate that such actions affecting recovery include those that “preclude or significantly delay habitat regeneration or natural successional processes.”¹⁴⁰ To interpret the magnitude of an impact, the Services will examine the quantity and quality of life-sustaining features present in the habitat benefitting the recovery of a listed species.¹⁴¹ Furthermore, an action’s effect on the future generation of these features within a critical habitat will be taken into account.¹⁴² The presence of a listed species within the affected habitat is not necessary to qualify for an adverse modification finding.¹⁴³

Similarly to the past regulatory framework, once the agency determines the conservation value of a habitat, the Services should determine whether the action “appreciably diminish[es]” the value of a the critical habitat.¹⁴⁴ The new regulations have removed “considerably” from the definition of adverse modification: “to considerably reduce the capability” of a habitat to provide for survival

development of the physical or biological features that support the life-history needs of the species for recovery”).

¹³⁸ *Id.* at 27,601. Again, the final rule incorporates the proposed rule by only making minor changes to word choice. Final Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 81 Fed. Reg. at 7216 (“These revisions avoid introducing previously undefined terms without changing the meaning of the proposed definition.”).

¹³⁹ Final Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 81 Fed. Reg. at 7217.

¹⁴⁰ Proposed Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 79 Fed. Reg. at 27,061 (stating that such actions would include those that affect “food, water, light, shelter from predators, competitors, weather and physical space to carry out normal behaviors or provide dispersal or migratory corridors”).

¹⁴¹ *Id.* at 27,062.

¹⁴² *Id.*

¹⁴³ *Id.* This is one of the main issues raised by eighteen states currently challenging the new rule. The states argue that the rule grants the Services unlimited power to designate any land critical habitat, regardless of the current presence of any ecological functions. See Complaint of Plaintiffs, *Alabama v. National Marine Fisheries Services*, No. 16-953 (S.D. Ala. Nov. 29, 2016).

¹⁴⁴ *Id.*

and recovery.¹⁴⁵ The agencies reason that deleting the modifier will reduce the variability during the consultation process, as “considerable” could mean “large in amount or extent” or “worthy of consideration.”¹⁴⁶ Consequently, the central question is now whether the reduction of the critical habitat is “appreciable” to the conservation value of the critical habitat. The Services have noted that appreciable will mean, “to recognize the quality, significance, or magnitude,” and not “noticeable” or “meaningful.”¹⁴⁷ An action’s effect on the entire critical habitat’s conservation value will be considered, not just the area where an action takes place.¹⁴⁸ Furthermore, the Services will start completing separate jeopardy and adverse modification analyses.¹⁴⁹ The agencies admit, however, the standards could overlap depending on whether an occupied habitat contains the necessary biological and physical characteristics for the conservation of the listed species.¹⁵⁰ Seemingly, an occupied area not possessing these features could only be subject to a jeopardy analysis.

B. Critical Habitat Designations

In concurrence with the rule modifying the adverse modification standard, the Services have also proposed the altering of critical habitat designations.¹⁵¹ These changes are important because an adverse modification finding requires the presence of a critical

¹⁴⁵ *Id.* at 27,063.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

¹⁴⁹ *Id.* at 27,064. This change will effectively alter the procedure the Services use to enable the functional equivalence doctrine.

¹⁵⁰ *Id.*

¹⁵¹ See Proposed Rule on Implementing Changes to the Regulations for Designating Critical Habitat, 79 Fed. Reg. 27,066 (May 12, 2014); Final Rule on Implementing Changes to the Regulations for Designating Critical Habitat, 81 Fed. Reg. 7413 (Feb. 11, 2016). No substantive differences exist between the proposed and final regulations. Final Rule on Implementing Changes to the Regulations for Designating Critical Habitat, 81 Fed. Reg. at 7414 (“the amendments make minor edits to the scope and purpose, add and remove some definitions, and clarify the criteria and procedures for designating critical habitat.”). The only substantive definition the Services removed was “interbreeds when mature” out of the definition of “species”. *Id.* at 7424. Other changes involve minor, non-substantive details.

habitat.¹⁵² The new rules elaborate the procedures for designating critical habitats by following more closely the statutory language of the ESA¹⁵³ and clarify the meaning of “geographic area occupied by the species” in which the Services may delineate a critical habitat.¹⁵⁴ The language of the new rules states that land permanently or temporarily used by a listed species during some portion of its life would qualify as occupied.¹⁵⁵ Since Congress articulated that critical habitat should be within this area, occupied territory (i.e. the range of a listed species) will be more expansive than critical habitat.¹⁵⁶

Certain parts of occupied areas may only be designated as critical habitat if they possess the “physical or biological features essential to the conservation of the species.”¹⁵⁷ The language mirrors the relevant statute to eliminate ambiguity.¹⁵⁸ These features will be defined as “the features that support the life-history needs of the species,”¹⁵⁹ and do not need to be consistently present to be considered essential.¹⁶⁰

¹⁵² 16 U.S.C. § 1536(a)(2) (2012).

