



ENVIRONMENTAL POLICY  
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CENTER

# ENDANGERED SPECIES ACT: 2018 ADMINISTRATIVE REFORM

## Perspectives and Initial Recommendations





Vernal pool habitat in Carizzo Plain, CA. CC BY-NC Peggy Carlaw.

The upcoming proposals to amend regulations and policies on the Endangered Species Act (ESA) present a rare opportunity for stakeholders to opine on a broad set of changes to how the ESA is implemented. Some of the proposals have already been discussed publicly. Based on that information, the Environmental Policy Innovation Center offers our initial perspectives and recommendations on a subset of those proposals.

## LISTING PROCESS

### Quantitative Definition of “Foreseeable Future”

The definitions of “threatened” and “endangered” species have been plagued with ambiguities and inconsistent interpretation for decades. Key concepts like “foreseeable future,” “likely to become an endangered species,” and “extinction” have varying interpretations.<sup>i</sup> In 2009, the Department of the Interior issued an opinion interpreting “foreseeable future.” This opinion is worth reading because it was authored by David Bernhardt—now the Deputy Secretary of the Department and undoubtedly a central figure in

drafting the upcoming proposals. The opinion interprets the foreseeable future as describing “the extent to which the Secretary can reasonably rely on predictions about the future in making determinations about the future conservation status of the species.”<sup>ii</sup> The opinion offers several other points that are highly relevant to the upcoming proposals.

*“Because the predictions relate to the status of the species, the data relevant to an analysis of foreseeable future are those that concern the future population trends and threats to the species, and the likely consequences of those threats and trends.”*

*“The Secretary need not identify the foreseeable future in terms of a specific period of time.... Nevertheless, if the information or data are susceptible to such precision, it may be helpful to identify the time scale being used.”*

*“[T]he Secretary should not use an arbitrary ‘default’ time period that is either absolute (e.g., 25 years) or based solely on the generation time of the species at issue.”*

The IUCN Red List Guidelines are “not bound by any ‘foreseeability’ standard, and the Guidelines

*never use the term 'foreseeable.' ” Thus, the U.S. Fish and Wildlife Service (FWS) may review the IUCN conclusions while implementing the ESA, but it “must make independent decisions according to the standards Congress set forth in the ESA.”*

The impacts to a species are not within the foreseeable future if the “*trends or the impacts of a particular threat are based on speculation, rather than reliable prediction....*”

In some situations, “*lack of understanding of the cause of the decline will make it impossible to reliably extrapolate the population trend in the future.*”

Based on the 2009 opinion and other background information, we offer the following initial perspectives that apply to FWS and the National Marine Fisheries Service (NMFS).

- The agencies should evaluate future threats and their effects on species as far out as they can reliably predict, and whenever possible should express time horizons for interpreting the foreseeable future quantitatively (in years or generation time). NatureServe status assessments and the IUCN Red List use this quantitative approach, and both are widely accepted by conservation scientists. ESA listing decisions should also clearly describe the main basis for using a particular time horizon (e.g., threat projections, population viability analysis).

- We recognize that adopting the IUCN time horizons for extinction—which range from 10 years/three generations for “critically endangered” to simply 100 years for “vulnerable”—may at times be inconsistent with FWS’s interpretation that the foreseeable future be based on reliable predictions. Projections to 100 years, for example, are reliable for some species but not others. In practice, it appears that whenever the agencies have quantified the foreseeable future, many of those time horizons are under 50 years. For example, a study that evaluated all listing decisions from 2004 to 2009 found that 21 decisions explicitly defined and quantified foreseeable future, and the following pattern:

Using midpoints for values with ranges, the average analytic time horizon was 42 years (median = 32, standard deviation [SD] = 24.5) and the average number of generations analyzed

was 13 (median = 10, SD = 10.9). Using maximum values for values with ranges, the average analytic time horizon was 47 years (median = 32, SD = 31.1) and the average number of generations analyzed was 15 (median = 10, SD = 12.5).<sup>iii</sup>

- The agencies should propose an approach for deciding how much uncertainty in projections is too much. There are well-tested approaches for uncertainty analysis from the risk assessment literature, especially for human health. Under the ESA, the agencies could conclude, for example, that a 40% or greater confidence in projections would meet their standard of reliability for the foreseeable future analysis. Because most species face multiple threats, each of which might have its own time horizon for reliable projections, the agencies would have to weigh the significance of each threat in deciding the overall time horizon to use in their foreseeable future analysis.

