



# United States Department of the Interior

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## Memorandum

To: Acting Director, U.S. Fish and Wildlife Service

From: Solicitor

Subject: The Meaning of "Foreseeable Future" in Section 3(20) of the Endangered Species Act

The Endangered Species Act (ESA) defines "threatened species" as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." 16 U.S.C. § 1532(20). Recently, there has been much discussion as to how the Secretary should address what the "foreseeable future" is in making listing determinations under section 4(a)(1) of the ESA. This memorandum is intended to provide prospective guidance as to how the Secretary can best explain how a determination under section 4(a)(1) addresses the concept of the foreseeable future. I conclude that, as used in the ESA, Congress intended the term "foreseeable future" to describe the extent to which the Secretary can reasonably rely on predictions<sup>1</sup> about the future in making determinations about the future conservation status of the species. Those predictions can be in the form of extrapolation of population or threat<sup>2</sup> trends, analysis of how threats will affect the status of the species, or assessment of future events that will have a significant new impact on the species. The Secretary's ability to rely on predictions may significantly vary with the amount and substance of available data.

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<sup>1</sup> In this memorandum, references to "reliable predictions" are not meant to refer to reliability in a statistical sense. Rather, I use the words "rely" and "reliable" according to their common, non-technical meanings in ordinary usage. Thus, for the purposes of this memorandum, a prediction is reliable if it is reasonable to depend upon it in making decisions.

<sup>2</sup> In this memorandum, I use the term "threat" to refer to factors that may have a negative impact on the status of the species. All of the factors listed in section 4(a)(1), 16 U.S.C. § 1533(a)(1), are potential "threats." As the potential threats are analyzed under 4(a)(1), a determination is made whether each one is significant enough to affect the extinction risk of the species given the substance and reliability of the data being analyzed and its impact on the species. In the foreseeable future and findings sections, the interplay between the various potential threats and the life history of the species are taken together to determine whether the species is an endangered species, a threatened species, or neither. I am expressly avoiding the use of the word "threat" to mean only those factors that are ultimately determined to cause a species to meet the definition of a threatened species. I find that such a use of the word is inconsistent with its normal meaning and it confuses the discussion of the subject at hand.

## I. Background

### A. The statute

The ESA, 16 U.S.C. § 1531 *et seq.*, was enacted in 1973 “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered species and threatened species.” ESA § 2(b), 16 U.S.C. § 1531(b). Once a species is listed as endangered or threatened, statutory prohibitions help provide for the survival and recovery of the species. *See, e.g.*, 16 U.S.C. § 1536(a)(2) (federal agencies’ duty to avoid jeopardizing the continued existence of listed species); *id.* § 1538 (prohibitions against take of endangered species, which also can be applied to threatened species, *see id.* § 1533(d)).

The statute defines an “endangered species” as “any species which is in danger of extinction throughout all or a significant portion of its range.” ESA § 3(6), 16 U.S.C. § 1532(6). A “threatened species” is “any species which is likely to become an endangered species *within the foreseeable future* throughout all or a significant portion of its range.” ESA § 3(20), 16 U.S.C. § 1532(20) (emphasis added). Neither the statute nor the applicable regulations define the term “foreseeable future.”

The ESA delegates the authority to determine whether to list a species as endangered or threatened to the Secretaries of Commerce and Interior.<sup>3</sup> Pursuant to section 4(a)(1) of the ESA, the Secretary determines whether a species is threatened or endangered because of one or more of five factors: (A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. 16 U.S.C. § 1533(a)(1). Collectively, this process is generally referred to as the “five-factor analysis.” The Secretary must make a determination regarding the listing status of a species “solely on the basis of the best scientific and commercial data available to him after conducting a review of the status of the species.” 16 U.S.C. § 1533(b)(1)(A). In addition, under 4(b)(1)(B) the Secretary is required to give consideration to species that have been designated as requiring protection from unrestricted commerce by a foreign nation, or pursuant to an international agreement or that have been identified as in danger of extinction, or likely to become so within the foreseeable future, by any State agency or by any agency of a foreign nation that is responsible for the conservation of fish or wildlife or plants.

### B. Legislative history

The ESA was preceded by the Endangered Species Conservation Act of 1969 (“ESCA”). Pub. L. No. 91-135, 83 Stat. 275 (1969). One of the purposes of Congress in passing the

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<sup>3</sup> At the Department of the Interior, the Secretary has delegated the listing determination to the Director of the Fish and Wildlife Service (FWS). Throughout this opinion, the reference to the Secretary applies to the FWS.

ESA was to cure the perceived defects of the ESCA, and one of those perceived defects was that the ESCA provided protection only to species already in danger of extinction worldwide. Thus, the ESA included a second category of protected species: threatened species.

