



CONSERVATION

Species protection will take more than rule reversal

Key improvements are needed for implementation of the Endangered Species Act

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Species are disappearing at an alarming rate, with global estimates of about a million species facing extinction (1). The Endangered Species Act (ESA), the primary—and often only—means in the United States to prevent extinctions, is justly celebrated as perhaps the strongest model for endangered species protection worldwide. Since its adoption, however, the ESA has faced unabated controversy because it can restrict economic activities and because its implementation often appears inconsistent. With the explicit goal of reducing “unnecessary regulatory burdens,” the Trump administration in 2019 finalized the most comprehensive changes in more than two decades to the regulations that implement the ESA (2). Some of the changes will make it harder to protect species and their habitats; none will directly further the Act’s goal of recovering species. For example, the changes limit the government’s ability to protect habitat that species need to adapt to climate change (3) and make it harder for the public to hold the federal government accountable for activities that further imperil species (4). Opposition to the changes was swift and

ardent among many environmentalists, scientists, and the public. Opposition to the administration’s changes, however, should not overshadow the need for improvements to how the ESA is administered to make it more effective. Simply revoking recent changes will not solve these underlying problems.

Without deeper reforms to address underlying problems, implementation of the ESA by the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) (“the Services”) will remain ad hoc and insufficiently explained (5). This ambiguity invites political intervention that undercuts species protection and public confidence in ESA decisions, triggers litigation that is costly for all parties, and polarizes the law. Finding solutions to these problems could lead to broad bipartisan initiatives to stem biodiversity loss and to increase funding for the ESA by reauthorizing the law.

DEFINING THE “FORESEEABLE FUTURE”

One of the controversial revisions pertains to how the Services determine the “foreseeable future,” which is used to decide whether species merit listing as “threatened” under the ESA. The law recognizes two levels of threat: Species may be “endangered”—that is, presently in danger of extinction—or

The 2017 decision to not protect the Pacific walrus (shown) was based on projections to only 2060, despite a 2012 decision to protect the Arctic ringed seal that looked out to 2100.

“threatened,” which means likely to become endangered in the “foreseeable future.” In 2009, the Services first articulated their understanding of the term “foreseeable future,” declaring that it covers the time frame over which predictions of the extent of threats and their impact on species are “reliable” (6). The new regulations provide that the foreseeable future “extends only so far into the future as the Services can reasonably determine that both the future threats and the species’ responses to those threats are likely.” The agencies’ explanation “clarifies” that “likely” means “more likely than not.” Thus, whether this new definition will change established practice turns on the difference, if any, between whether predictions of the future are “reliable” or “likely.” The Services claim that there is no difference, whereas many environmentalists see an intent to ignore climate change impacts on species (7).

Whatever the linguistic change means, the underlying problem of inconsistent and inadequately explained treatment of the foreseeable future remains. The Services have applied notably different interpretations to species facing similar threats. When NMFS listed the Arctic ringed seal (*Phoca hispida hispida*) in 2012, for example, it estimated the threat of reduced sea ice and snow cover out to the year 2100, stating that it was able to “reliably” forecast ~90 years into the future on the basis of models of how global greenhouse gas levels would affect the Arctic environment (8). But when FWS declined to list the Pacific walrus (*Odobenus rosmarus divergens*) in 2017 in the face of similar threats, it limited its evaluation to 2060 because it considered any conclusions beyond that date to be “based on speculation, rather than reliable prediction” (9). The Services did not articulate any difference in the natural histories of the seal or walrus that could justify this difference. The state of Alaska has petitioned NMFS to remove the Arctic ringed seal from the endangered species list in part on the basis of this discrepancy (10).

Courts and researchers also have expressed concerns about inconsistencies or arbitrariness in how FWS has interpreted the “foreseeable future” (11, 12). For example, when a court rejected FWS’s listing of the

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northern long-eared bat (*Myotis septentrionalis*) as threatened instead of endangered, the agency did not dispute that its evaluation of threats, which extended only 8 to 13 years into the future, was an irrational approach to interpreting the foreseeable future (13). The new foreseeable future definition does not fix these problems, but neither will restoring the prior one.

What is required is consistency and transparency. That will come only if the Services issue guidance that will both hold them accountable and explain the principles that motivate their decisions. Such guidance should ensure, for example, that projections about both the geophysical aspects of climate change and their effects on species are consistent across comparable situations. Once NMFS concluded that the extent of sea ice loss was reliably foreseeable to 2100, any conflicting decisions should explain why that conclusion was wrong or why it merits revision in light of new data. Given that 2100 is embedded in many of the global climate projections constructed by the Intergovernmental Panel on Climate Change, we suggest this date as a conservative starting point for assessing species vulnerable to climate change. Although climate change could affect individual species differently, the Services should clearly explain the evidence for these varied effects and the justification for differential treatment.