¹⁵³ Proposed Rule on Implementing Changes to the Regulations for Designating Critical Habitat, 79 Fed. Reg. at 27,069–70 (May 12, 2014) (citing 16 § 1532(5)).

¹⁵⁴ *Id.* at 27,068–69 (to be codified at 50 C.F.R. § 424.02).

¹⁵⁵ *Id.* at 27,069 (citing *Arizona Cattle Growers’ Assoc. v. Salazar*, 606 F.3d 1160 (9th Cir. 2010) (elaborating that areas of periodic use may include breeding areas, foraging areas, and migratory corridors)). To illustrate the periodic occupancy, the regulations use an extreme example of cicadas occupying their range only one month every thirteen or seventeen years. *Id.*

¹⁵⁶ *Id.* at 27,069 (citing § 1531(5)(A)(i)). The range of the species at the time of listing will be used by the Services, unless insufficient data exists to make such a determination. In that case, the Services may use current data regarding the listed species range. *Id.* (citing *Otay Mesa Prop. L.P. v. DOI*, 714 F. Supp. 2d 73 (D.D.C. 2010), rev’d on other grounds, 646 F.3d 914 (D.C. Cir. 2011)).

¹⁵⁷ *Id.* at 27,072 (to be codified at 50 C.F.R. § 424.14(b)(1)(iii)). The Services will also add “recovery” as part of the meaning of conservation. *Id.*

¹⁵⁸ *Id.* at 27,069 (referencing 16 U.S.C. § 1532(5)(A)(i) (2012) (“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.”)). “Primary Constituent Elements,” the old qualifying factor, has been erased from regulations.

¹⁵⁹ *Id.* at 27,069. The regulations elaborate many different factors that will define the life-history needs of a listed species: “including but not limited to water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic, or a more complex combination of habitat characteristics. Features may include

Furthermore, the designation of critical habitats will be limited to those areas requiring “special management protections.”¹⁶¹ Contrary to past regulations, the Services will not consider whether a current management system exists.¹⁶² Furthermore, a management system may not currently be necessary, but may be implemented to protect against future degradation to a critical habitat.¹⁶³ If the essential features are not threatened, however, the Services will not find a system necessary and will pass on making a critical habitat designation.¹⁶⁴ Although, the agencies expect this to occur infrequently.¹⁶⁵

Compared to the past rules, the proposed changes to critical habitat designations grant more flexibility to the Services.¹⁶⁶ For example, the Services’ have much discretion to deem threats insufficient to warrant a designation, especially if the current threat to a listed species is separate from any habitat alterations (e.g. disease).¹⁶⁷ They can now allow construction to occupy an area with listed species as long as the species’ life-history needs are not threatened.¹⁶⁸ Under the proposed regulations, the Services will determine the geographic area occupied by the species, and then identify the essential features within the area.¹⁶⁹ Furthermore, contrary to the past interpretation of “specific areas outside the geographical area occupied by the species” requiring the protection of all occupied areas before addressing unoccupied habitat, the Services will now consider unoccupied areas concurrently with occupied lands.¹⁷⁰ To accommodate future effects of climate change, the Services can designate unoccupied areas that may develop

habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity.” *Id.*

¹⁶⁰ *Id.* at 27,069–70.

¹⁶¹ *Id.* at 27,070 (citing 16 U.S.C. § 1532(5)(A)(i) (2012)).

¹⁶² *Id.* (citing *Ctr. for Biological Diversity v. Norton*, 240 F. Supp. 2d 1090 (D. Ariz. 2003)).

¹⁶³ *Id.* at 27,070.

¹⁶⁴ *Id.* at 27,070–72 (to be codified at 50 C.F.R. § 424.12).

¹⁶⁵ *Id.*

¹⁶⁶ *Id.* at 27,071–73.

