

RFF REPORT

Comments on Draft Methodology for Prioritizing Status Reviews and Accompanying 12-Month Findings on Petitions for Listing under the Endangered Species Act

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US Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

RE: Comments on Draft Methodology for Prioritizing Status Reviews and Accompanying 12-Month Findings on Petitions for Listing under the Endangered Species Act¹

As a Fellow at Resources for the Future (RFF), I am pleased to offer the attached comments to the US Fish and Wildlife Service (FWS) on its Draft Methodology for Prioritizing Status Reviews and Accompanying 12-Month Findings on Petitions for Listing under the Endangered Species Act (ESA).

As you may know, RFF is a nonprofit and nonpartisan organization that conducts independent research—rooted primarily in economics and other social sciences—on environmental, energy, and natural resource policy issues. RFF neither lobbies nor takes positions on specific regulatory proposals, although individual researchers are encouraged to express their unique opinions— which may differ from those of other RFF experts, officers, and directors.

As always, the goal at RFF is to identify the most effective ways—from an economic perspective—to meet environmental objectives through regulation, policy, or market mechanisms. To that end, I have been working with colleagues across disciplines and institutions to assess strategies for increasing the effectiveness of ESA implementation. In addition, I conduct research across diverse systems aimed at designing cost-effective resource investment targeting to best achieve conservation objectives. The comments attached are my own and I hope they are useful for the development of the final guidance document. Please feel free to contact me directly with any questions.

Sincerely,

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¹ This report has been lightly edited for readability and varies insubstantially from what was submitted to FWS during the public comment period.

A prioritization approach for status reviews and accompanying 12-month findings is needed because the number of species requiring these evaluations exceeds the available resources for their timely assessment. The draft methodology identifies five bins for prioritizing species for future status assessments and 12-month findings: 1) Highest Priority—Critically Imperiled; 2) Strong Data Already Available on Status; 3) New Science underway to Inform Key Uncertainties; 4) Conservation opportunities in development or underway; and 5) Limited data currently available. The methodology also identifies “Additional Considerations” for informing prioritization implementation, development of the National Listing Workplan, and internal ranking within each bin. This prioritization will feed into a multi-year National Listing Workplan for completing all types of listing-related actions, including status reviews and accompanying 12-month findings, status reviews initiated by the FWS, proposed and final listing determinations, and proposed and final critical habitat designations.

Development of a prioritized National Listing Workplan will increase transparency and predictability, and also may enhance public engagement in pre-listing conservation and data collection. I am very supportive of the efforts of the FWS to be more systematic and transparent in its prioritization of resource allocation, as this is likely to increase effectiveness and efficiency if well-conceived.

There are several means by which the draft prioritization strategy can be assessed, including based on the expected value of benefits or on the robustness to “bad” outcomes (i.e., likelihood of avoiding bad outcomes). My assessment finds that the proposed prioritization strategy is a huge improvement relative to the status quo—no systematic prioritization—by both of these metrics. In fact, I find that the proposed strategy successfully captures many of the key guidelines suggested by a conservation return on investment (ROI) framework, as I describe below.

I evaluate the strategy in terms of a conservation ROI framework, because the draft methodology roughly seeks to prioritize actions in order to maximize expected benefits subject to resource constraints. A conservation ROI framework prioritizes investments to achieve the greatest benefits for a given total level of investment, and often has been used for prioritizing land protection over time, investments in conservation actions, and so on.² In relatively simple contexts, benefits can be maximized by first investing in the action with the highest ratio of benefits to costs, and then continuing to select actions in order of decreasing benefit–cost ratios.

Unfortunately, prioritizing status reviews and accompanying 12-month findings (henceforth, reviews/findings) is more complicated, due to the substantial and variable uncertainties in species’ statuses, the dynamics of species statuses over time, and the difficulty in articulating specific benefit measures in this context. The draft states that the methodology “...incorporates numerous objectives—including acting on the species that are most in need of, and that would most benefit from, listing under the Act first, and maximizing the efficiency of the listing program.”

Hence, I coarsely evaluated the draft prioritization with respect to an overarching objective of preventing species extinctions while also minimizing incorrect reviews/findings, given available resources. I have not considered other economic criteria, such as the impact of a listing decision or delayed listing decision on stakeholders.

More specifically, an articulation of benefits may find that “correct” assessments have a positive value and that “incorrect” assessments (due to status uncertainty) have a negative value. Furthermore, a “correct” assessment will have the greatest value for species that will receive the greatest conservation gains from being listed. The

² Boyd, J., R.S. Epanchin-Niell, and J. Siikamäki. 2015. “Conservation planning: A review of return on investment analysis.” *Review of Environmental Economics and Policy* 9(1): 23-42.

effect of a review/findings delay (i.e., lower priority) will vary across species. For some species, delay will increase the likelihood of a “correct” decision. For others, delay may increase or decrease species imperilment (e.g., due to pre-listing conservation investments or due to unabated threats).

Given, this, and holding costs of review/findings equal across species, species with higher potential gains from listing should be prioritized first for review/findings. This corresponds to species with greater expected imperilment, lower status uncertainty, higher potential gains from listing, and lower likelihood for positive status change without listing. This roughly corresponds with the draft prioritization. Thus, the FWS strategy roughly follows the intuition provided by the benefits components in an ROI framework—an approach likely to provide more cost-effective resource allocation. However, missing from this is consideration of the costs. These are primarily addressed in the Additional Considerations portion of the draft methodology. I suggest the following considerations and clarifications.

Bin 1: Highest Priority—Critically Imperiled.