- A complementary approach is to clarify that the agencies will default to time horizons widely used in extinction risk assessments for a particular taxonomic group. NMFS did this in its analysis for the Alabama shad that determined it was not an endangered or threatened species:

*“The timeframe of three generations is widely used to assess trends in populations and has been applied to decision-making models by many other conservation management organizations, including the American Fisheries Society (AFS), the Convention on the International Trade in Endangered Species of Wild Flora and Fauna (CITES), and the International Union for Conservation of Nature (IUCN).”<sup>iv</sup>*

There is some tension between this approach and the caution in the 2009 FWS opinion about not using an “arbitrary” default timeframe: a widely-used time horizon may still be unreliable by FWS’s standards. The agencies can address this tension if they were to determine at the outset whether the default used by a scientific body allows for reliable projections. The decision on the Alabama shad implied that three generations is, at a minimum, reliable for many species of fish subject to managed harvests. We think that for many species, reliable projections can be made well beyond three generations.



Gunnison prairie dog, for which the FWS used 35-years as the foreseeable future. Tonie Rocke, USGS.

efficiency and speed of listing, downlisting, uplisting, and delisting decisions, and provide the public with greater predictability about future decisions. In many cases, greater predictability should lead to a greater willingness on the part of land managers to voluntarily invest in recovery actions.



Pinckney Island prescribed burn to improve wildlife habitat. Rob Wood, FWS.

- We support the use of climate and population models in the foreseeable future analysis. The public, however, can sometimes find it challenging to understand how the agencies consider model outputs in ESA decisions. This is particularly true for modeling exercises that involve high uncertainty, such as the downscaled effects of climate change on poorly-studied species. To provide the public with greater transparency and to improve consistency in the use of models in listing decisions, the agencies should provide guidance on how those decisions will consider model results. For example, a qualitative weight-of-evidence framework could vastly improve the transparency and quality of listing decisions involving model outputs. That framework would not necessarily be difficult for the agencies to implement, as weight-of-evidence approaches are commonly used in human health and other ecological risk assessments.

Clarifying the definition of foreseeable future is a step in the right direction, but there remain other phrases in the definitions of threatened and endangered that are ambiguous and implemented inconsistently. Examples include the definition of “significant portion of its range” and the meaning of “likely” to be endangered. In the near future, the agencies should consider clarifying all the key phrases in the definitions of threatened and endangered. Doing so would improve the

## SECTION 4(D) RULES

For all future listings, FWS is proposing to no longer extend by default the full section 9 protections for endangered species to threatened species, which has always been NMFS's approach. Instead, any section 9 protections for threatened species must come from a 4(d) rule written specifically for the species. In the last decade, FWS has been issuing these "special" 4(d) rules for more and more of its threatened animal listings—a trend that is very likely to continue. So the effects of FWS's proposed change are limited to those species that would not have been covered by a special rule.<sup>v</sup>

If properly implemented, the withdrawal could lead to conservation outcomes that are comparable to FWS's past practice under the general 4(d) rule, while reducing opposition to certain listing decisions and even encouraging certain recovery actions. Proper implementation, however, depends on several factors.



Federal biologists survey for endangered bog turtles. FWS.

- *Provide defensible, consistent, and science-based distinctions between threatened and endangered species.* The ESA's reduced protections for threatened species assumes that FWS correctly classifies species as threatened or endangered. FWS has improved its classification process over the years, but has yet to adopt a quantitative or semi-quantitative classification system that would vastly improve the consistency, predictability, objectivity, and defensibility of listing decisions. FWS should pursue those improvements as it seeks to reform the 4(d) program. Further, some FWS decisions to list species as threatened rather than endangered seemed motivated in significant part by

the desire to minimize political controversy. Addressing that problem is central to garnering greater public support for shifting to a species-specific approach to 4(d) rules.