¹⁶⁷ *Id.* at 27,071.

¹⁶⁸ *Id.*

¹⁶⁹ *Id.* (to be codified at 50 C.F.R. § 424.12(b)(1)).

¹⁷⁰ *Id.* at 27,073.

essential conservation features in the future.¹⁷¹ Furthermore, contrary to past regulations, the new rules do not require the designation of unoccupied habitat only after the exhaustion of a listed species' current range.¹⁷² Unoccupied habitat, however, must still be considered "essential" to the conservation of a species.¹⁷³

Critical habitat exclusions will also allow the Services more flexibility to implement ESA protections,¹⁷⁴ as Congress only forbids exclusions from critical habitat if such exclusion would result in the extinction of a listed species.¹⁷⁵ As mentioned above, one type of exclusion is related to economic burdens imposed by a critical habitat designation.¹⁷⁶ As part of this economic analysis, the Services will use the baseline method to calculate the benefits and costs of habitat designations (i.e. weighing the cost and benefit between a world with and without critical habitat designation).¹⁷⁷ With the new regulations, the Services have most likely conformed to external pressures

¹⁷¹ *Id.* Recently, eighteen states have challenged this added protection to the rule. See Complaint of Plaintiffs, *Alabama v. National Marine Fisheries Services*, No. 16-953 (S.D. Ala. Nov. 29, 2016).

¹⁷² Proposed Rule on Implementing Changes to the Regulations for Designating Critical Habitat, 79 Fed. Reg. at 27,073 (May 12, 2014).

¹⁷³ Compare 16 U.S.C. § 1532(5)(A)(ii) ("The term 'critical habitat' means . . . specific areas outside the geographical area occupied by the species . . . essential for the conservation for the species.") with *id.* § 1532(5)(A)(i) ("The term 'critical habitat' means . . . specific areas within the geographic area occupied by a species . . . 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.").

¹⁷⁴ 16 U.S.C. § 1533(b)(2) (2012) ("The Secretary may exclude any area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat.").

¹⁷⁵ Draft Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act, 79 Fed. Reg. 27052, 27,053 (May 12, 2014) (citing 16 U.S.C. § 1533(b)(2) (2012)); Final Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act, 81 Fed. Reg. 7226, 7227 (Feb. 11, 2016) (listing the differences from the proposed rule, which are only aesthetic).

¹⁷⁶ 16 U.S.C. § 1533(b)(2) (The Secretary shall designate critical habitat, and make revisions thereto, under subsection (a)(3) on the basis of the best scientific data available and after taking into consideration *the economic impact*, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat.") (emphasis added).

¹⁷⁷ Final Rule for Revisions to the Regulations for Impact Analyses of Critical Habitat, 78 Fed. Reg. 53,058, 53,062 (Aug. 28, 2013).

regarding monetary judgments, as a recent Executive Order demanded the Services give more consideration to excluding private lands from critical habitat designations and adopt the least burdensome means of promoting compliance with the ESA.¹⁷⁸ In 2013, the Services began to permit the cost-benefit evaluation of critical habitat designation to be in quantitative or qualitative terms.¹⁷⁹

In more recent regulations, the Services stated that it will consider the incremental cost of a critical habitat designation compared to the corresponding increase in conservation value, rather than requiring a certain monetary threshold to be met.¹⁸⁰ This incremental approach involves calculating the cost of improving the conservation value of the habitat, and comparing the cost to the conservation value added through designation.¹⁸¹ The regulations do not articulate a methodology for converting the added conservation value to a monetary amount.¹⁸²

The new regulations deem the presence of partnerships and conservations plans between state and local parties to be included in the baseline of a proposed critical habitat.¹⁸³ The agencies look very favorably on private and other non-federal conservations plans because they involve private landowners who otherwise could not be included in Section 7 consultations.¹⁸⁴ The agencies consider any benefits of

¹⁷⁸ Presidential Document No. 2012–5369, 77 Fed. Reg. 12,985 (Feb. 28, 2012).

¹⁷⁹ Final Rule for Revisions to the Regulations for Impact Analyses of Critical Habitat, 78 Fed. Reg. 53,058, 53,060 (Aug. 28, 2013).

¹⁸⁰ Draft Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act, 79 Fed. Reg. 27,052, 27,056 (May 12, 2014). As mentioned above, the final rule is substantively the same as the proposed. *See* Final Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act, 81 Fed. Reg. 7226, 7227 (Feb. 11, 2016).