Within this, prioritize species that will most benefit from listing and require the least resources/time to complete reviews/findings.

The draft prioritization states that “Species that are critically imperiled and need immediate listing action in order to prevent extinction will be given highest priority.” I agree with this, as this category of species will benefit most from listing and have the lowest likelihood of an incorrect decision. The high benefits of reviews/findings in this category will correspond to a high benefit–cost ratio, all else equal.

However, it is worth noting that some species within this category are likely to benefit more or less from listing, depending on their conservation needs, conservation funding availability, and presence of public versus private lands. In addition, they may vary greatly in the cost of reviews/findings. These factors, which are alluded

to under Additional Considerations, should help prioritize within this category.

Bin 2: Strong Data Already Available on Status. *Within this, prioritize species that are most imperiled.*

The availability of strong data both decreases the likely cost of the review/findings and increases the likelihood of a correct findings decision. As such, this category also is likely to have a high benefit–cost ratio. However, the benefits of review/findings for species within this category will likely be higher for species that are imperiled than those that are secure. As such, species likely to be found imperiled within this category should be prioritized before those likely to be found to be secure.

Bin 3: New Science underway to Inform Key Uncertainties. *Here, key uncertainties should be about a species’ degree of imperilment and the science underway should have substantial potential for affecting the 12-month findings.*

Awaiting new information about a species status may increase the likelihood that a “correct” finding is made. This bin should make clear the type of data, uncertainties, or ongoing studies that would place a species in this bin. It seems that species should only be placed in this bin if the uncertainty that will be reduced relates specifically to whether the species is imperiled or not, and that the reduction in uncertainty would be likely to shift the 12-month findings.

Bin 4: Conservation Opportunities in Development or Underway. *If species matching this bin otherwise might fit in Bins 1 or 2, placement in this bin should only be made after assessing that the conservation actions would likely shift the 12-month findings. Alternatively, this bin might be more relevant for prioritizing species at a later listing stage.*

Pre-listing conservation investments have substantial opportunity to reduce threats to species. Delaying reviews/findings may allow more opportunity for successful voluntary conservation and the potential to avoid the need to

list under the ESA. However, there may be situations where voluntary actions may not be able to achieve the needed level of conservation. If the species would otherwise fall in Bin 1 or 2, some level of assessment of the conservation potential of conservation opportunities should be made to determine which factors should take precedence in determining the species' bin. In addition, it is possible that a positive 12-month finding (i.e., that listings is likely warranted) might further enhance engagement in conservation opportunities, so long as the timing of the final listing decision allowed sufficient time for the conservation activities to be implemented and evaluated.

Bin 5: Limited Data Currently Available.

Revisit this bin regularly to consider species reclassification.

Species with limited data have the highest likelihood of “incorrect” reviews/findings, and thus the lowest value of completing a review/findings. Placement in this bin may encourage the initiation of necessary scientific studies to reduce uncertainty. This bin should be revisited regularly to determine if species should be moved to another bin.

Additional Considerations. *Clarification is needed on use of these factors.*

The four additional considerations outlined by FWS are as follows: 1) The level of complexity of the review/findings, such as controversy, biological complexity, and number of species covered or regions spanned; 2) the extent to which ESA protections would improve conditions for the species, its habitat, or other species; 3) whether efficiency can be maximized by batching species (i.e., conducting reviews/findings for a group of species simultaneously); and 4) other special considerations, such as highest priority reviews/findings being clustered in a geographic area, such that scientific expertise at the field office level is fully occupied with its existing workload.

The draft methodology does not make clear whether the additional considered factors will be used to increase or decrease the priority level. Increased complexity of a review/findings assessment in terms of biological complexity or controversy would likely increase the costs of the review/findings and eventual listing. This would decrease the benefit–cost ratio, reducing its priority in a conservation ROI framework. In contrast, a multi-species review could result in a lower per species cost, hence increasing the benefit–cost ratio, and increasing priority. Similarly, a higher ability for ESA protections to improve species conditions equates to higher benefits and, hence, higher prioritization. Batching may reduce the per species costs of review/findings, and therefore increase the benefit–cost ratio and priority. The fourth additional consideration addresses the budget constraint within a conservation prioritization framework.

Thus, ROI analysis suggests that priority should increase with

- decreasing complexity (i.e., time/resources to complete the review/findings);
- increasing benefits to the species from ESA protections; and
- increasing efficiencies resulting from batching or multi-species review/findings.

These additional considerations could shift priority of species across bins in a conservation ROI framework. For example, if a species is likely to be very costly in terms of time and resources to make a review/findings assessment, there could be gains from prioritizing other species whose decisions would require fewer resources because more review/findings could be completed sooner. Also, to the extent that responsibilities for individual species are tied to specific field offices and resources are non-fungible across offices, translation of species' prioritizations into a National Listing Workplan will need to account for office-specific resource constraints.

How the FWS will maintain flexibility in a National Listing Workplan to allow for species to be moved among bins as new data on species status or conservation efforts become available is unclear, although perhaps beyond the scope of the agency's prioritization methodology. In addition, it is not clear how the FWS will categorize species that fall into multiple bins (e.g., highly imperiled, but conservation underway). This should be more clearly addressed. Prioritization in the context of reviews/findings also necessarily depends on other prioritizations and decisions under the ESA. For example, the value of a 12-month finding depends on the time until a final listing decision will be made as well as the prioritization of recovery funding across species once a species is listed. These dependencies are likely too complex to address in the current methodology, but will be important to consider in the future.