- *Issue national policy or guidance on 4(d) rules.* We urge FWS to begin developing national guidance on when and how to develop species-specific 4(d) rules. Those rules have increasingly allowed a variety of activities to proceed without requiring a section 10 incidental take permit. Section 10 permitting, however, is covered by comprehensive guidance including a Habitat Conservation Plan Handbook that exceeds 400 pages and a recently revised policy on candidate conservation agreements with assurances. By contrast, 4(d) rules are not covered by any national policy or guidance, even though they also allow potentially harmful activities to proceed. The result has been inconsistencies in the contents of 4(d) rules, generating controversy, litigation, and lost conservation opportunities on some of those rules. FWS can begin solving these problems by drafting national guidance on 4(d) rules, which will provide great value within and outside the agency regardless of whether the general rule is withdrawn. FWS should also offer the draft policy or guidance for notice and comment to seek input on contents for the document.

- *Focus 4(d) prohibitions on activities that meaningfully impede recovery.* By excluding activities with beneficial, neutral, or trivial effects on extinction risk or recovery likelihood, FWS can reduce its section 10 permitting workload, allowing the agency to focus its limited resources on other activities with a higher return on investment. FWS could even reduce its section 7 workload by eliminating the need to issue incidental take coverage for exempt activities that result in beneficial, neutral, or trivial effects (although the jeopardy/adverse modification analysis is still needed). To ensure that avoidance and minimization measures are not lost under this approach, a 4(d) rule should specify those measures. Some NMFS 4(d) rules already prescribe detailed avoidance and minimization measures, and can serve as good models for FWS.

- *Offer greater consistency to incentivize conservation by private landowners.* An exclusion for activities with beneficial, neutral, or trivial

effects is particularly important for private working lands: ranches, farms, and forests. Those land exclusions should include activities already covered by existing conservation plans that explicitly further recovery or achieve a net conservation benefit, such as safe harbor agreements, Working Lands for Wildlife and related USDA programs, and habitat conservation plans that explicitly further recovery or achieve a net benefit. If FWS is clear on which programs or initiatives would qualify for such 4(d) exclusions, it would create a stronger incentive for private landowners and others to enroll in conservation plans that are likely to qualify for current or future 4(d) exemptions.

- *Incorporate adequate avoidance, minimization, and/or offset measures in a 4(d) rule.* Most 4(d) rules do not include such requirements, thus potentially setting a lower standard for conservation than if the section 10 “minimize and mitigate to the maximum extent practicable” requirement were to apply. To address this shortfall, a 4(d) rule can either specify those conservation measures or require qualifying activities to participate in conservation programs created by other entities such as states or conservation organizations. The 4(d) rule for the California gnatcatcher uses this approach.

- *Standardize the agencies’ 4(d) analysis.* NMFS has drafted all of its 4(d) rules to offer the full protections of section 9 unless an activity is specifically exempted. This forces the agency to think through each exemption it deems appropriate while minimizing the risk that it inadvertently exempts an activity that it should have regulated under section 9. FWS should consider adopting this approach.

- *Draft 4(d) rules concurrent with the listing decision.* For many newly-listed species, delays in section 9 coverage could impede their recovery or create lost opportunities for conservation (e.g., delays in pursuing habitat conservation plans because of uncertainty about whether the take prohibition would apply). To eliminate this problem, we strongly encourage FWS to finalize a 4(d) rule by the time it finalizes the listing decision for the covered species. FWS can use the species status assessment and other documents from the listing analysis to inform the types of activities covered by the 4(d) rule. In the past, the agency

was often able to issue a 4(d) rule concurrent with a listing rule.

These are most of the factors we think need to be implemented in order for FWS’s proposed change to align with the conservation purposes of the ESA.



Louisiana black bear, a species that was covered by a species-specific 4(d) rule and that has successfully recovered. FWS.

## CRITICAL HABITAT DESIGNATIONS

### Section 4(b)(2) Exclusion

We understand that the agencies will likely propose to automatically exclude areas from critical habitat if the benefits of exclusion outweigh the benefits of inclusion. We encourage this approach if it will advance recovery, meaning that a species is better off under this approach than if it were subject to the destruction or adverse modification analysis under section 7. This outcome is possible if the mandatory exclusion incentivizes enrollment in voluntary conservation programs that offer better outcomes for species than those achievable through the adverse modification analysis. In many section 10 conservation plans, the combination of avoidance, minimization, and offsets likely exceeds those resulting from the adverse modification prohibition, which studies show does not appear to play a central role in many consultations.<sup>vi</sup> One way to encourage greater enrollment in these plans is to exclude enrolled areas from critical habitat designation.