EXPLAINING DISCRETION

The key protections of section 9 of the ESA apply only to endangered species, not threatened species. Protections include restrictions on importing endangered species into the United States, trafficking in them or their parts, and harming or harassing endangered animal species by other means, including habitat destruction. For threatened species, Congress gave the Services the authority to decide on a species-by-species basis which protections to apply. FWS has long extended by default the full protections of section 9 to all threatened species while retaining discretion to modify those protections on a species-by-species basis through a special rule issued under section 4(d) of the ESA. The recent regulatory revisions withdrew those default protections for future listings, requiring FWS to issue a 4(d) rule whenever it seeks to extend any protection to those species and aligning the agency's approach with that of NMFS, which has never extended default protection to all threatened species. Despite this reversal in FWS policy, the agency is still able to offer threatened species as many or as few protections as it deems necessary for conservation—as has always been the case.

The problem is that the Services have never issued clear guidance on how they will exercise this discretion, nor have they ad-

equately explained their choices. Under the ESA, the Services “may” offer threatened species none, some, or all of the section 9 protections. In the context of agricultural activities, for example, FWS offered the Gunnison sage-grouse (*Centrocercus minimus*) full protections. By contrast, the 4(d) rule for the related lesser prairie chicken (*Tympanuchus pallidicinctus*) exempted all routine agriculture on cropland maintained in cultivation (14). The agency may have had valid reasons for this discrepancy, but they have never publicly explained those reasons. Exemptions in 4(d) rules thus often appear as ad hoc decisions influenced by political pressure to minimize regulatory impacts of listing a species. This concern can trigger litigation from conservation groups, resulting in further controversy and expenditure on lawsuits.

The Services should develop policy that resolves key issues pertaining to protection of threatened species through 4(d) rules. That policy should directly address the question that they have long ducked: What protections meet the ESA's standard of being “necessary and advisable” to conserve threatened species? Having a policy that states the relevant principles would limit the Services' tendency to bow to political pressures, creating an ad hoc patchwork of protections. It could also help assure landowners that voluntary efforts at conservation will not bring a heavy regulatory crackdown. At a minimum, activities that would undercut a species' recovery should be regulated through 4(d) rules, and activities that promote recovery should be strongly considered for exemption. An example is the recent 4(d) rule for the Louisiana pine snake (*Pituophis ruthveni*), which exempts forestry activities that improve the snake's habitat but regulates intensive mechanical forestry practices that can degrade that habitat (15). Second, the Services should commit to finalizing the protections that a threatened species needs when it is listed, unless there is substantial uncertainty about whether the protections will benefit the species. By addressing these and other basic issues, the agencies can help ensure that protections for threatened species are adequate and predictable.

NEW APPROACHES

The improvements above focus on issues that are addressed in the recent rulemaking and that can be addressed without legislation, but other reforms also deserve priority. For example, in 2016 FWS developed a plan to address its backlog of decisions on whether to list hundreds of species under the ESA. FWS will need to diligently implement the plan to reduce litigation over delayed listing decisions—something it has so far failed to do, partly because of political intervention.

A new regulatory and funding package for working with private landowners to conserve imperiled species, including dedicated staffing for ESA voluntary conservation initiatives and tax benefits for easements and donations of private land for rare-species conservation, would unlock recovery opportunities for many species that rely on private lands. Conservation on federal lands could benefit from legal incentives for federal agencies to carry out actions that go beyond the minimum required by the ESA, such as rewarding agencies with greater management flexibility when they help a species exceed its recovery milestones. A new wildlife data and technology initiative could bring ESA implementation into the 21st century by taking advantage of open and machine-readable data, remote sensing data, and other technological innovations to help monitor species and their habitats. Such advances offer some of the best opportunities to understand how climate change will affect the nearly 2400 species protected by the ESA.

To keep pace with our biodiversity crisis, the ESA will need to go well beyond the status quo. Let the current controversy over the revised regulations serve as the starting point to finding meaningful solutions and having deeper discussions of what must be done to conserve imperiled species in the United States and elsewhere. The passage of the Great American Outdoors Act reminds us that conservation can still be a bipartisan issue. The reforms we suggest could help bring us closer to consensus on the ESA. ■

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