The Department proposed a comprehensive overhaul of the ESCA in 1972. That proposal would have expanded the scope of species that could be listed to include species “either presently threatened with extinction or [that] will likely within the foreseeable future become threatened with extinction, throughout all or a significant portion of its range.” S. 3199 and H.R. 13081, 92d Cong. § 2(c)(1) (1972). These bills were not enacted. In 1973, the Administration again proposed bills with this same language. S. 1592 and H.R. 4758, 93d Cong. § 2(c)(1) (1973). Ultimately, the ESA as enacted included two statutorily defined terms with respect to the standard for listing species: “endangered species” and “threatened species.” Pub. L. No. 93-205, § 3(4), (15), 87 Stat. 884 (1973), *codified as amended at* 16 U.S.C. § 1532(6), (20). The definition of “threatened species,” quoted in the previous section, is slightly different from the language in the Administration’s original bills, but retained the “foreseeable future” language. Subsequent amendments to the ESA have not affected the definition of “threatened species.”

The committee reports for the various bills that led to the passage of the ESA emphasize the importance of the new “threatened” category: in both the House and Senate reports, extending protections to species that may become endangered in the future is the first item in the list of purposes of the legislation. H.R. REP. NO. 93-412 at 2; S. REP. NO. 93-307 at 3.<sup>4</sup> However, despite the importance that the Congress attached to the addition of the new threatened category, the committee reports provide only passing references to the “foreseeable future” language. The most substantive reference to this language was in a 1973 Senate report. This report suggests that “foreseeable future” is linked to the ability to forecast population trends:

The bill provides a broadened concept of an “endangered species” by affording the Secretary the additional power to list animals which he determines are likely within the foreseeable future to become threatened with extinction. This gives effect to *the Secretary’s ability to forecast population trends* by permitting him to regulate these animals before the danger becomes imminent while long-range action is begun.

S. REP. NO. 93-307, at 3 (1973) (emphasis added).

In addition, the discussion of the meaning of “threatened species” in a hearing on the bills sheds some light on Congress’s intent with respect to “foreseeable future.” In that hearing, Senator Stevens pressed officials from the Department of the Interior for criteria

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<sup>4</sup> Because increased flexibility of implementation was also one of the goals of the ESA, Congress did not make the prohibitions of section 9, 16 U.S.C. § 1538, automatically applicable to threatened species; instead, the Secretary may choose to apply those prohibitions deemed necessary and advisable. 16 U.S.C. § 1533(d).

that would be used in determining the foreseeable future. The officials declined to provide any, stating that it would be difficult or impossible to write criteria into the law. Instead, they stated that the Department would have to rely on the best scientific judgment, and noted that the State and public participation required by the law would ensure that the Department's discretion would be exercised wisely. *Endangered Species Act of 1973: Hearings on S. 1592 and S. 1983 Before the Senate Subcomm. on the Environment of the Committee on Commerce*, 93d Cong. 51, 58–59, 61, 63, 66 (1973) (statements of E.U. Curtis Bohlen, Deputy Assistant Secretary for Fish, Wildlife, and Parks, Department of the Interior, *et al.*). Thus, Congress's eventual adoption of the Administration's proposal suggests that the majority of Congress intended the Secretary to exercise broad discretion in determining what qualifies as the foreseeable future.

A detailed example of how the new threatened category might be applied was given by the Department in response to questions from Senator Spong regarding the 1972 legislative effort. In that example, a hypothetical species found in three countries is discussed. In Country C, the species is overexploited and take is not regulated; in Country B, take of the species is also not regulated, but the species is not currently exploited; in Country A, take of the species is adequately regulated. Extirpation of the species in Country C is imminent, at which point it is anticipated that exploitation would shift to Country B, presumably with the same result, "thus making the species' continued existence dependent on the welfare of the remnant population in country 'A.' This is a 'textbook example' of our concept of a candidate for the 'likely to become threatened with extinction' category." Letter from Curtis Bohlen, Acting Assistant Secretary of the Interior to Senator Spong (Sept. 22, 1972), *reprinted in Endangered Species Conservation Act of 1972: Hearings on S. 249, S. 3199 and S. 3818 Before the Senate Subcomm. on the Environment of the Committee on Commerce*, 92d Cong. 108, 109 (1972). Although this example does not expressly address the question of foreseeable future, it implicitly assumes that the shift in exploitation to Country B, and the effect of that exploitation, is foreseeable.

As suggested by the committee report, Congress intended the "threatened species" category to give the Secretary a broader set of tools to take earlier, less severe, and more strategic action based on the "ability to forecast population trends."

### C. Departmental Practice

To date, the need to clearly articulate a detailed interpretation of "foreseeable future" has not been pressing. In recent years, some listing determinations have reached express conclusions regarding the foreseeable future. These conclusions have, however, been based largely on the exercise of professional judgment with varying degrees of express explanation of the rationale for the conclusion.