To help ensure that mandatory exclusions, in fact, generate better outcomes for recovery, the agencies should clarify that the exclusion applies to agreements that (1) are explicitly designed to advance recovery or achieve a net benefit for conservation and (2) are demonstrating that they are meeting the agreement's conservation goals. The first criterion should cover safe harbor agreements, candidate conservation agreements with assurances, habitat conservation plans with a recovery-based standard, federal land management plans that make a net contribution to recovery, and other similar plans that specify a recovery or net conservation benefit standard. The second criterion will help ensure that agreement participants diligently implement effective conservation measures.

### Designation of Unoccupied Habitat Relative to Occupied Habitat

In 2016, the agencies revised their critical habitat regulations, abandoning their longstanding approach of “first designating all occupied areas that meet the definition of critical habitat (assuming that no unoccupied habitat is designated) and then, only if that is not enough, designating essential

unoccupied habitat.” The reasons for this reversal included accommodating “instances in which particular unoccupied habitat is more important to the conservation of the species than some occupied habitat” and avoiding “a designation that is geographically larger but less effective as a conservation tool.”



White River beardtongue, a species for which FWS had proposed critical habitat only to withdraw the proposal a year later. FWS.

We understand that the agencies may propose reverting to the pre-2016 approach to designations. We believe, however, that the 2016 rule, if properly implemented, allows the agencies the greatest flexibility to delineate critical habitat in ways that maximize recovery potential while minimizing the regulatory burden to landowners. It makes little sense to force the agencies to designate a parcel of occupied habitat if there is unoccupied habitat that holds greater potential for recovery and less potential for conflict with landowners. One concern we have seen with the 2016 rule is the fear that the agencies will designate vast acres of unoccupied critical habitat. Although we believe this fear does not reflect the practice of critical habitat, we also suggest the agencies minimize this fear by providing guidance on the factors they would consider when deciding whether to designate unoccupied habitat before all occupied habitat is designated. Factors to consider might include receptivity to designation on the part of a landowner or whether designating the unoccupied habitat provides a higher ratio of conservation benefit to regulatory cost on landowners than designating occupied habitat.

## SECTION 7 CONSULTATIONS

### Definition of “Destruction or Adverse Modification”

We understand that the agencies may propose to redefine “destruction or adverse modification” after having already done so in 2016. Several aspects of the definition could still benefit from greater clarity. One is how the agencies determine whether an alteration “appreciably diminishes” the value of critical habitat. Law professor Dave Owens has written the best article on this issue and suggested solutions to this problem of regulating “small harms,” but the agencies left the issue unaddressed in the 2016 rulemaking.<sup>vii</sup> We expect little to no enthusiasm on their end to address the issue in the upcoming proposal.

More likely, the agencies will reopen the issue of the geographic scale of the adverse modification analysis, as this issue seems to have caused the most concern within the regulated community. Public comments in the 2016 rulemaking generally came down on this issue in one of two opposing ways: request for the agencies to write into the rule their longstanding practice of analyzing adverse modification at the scale of the entire critical habitat designation, and request to do so at the smallest scale relevant to determining whether the species has met its recovery criteria. Not surprisingly, the agencies went with the former, explaining that “[b]ecause the existing consultation process already ensures that destruction or adverse modification of critical habitat is analyzed at the appropriate scale, the Services decline to include language referring to determinations based on critical habitat ‘as a whole’ in the definition of ‘destruction or adverse modification.’”