¹⁸¹ Final Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act, 81 Fed. Reg. at 7227 (citing 16 U.S.C. § 1533(b)(2) (2012)). Importantly, this statement codifies the baseline doctrine.

¹⁸² *See id.*; Draft Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act, 79 Fed. Reg. 27,052 (May 12, 2014).

¹⁸³ Draft Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act, 79 Fed. Reg. at 27,054–55.

¹⁸⁴ *Id.* at 27,054–55. The specific plans mentioned in the regulations include habitat conservation plan (HCP), safe harbor agreement (SHA), and candidate conservation agreements with assurances (CCAA). HCPs accompany incidental take permits to accommodate partnerships between non-federal entities

critical habitat designation to be minimal due to the existing protections afforded by the plans.¹⁸⁵

Federal lands do not benefit from such agreements, as Section 7 consultations must proceed regardless of any existing agreement between federal actors.¹⁸⁶ The Services reason, since any project with a federal nexus must complete a Section 7 consultation, one of the only benefits from a conservation plan would be to avoid administrative or transactional costs associated with the consultation.¹⁸⁷ Avoiding these costs is not a sufficient benefit to warrant an exclusion.¹⁸⁸ The only other benefit from conservation plans on lands with a federal nexus comes from avoiding burdens associated with adverse modification findings.¹⁸⁹ To avoid regulatory burdens on non-federal lands, the Services plan to focus critical habitat designations on federal lands.¹⁹⁰

VII. THE IMPLICATIONS OF THE CHANGE

The Services obviously responded directly to the judicial protestations of the recovery exclusion in the former regulations, as the agencies include specific language in the new regulation to ensure that the adverse modification standard accommodates the recovery of listed species.¹⁹¹ The Services note that critical habitats outside of the current

minimizing impacts to a listed species within its habitat. CCAAs and SHAs are agreements to protect listed species on non-federal lands. *Id.*

¹⁸⁵ *Id.* at 27,054. The Services will grant exclusions in such circumstances when three conditions are met: (1) The permitted parties are properly executing the conservation plan; (2) The conservation plans applies to the species relevant to a critical habitat designation; and (3) the conservation plan specifically addresses the species habitat and meets the conservation needs of the species.

¹⁸⁶ *Id.* at 27,056. Any action on federal land would automatically be considered a federal action and thus invoke a Section 7 consultation.

¹⁸⁷ *Id.*

¹⁸⁸ *Id.*

¹⁸⁹ *Id.*

¹⁹⁰ *Id.* This statement does not have large implications, as only projects with a federal nexus will be subject to critical habitat designations. 16 U.S.C. § 1536(a)(2) (2012).

¹⁹¹ See Proposed Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 79 Fed. Reg. 27060, 27061 (May 12, 2014) (to be codified in 50 C.F.R. § 424.02 (2015)) (“Specifically, the term ‘conservation value’ is

occupied habitat of a listed species fall within the purview of the adverse modification standard, further promoting recovery.¹⁹² The new rule also separates the jeopardy and adverse modification standards, stating the former should focus on critical habitat while the latter should focus on the status of the species.¹⁹³ This language seemingly overrules the functional equivalence doctrine utilized by the Services for many years and rejected by the Fifth and Ninth Circuits.¹⁹⁴

A. How Will the Services Implementation of the Act Change?

Using the results of Professor Owens' study, one can raise the question of how these changes will be implemented, since the vast majority of biological opinions ignore adverse modification.¹⁹⁵ The new regulations have created a large vacuum by effectively constructing a new standard under Section 7.¹⁹⁶

Two outcomes seem possible: (1) maintain the status quo by transferring taking and jeopardy findings focused on habitat degradation to an adverse modification label, or (2) enlarge the substantive restrictions on federal projects.

The factors used in past and current adverse modification schemes contain no large differences in substantive quality. The conservation value sought to be protected in the new regulations is nearly identical to the ecological features shielded by the old rules.¹⁹⁷ To understand

intended to capture the role that critical habitat should play for the recovery of the listed species.”).

¹⁹² *Id.* at 27,062.

¹⁹³ *Id.* at 27,061.

¹⁹⁴ See *Gifford Pinchot Task Force v. United States Fish & Wildlife Serv.*, 378 F.3d 1059, 1077 (9th Cir. 2004); *Sierra Club v. United States Fish & Wildlife Serv.*, 245 F.3d 434, 445–47 (5th Cir. 2001). The applicable regulation also contains this reasoning. Proposed Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 79 Fed. Reg. 27,060, 27,061–62 (May 12, 2014).