Some recent listing determinations have discussed the foreseeable future in terms of qualitative analysis while others were based on quantitative information. Some of those determinations have described the foreseeable future in terms of data concerning threats, *e.g.*, 12-Month Finding on a Petition To List the Siskiyou Mountains Salamander

(*Plethodon stormi*) and Scott Bar Salamander (*Plethodon asupak*) as Threatened or Endangered, 73 Fed. Reg. 4380, 4381 (Jan. 24, 2008). Other determinations have described the foreseeable future in terms of generation length, e.g., 12-Month Finding for a Petition To List the Colorado River Cutthroat Trout as Threatened or Endangered, 72 Fed. Reg. 32,589, 32,599 (June 13, 2007). While some aspects of any analysis will vary depending on the species and the facts at issue, it has become clear that the Department would benefit from guidance as to what factors should be considered in a “foreseeable future” analysis and how they may be applied.

Historically, when the Secretary (acting through the FWS) makes a determination under section 4(a)(1), the five-factor analysis usually begins by identifying the life history of the species and the relationship of the species to the surrounding environment.<sup>5</sup> The next step is an analysis of the population trends, followed by an assessment of the threats that already have been influencing the life history of the species or may do so in the future. Threats may be temporary (e.g., drought, timber harvest/replanting, fires) or they may be permanent (e.g., lava flows, urban development, senior water rights). It is in this step that FWS reviews the degree of certainty and foreseeability that can be gleaned concerning each threat.

The next step is an assessment of how the various threats affect the life history of the species. In analyzing the threats, FWS reviews the historical record to determine whether the observations concerning the species’s response to the threat are adequate to establish a trend. It may well be necessary to have threat data covering at least two or three generations of the species to reach a conclusion that a trend exists. Depending on the threat and the species, one generation may or may not be adequate to rule out normal fluctuations in population numbers. Of course, some threats (particularly future threats) may not yet have manifested themselves in a population trend.

To project the status of the species into the foreseeable future, FWS then assesses the nature of the data concerning each threat and the degree to which reliable predictions can be made. The FWS also determines whether there are any known factors that may exist in the future that are likely to reduce or accentuate the effects of one or more of the identified threats.

The next step is to correlate each threat or offsetting factor with the life history of the species for the period over which each threat or offsetting factor is foreseeable. This permits FWS to determinate whether any one or a combination of threats is likely to cause the species to become in danger of extinction within the foreseeable future. This process includes assessing how the threat will affect different life history stages and multiple generations of the species, viewed in the context of what would constitute a reasonably foreseeable period for the threat. The objective of the five-factor analysis is

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<sup>5</sup> This discussion describes a framework often used to make determinations under section 4(a)(1). It provides a background for the analysis of “foreseeable future” in this memorandum. Other formats have been used, and the use of a particular framework as an example is not meant to suggest that others are not valid.

to determine whether the population of the species will likely be maintained at a level such that the species is not likely to become endangered in the foreseeable future.

## II. Principles of Statutory Interpretation

“The starting point in every case involving construction of a statute is the language [of the statute] itself.” *Landreth Timber Co. v. Landreth*, 471 U.S. 681, 685 (1982); *accord Duncan v. Walker*, 533 U.S. 167, 172 (2001). Where the meaning of the language in a statute is plain, that is normally the end of the inquiry. *Lamie v. United States Trustee*, 540 U.S. 526, 534 (2004); *United States v. Ron Pair Enters.*, 489 U.S. 235, 241 (1989). To determine the plain meaning, the words in a statutory provision that are not defined by the statute itself are customarily given their ordinary meaning. *BP Am. Prod. Co. v. Burton*, 549 U.S. 84, \_\_\_, 127 S. Ct. 638, 643 (2006) (citing *Perrin v. United States*, 444 U.S. 37, 42 (1979)); *Williams v. Taylor*, 529 U.S. 420, 431 (2000). However, in determining the plain meaning:

a reviewing court should not confine itself to examining a particular statutory provision in isolation. The meaning—or ambiguity—of certain words or phrases may only become evident when placed in context . . . . It is a “fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme.”

*Food & Drug Admin. v. Brown & Williams Tobacco Co.*, 529 U.S. 120, 132–33 (2000) (quoting *Davis v. Michigan Dep’t of Treasury*, 489 U.S. 803, 809 (1989)).