The agencies’ explanation, while unsatisfactory, is sensible *in theory*. Unfortunately, the gap between ESA in theory and in practice is often enormous. Because recovery occurs at the species-wide scale, it is reasonable to assume that the adverse modification analysis should also occur at that scale. But in practice, we see little evidence of the agencies’ ability to determine whether any particular alteration—when combined with all past alterations that affect the species—appreciably diminishes the conservation value of critical habitat

for the species. The primary reason is that the agencies have yet to develop an official system to track the cumulative effects of past disturbances on a species’ recovery prospects. For example, there is no nationwide system to track the amount of authorized incidental take for most species, as documented in a 2009 Government Accountability Office report.<sup>viii</sup> This problem is tantamount to an airline that continues to sell tickets without knowing how many it has sold. And even when agency biologists track cumulative incidental take through informal methods, there is little evidence of widespread use of this information to inform the jeopardy/adverse modification analysis.<sup>ix</sup> Without a process to track cumulative incidental take *and* other alterations to critical habitat, the agencies lack the context to properly determine whether a particular alteration diminishes the value of critical habitat for recovery. For this reason, we believe that analyzing adverse modification based on critical habitat “as a whole” is simply unworkable at this moment. The agencies should thus focus the adverse modification inquiry at smaller geographic scales that are actually manageable for them to analyze. Appropriate scales include individual critical habitat units, recovery units (where available), and units in species conservation plans.

If the agencies insist on analyzing adverse modification at the broadest scale possible, they need to develop systems to monitor the status of critical habitat and describe the implications for recovery. Fortunately, the technology exists to do that today. Databases to track incidental take can be developed for a very low cost, and satellite imagery allows the agencies and conservationists to track many types of habitat disturbances.<sup>x</sup> The agencies can enable the public to help with compliance monitoring by posting online all biological opinions and other permitting documents.

The worst outcome in the upcoming rulemaking is for the agencies to include language referring to “as a whole” while failing to build the decision support tools we describe above. That outcome equates to continuing to spend millions of dollars to designate critical habitat that offers few concrete benefits for conservation. It is little wonder that former U.S. Fish and Wildlife Service director Dan Ashe remarked that, for critical habitat, the juice often isn’t worth the squeeze.



Indiana bat, one of the most frequently consulted on species. FWS.

### Deadline for Informal Consultation

Each of the agencies has a system for tracking the duration of informal consultations, from *official* start to finish. The regulated community, however, correctly observes that many informal consultations far exceed the official timeframes because the agencies do not systematically track the time spent on surveys, discussions, planning, and other work that precedes the official start. Further, there is no overall timeframe for the informal consultation process, although certain aspects do have deadlines (e.g., submission of biological assessment). In 2008, the agencies finalized a rule that, among other things, set a 60-day deadline (with a 60-day extension) to respond to requests for concurrence with a “not likely to adversely affect” finding. Still, the agencies did not propose a timeframe for the entire informal consultation process, and the rule was rescinded in 2009.

Before the agencies propose any deadlines on the informal consultation process, they should explain the exact problem they are trying to solve. For all FWS consultations from 2008 through June 2018, the official median duration is 13 days, with 92% of all informal consultations reported as completed in 56 days or less.<sup>xi</sup> Thus, most FWS informal consultations should have had few problems

meeting the 60-day deadline from the 2008 rule. On the other hand, some informal consultations are prolonged because they involve highly complex facts or because action agencies have not provided enough information for the agencies to concur. Using a deadline to terminate the consultation in those situations is not necessarily useful for conservation or efficiency, as the agencies may simply choose to not concur rather than continue to work with an action agency to find a mutually acceptable outcome. Further, setting a strict deadline based on the date of concurrence does little to improve the efficiency of the surveys, discussions, planning, and other work that precedes the request for concurrence. To address some of the concerns with the informal consultation process, we suggest the agencies consider the following,

- Set an internal policy (1) to respond to a request for concurrence within a specified timeframe, (2) to elevate the consultation to the attention of field office or regional office leadership if that timeframe is not met, and (3) to set a timeframe for leadership to respond to the action agency with a proposal to conclude the consultation within a reasonable timeframe.
- Establish annual performance metrics that include the timeliness of informal consultations based on the timeframe described above.
- Revise the Section 7 Handbook to set clear standards on the contents of pre-consultation material, so that action agencies and their applicants have clearer expectations about how much information they need to provide for informal consultation. The same goals can be accomplished with informal consultation keys, which FWS has finalized for a minority of species including wood stork and Florida panther.