¹⁹⁵ Owen, *supra* note 24, at 163–67.

¹⁹⁶ *Id.* at 150–152.

¹⁹⁷ Proposed Rule on Implementing Changes to the Regulations for Designating Critical Habitat, 79 Fed. Reg. 27,066, 27,061 (May 12, 2014) (“The proposed definition of ‘physical or biological features,’ described above, would encompass similar habitat characteristics as currently described in section 424.12(b) . . .”); Compare Proposed Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 79 Fed. Reg. 27,060, 27,062 (May 12, 2014) (defining conservation value as the quantity and quality of features to

the habitat characteristics that need to be protected, the new regulations suggest the Services look to the life-history needs of the listed species relied upon in the critical habitat designation, similarly to the past regulatory structure.¹⁹⁸ Consequently, the only differences seem to involve the degree, not substance, of the Services' consideration of factors necessary for species protection. The threshold's lowering to include recovery is the largest impact of the new regulations.

It is unclear whether this greater degree of protection accommodates the flexibility suggested in Professor Owen's paper.¹⁹⁹ Given that the Services will consider the same substantive factors while making adverse modification determinations, but lower the threshold (i.e. the inclusion of the recovery standard), one has a difficult time predicting whether this will alter the Services' latitude in accommodating both construction and preservation interests. The Services note that action agencies do not have an affirmative duty to enable the recovery of a species.²⁰⁰ Instead, the incorporation of the recovery standard only prohibits destructive actions.²⁰¹ Given that most consultations result in reasonable and prudent measures that benefit the habitat of a species while accommodating construction, the new threshold may not detrimentally affect development interests as first suspected.²⁰² The lower threshold will most likely not significantly impact the procedure of the consultation process, as concessions can be made to avoid negatively altering the recovery of a

support the life-history needs for species recovery) *with* 50 C.F.R. § 402.02, 424.12(b)(5) (2009) (amended 2016) (defining the basis of a habitat being "critical" to include such factors as spawning sites, seasonal wetland and dryland, vegetation types, and soil types). *See* Services Handbook 4-23-4-31 (listing factors the agency uses to determine a habitat critical).

¹⁹⁸ Proposed Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 79 Fed. Reg. at 27,062.

¹⁹⁹ Owen, *supra* note 24, at 162.

²⁰⁰ Proposed Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 79 Fed. Reg. at 27062-63.

²⁰¹ *Id.* at 27063.

²⁰² Owen, *supra* note 24, at 142.

listed species.²⁰³ These concessions, however, will have to comply with the stricter recovery standard.²⁰⁴

Another fairly large concern stems from the lower threshold's effect on critical habitat designations. The inclusion of the recovery standard will alter the functional equivalence and baseline doctrines upon which the Services relied for most biological opinions.²⁰⁵ After the approval of the regulation, the adverse modification and critical habitat standards are now the only provision protecting recovery.²⁰⁶ Therefore, the functional equivalence doctrine is no longer valid.

The Services codified the baseline doctrine in the proposed regulations.²⁰⁷ The extra benefit posed by critical habitat protection will now include recovery, differing from listing and jeopardy determinations which only focus on survival. The question remains, however, as to whether this added benefit will be enough to cause an increase in critical habitat designations. Given the Services' discretion in determining the weight of this new addition and possibility of adverse modification, the effect on the number of critical habitat designations is hard to predict. The Services can now designate unoccupied habitat not yet possessing ecological features necessary to support a listed species.²⁰⁸ As mentioned above, however, the proposed regulations will allow the Services much flexibility in deciding the economic benefit of a project judged against the added conservation value, the size of a project to define the possible scope of critical habitat, and the determination of qualifying habitat. Judging from the evidence presented in Professor Owen's paper describing the Services as a shrewd political actor, this study conjectures the agencies will use this flexibility to compromise between construction and

²⁰³ Draft Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act, 79 Fed. Reg. at 27,054.

²⁰⁴ Proposed Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 79 Fed. Reg. at 27,061.

²⁰⁵ Robbins, *supra* note 1, at 1106 (citing Critical Habitat, Frequently Asked Questions, U.S. FISH & WILDLIFE SERV., <http://www.fws.gov/endangered/what-we-do/critical-habitats-faq.html> (last updated June 10, 2010)).