These three recommendations are a starting point for helping to alleviate some of the legitimate concerns about the informal consultation process while allowing the agencies to further articulate any systematic concerns they identify with the process.

## CONCLUSION

We believe that every presidential administration offers opportunities to advance the goals of the ESA. The upcoming ESA rulemaking appears to focus on improving regulatory efficiency and predictability, and addressing one frequent point of controversy in the listing process. These goals are not inherently contrary to conservation and, if properly executed, can help alleviate the growing resource challenge with the ESA and improve sociopolitical support for the law without undermining species recovery. After the proposed regulations and policies are released, we will provide more detailed perspectives on them.

<sup>i</sup> Regan, T.J., Taylor, B.L., Thompson, G.G. *et al.* (2013). Testing decision rules for categorizing species' extinction risk to help develop quantitative listing criteria for the U.S. Endangered Species Act. *Conserv. Biol.*, 27, 821-831.

<sup>ii</sup> U.S. Department of the Interior (2009). The Meaning of "Foreseeable Future" in Section 3(20) of the Endangered Species Act. <https://www.fws.gov/endangered/esa-library/pdf/M-37021%20Foreseeable%20future.pdf>

<sup>iii</sup> D'Elia, J., McCarthy S. (2010). Time horizons and extinction risk in endangered species categorization systems. *BioScience* 60, 751–758.

<sup>iv</sup> National Marine Fisheries Service (2017). Endangered and Threatened Wildlife and Plants: Notice of 12-Month Finding on a Petition To List Alabama Shad as Threatened or Endangered Under the Endangered Species Act. 82 Fed.Reg. 4022 (Jan. 12, 2017).

<sup>v</sup> Li, Y-W. (2017). Section 4(d) Rules: The Peril and the Promise. Defenders of Wildlife.

<https://defenders.org/sites/default/files/publications/section-4d-rules-the-peril-and-the-promise-white-paper.pdf>

<sup>vi</sup> Owen, D. (2012). Critical Habitat and the Challenge of Regulating Small Harms, 64 Fla. L. Rev. 141, 173-74 (2012) (finding that the adverse modification prohibition had subtle effects on modifying proposed projects). Malcom, J.W., Li, Y-W. (2016). Data Contradict Common Perception about a Controversial Provision of the U.S. Endangered Species Act, 112 Proc. Nat'l Acad. Sci. 15,844 (finding only one biological opinion with adverse modification out of 88,290 FWS consultations from 2008-2016).

<sup>vii</sup> Owen, D. (2012). Critical Habitat and the Challenge of Regulating Small Harms.

<sup>viii</sup> United States Government Accountability Office (2009). The U.S. Fish and Wildlife Service Has Incomplete Information about Effects on Listed Species from Section 7 Consultations. <https://www.gao.gov/new.items/d09550.pdf>

<sup>ix</sup> Evansen M., Li Y-W., Malcom J. (2017). Same law, different results: comparative analysis of Endangered Species Act consultations by two federal agencies. <https://www.biorxiv.org/content/early/2017/07/19/165647.full.pdf> (finding that all seven agencies biologists "interviewed except one mentioned that they keep a record of cumulative incidental take to the best of their ability. The method of recording authorized take varied from notes kept on a whiteboard to Excel spreadsheets. However, only three consultations (all from NMFS) received a positive score for incorporating previously authorized take in the analysis of the effects of the current action on sea turtle populations.")

<sup>x</sup> Evans, M., Li, Y-W. (2017). Monitoring Habitat Loss for Endangered Species Using Satellite Data: A Case Study of the Lesser Prairie-Chicken. [https://cci-dev.org/analysis/LPC\\_delisting/](https://cci-dev.org/analysis/LPC_delisting/). Covington, R., Malcom, J., Li, Y-W. (2016). Working paper: Habitat changes in designated critical habitat, 2001-2011. [https://cci-dev.org/shiny/open/CH\\_changes\\_overview\\_v0-1.htm](https://cci-dev.org/shiny/open/CH_changes_overview_v0-1.htm).

<sup>xi</sup> [https://cci-dev.org/shiny/open/section7\\_explorer/](https://cci-dev.org/shiny/open/section7_explorer/)

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