²⁰⁶ 16 U.S.C. § 1532(5); Proposed Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 79 Fed. Reg. at 27,061–62.

²⁰⁷ Draft Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act, 79 Fed. Reg. at 27,056.

²⁰⁸ Proposed Rule on Implementing Changes to the Regulations for Designating Critical Habitat, 79 Fed. Reg. 27,066, 27069–70 (May 12, 2014).

conservation interests, and the amount of critical habitat designation will not change dramatically.²⁰⁹

VIII. WILL THE CHANGE MAKE A DIFFERENCE?

The new regulations seem to transfer agency discretion by allowing the Services much more flexibility in determining whether critical habitat is necessary and lowering the threshold for an adverse modification finding.

The determination of what habitat is “essential to the conservation of a species” within an occupied area will be the subject of much debate. Although the Services will examine an action’s effect on an entire critical habitat to determine adverse modification, critical habitat designations will be subject to more discretion. The scope examined by the Services may be enlarged or minimized to correspond with the presence of biological factors.²¹⁰ To avoid a critical habitat designation, the scope of the area considered occupied by a species could technically be maximized to prove a certain area is not essential to the population’s conservation.²¹¹

The Services may also use exclusions to reach foregone conclusions in critical habitat designations. The Secretary may invoke cost-benefit analysis when he or she chooses.²¹² Costs of making habitat improvements will now be compared to the related increase in conservation value.²¹³ Given that critical habitat is the only ESA protection including the recovery of a species, the calculated benefit of a critical habitat designations will consist only of the recovery standard (i.e. the baseline doctrine). The balancing test will consequently weigh the costs of conservation protections with the added value to a listed species’ recovery, with both values subject to the discretion of the Services.

²⁰⁹ Owen, *supra* note 24, at 187.

²¹⁰ Proposed Rule on Implementing Changes to the Regulations for Designating Critical Habitat, 79 Fed. Reg. 27,066, 27071 (May 12, 2014).

²¹¹ *Id.* at 27071 – 72.

²¹² See 16 U.S.C. § 1533(b)(2); Final Rule for Revisions to the Regulations for Impact Analyses of Critical Habitat, 78 Fed. Reg. 53,058, 53,062 (Aug. 28, 2013).

²¹³ Proposed Rule on Implementing Changes to the Regulations for Designating Critical Habitat, 79 Fed. Reg. 27,066, 27071 – 72 (May 12, 2014).

Most importantly, the Services can use qualitative factors in the new economic analysis designating critical habitat. The use of these factors will not pigeonhole the agencies into attempting to monetarily quantify ecological and environmental benefits. Activities that can easily be monetized—future construction activities, cost of Section 7 consultations, etc.—can be quantified and then compared to less definite factors, such as the ecological benefit of a species. Policy holders can then realistically judge whether the recovery of a species in a certain area is worth a calculated amount of money. This discretion follows the Congressional intent of the Act,²¹⁴ and grants the Services the ability to better judge both construction and preservation interests.

As Professor Owen notes, most projects involve developmental interests slightly altering their projects to avoid adversely modifying the critical habitat of a listed species.²¹⁵ However, this empirical observation requires the presence of already-established critical habitat. Given the new stringent adverse modification standard incorporating recovery, cunning developmental interests should begin preemptively ensuring that projects do not possibly affect an area with listed species, irrespective the existence of a critical habitat. Unlike adverse modification, critical habitat designations include a cost-benefit analysis²¹⁶ and incorporate state and local plans conservation plans in the baseline.²¹⁷ Since a designation of a critical habitat would be easier to evade than adverse modification, a focus on avoiding the former would be the best course for developmental interests. Unlike adverse modification findings, which arise in Section 7 consultations, construction interests will not be externally motivated to recognize the importance of critical habitat designations. If developmental interests recognize this shift, they could start organizing to ensure projects do not significantly threaten a listed species habitat, and avoid any critical

²¹⁴ 124 Cong. Rec. 38,132 (daily ed. Oct. 14, 1978) (statement of Rep. Murphy) (“The real tragedy associated with massive species extinction is that we may never fully comprehend what we have lost.”); *see* Sinden, *supra* note 2, at 193–96.

²¹⁵ Owen, *supra* note 24, at 171–72.

²¹⁶ *See* 16 U.S.C. § 1533(b)(2); Final Rule for Revisions to the Regulations for Impact Analyses of Critical Habitat, 78 Fed. Reg. 53,058, 53,062 (Aug. 28, 2013).

²¹⁷ Draft Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act, 79 Fed. Reg. 27052, 27,054–55 (May 12, 2014).

habitat designation. Therefore, developmental interest can avoid the harsh teeth of the adverse modification standard and construct on their own terms, while preserving the recovery and survival of threatened or endangered species.

The Services' move away from designating unoccupied habitats only after maximizing critical habitat in occupied areas may prove the most dramatic change in the entire regulations. As mentioned above, contrary to past regulations, the Services' may designate unoccupied habitat independent of the designation of occupied habitat.²¹⁸ The wording of the ESA regarding the occupied and unoccupied distinction is very similar; however, the new regulations do not seem to treat the two standards differently.²¹⁹ The Services note that the only difference is that "essential" physical or biological features need not be present in unoccupied habitat to warrant designation.²²⁰

The Services may exploit this fact to designate many unoccupied areas not currently holding essential features to dramatically increase designations; although, this path seems to eradicate the statutory language that separates unoccupied and occupied habitat.²²¹ Although this change presents a possibility for the Services to dramatically increase designations in such areas, the actual implementation of these regulations remains unclear. Before the regulations were promulgated, the Services noted that informal consultations have started to occur more frequently for unoccupied habitat.²²² These informal consultations could prevent construction interests from threatening the necessary ecological functions for species conservation. But, the Services have also indicated a greater willingness to designate unoccupied habitat,²²³ meaning that the change could not only affect

²¹⁸ Proposed Rule on Implementing Changes to the Regulations for Designating Critical Habitat, 79 Fed. Reg. at 27,073 (May 12, 2014).

²¹⁹ Compare 16 U.S.C. § 1532(5)(A)(ii) ("The term 'critical habitat' means . . . specific areas outside the geographical area occupied by the species . . . essential for the conservation for the species.") with *id.* § 1532(5)(A)(i) ("The term 'critical habitat' means . . . specific areas within the geographic area occupied by a species . . . 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.").

²²⁰ Proposed Rule on Implementing Changes to the Regulations for Designating Critical Habitat, 79 Fed. Reg. at 27,073 (May 12, 2014).

²²¹ See § 1532(5).

²²² Owen, *supra* note 24, at 173 n. 208.

²²³ *Id.* at 174.

the types of land designated, but also the quantitative amount of habitat designated. Similarly, the Services' intent to protect undeveloped physical and biological features in unoccupied habitat suggests the agencies plan to designate more land,²²⁴ rather than just different types of land. Eighteen states are currently challenging this aspect of the rule in federal court,²²⁵ so the Services responses in that litigation could shed light on their planned implementation.

Going forward, the change in the Services' interpretation of the adverse modification and critical habitat provisions will be evident in certain metrics. If the Services seriously incorporate the recovery standard in adverse modification judgments, then areas with already existing critical habitats should see a rise in adverse modification findings due to the incorporation of the recovery standard. The standard will protect the same type of environmental quality as past regulations, just to a larger extent. Similarly, if the Services seek to minimize the effect of the change, the number of taking and jeopardy findings citing the destruction of habitat should decrease to compensate for the increase in adverse modification findings.

On the other hand, the Services will demonstrate their political awareness if the rate of critical habitat designations remains constant, or even lowers, to compensate for the increase in adverse modification findings. Although the Services effectively ignored such designations for decades, Congress actually provided much flexibility for the standard's implementation. Consistent with their past strategic implementation of the Act, the Services will most likely use all of this flexibility, and avoid making too many critical habitat designations in order to avoid political backlash.

IX. CONCLUSION

The change to the adverse modification and critical habitat standards present an opportunity for the Services to utilize flexibility critical to the proper implementation of the ESA. Instead of awkwardly forcing an accommodating regulatory structure by ignoring statutory language and entire ESA protections, the Services can work within the prescribed structure mandated by Congress. The added

²²⁴ Proposed Rule on Definition of Destruction or Adverse Modification of Critical Habitat, 79 Fed. Reg. at 27,062.

²²⁵ See Complaint of Plaintiffs, *Alabama v. National Marine Fisheries Services*, No. 16-953 (S.D. Ala. Nov. 29, 2016).

discretion also allows the Services to avoid large changes to the status quo. Consequently, the new regulations enable the Services to protect listed and threatened species while also accommodating developmental interests, a necessity in realistic ESA implementation.