Moreover, where there is ambiguity in a statute the official charged with administering the statute (in this case, the Secretary) has broad discretion to resolve the ambiguity and give meaning to the term. As the Supreme Court has stated:

In *Chevron*, this Court held that ambiguities in statutes within an agency’s jurisdiction to administer are delegations of authority to the agency to fill the statutory gap in reasonable fashion. Filling these gaps, the Court explained, involves difficult policy choices that agencies are better equipped to make than courts. If a statute is ambiguous, and if the implementing agency’s construction is reasonable, *Chevron* requires a federal court to accept the agency’s construction of the statute, even if the agency’s reading differs from what the court believes is the best statutory interpretation.

*Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 980 (2005) (internal citations omitted).

In resolving an ambiguity, however, the agency does not have unlimited discretion. A court may overturn the agency’s interpretation if it is “arbitrary, capricious, or otherwise

not in accordance with law.” Administrative Procedure Act, 5 U.S.C. § 706(2)(A). An agency’s decision is arbitrary and capricious, if it has relied on factors which Congress had not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

*O’Keeffe’s, Inc. v. United States Consumer Prod. Safety Comm’n*, 92 F.3d 940, 942 (9th Cir. 1996) (quoting *Motor Vehicle Mfrs. Ass’n of the United States, Inc. v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983)).

### III. Analysis

#### A. Definition

Strunk & White, in their well-known and widely followed American writing style guide, *The Elements of Style*, have noted the ambiguity inherent in the phrase “foreseeable future.”<sup>6</sup> I agree. Nonetheless, it is the language of the ESA, chosen by Congress, and may well capture an important but elusive concept in adequate detail. It is clear from the legislative history that this language was purposefully drafted to provide the Secretary with the flexibility to identify the foreseeable future on a case-by-case basis. As discussed above, the proponents of the ESA within the Nixon Administration specifically resisted Senator Stevens’ suggestion to provide criteria for determining the foreseeable future, preferring to rely on the exercise of best scientific judgment and an open rulemaking process as each species was reviewed for listing.

In interpreting “foreseeable future,” we must first look to the ordinary meaning of the words. See *BP Am. Prod. Co. v. Burton*, 549 U.S. 84, \_\_\_, 127 S. Ct. 638, 643 (2006). Regarding the adjective “foreseeable,” Funk & Wagnalls Standard College Dictionary, published soon after passage of the ESA, defines the verb “foresee” as meaning “to see in advance (something that *is to happen*, come into being, etc.); have foreknowledge of.” Funk & Wagnalls Standard College Dictionary at 521 (1973) (emphasis added). Note also the definition uses the term “foreknowledge.” *Id.* The term “foreknow,” from which the noun “foreknowledge” derives, is defined as “to *know* beforehand.” *Id.* (emphasis added). Furthermore, the term “know” means:

1. To be cognizant of . . .
2. *To be certain of; apprehend as true or factual.*

*Id.* at 749 (emphasis added). An unabridged dictionary published almost concurrently with the ESA defined “foreseeable” as:

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<sup>6</sup> One of the entries in the section titled “Words and Phrases Commonly Misused”:

***The foreseeable future.*** A cliché, and a fuzzy one. How much of the future is foreseeable? Ten minutes? Ten years? Any of it? By whom is it foreseeable? Seers? Experts? Everybody?

The Elements of Style at 59, William Strunk, Jr. & E.B. White (4<sup>th</sup> ed. 2000).

1. being such as may reasonably be anticipated . . .
2. lying within the range for which *forecasts* are possible <does not anticipate a tax cut in the ~ future>.

Webster's Third New International Dictionary at 890 (1971) (emphasis added). Note that the second definition is expressly related to the use of the word in the phrase "foreseeable future." Note also the definition uses "forecast," the term used in the only substantive discussion of "foreseeable future" in a committee report. *See* S. REP. NO. 93-307, at 3 (1973). A "forecast," in turn, is defined as "a prophecy, estimate, or *prediction* of a future happening or condition." *Id.* at 888 (emphasis added). Moreover, the verb "forecast" is defined as "to anticipate, calculate, or *predict* (some future event or condition) *usu. as a result of rational study and analysis of pertinent data.*" *Id.* (emphases added). Taken together, the definitions suggest an understanding of future events that reasonable people would rely on in making decisions about their own future. More specifically, the definitions suggest the foreseeable future relates to the ability to make predictions that can reasonably be relied on because they are based on a careful extrapolation grounded in data and logic.

The statutory context in which "foreseeable future" is used is also relevant to discerning Congress's intent. *See Food & Drug Admin. v. Brown & Williams Tobacco Co.*, 529 U.S. 120, 132–33 (2000). The context here resolves one of the ambiguities identified in Strunk & White ("By whom is it foreseeable?"): the future at issue must be foreseeable by the Secretary, as it is the Secretary who is charged with determining whether species are threatened and therefore should be listed. *See* ESA section 4(a)(1); 16 U.S.C. § 1533(a)(1). The context also provides the answer to what aspect of the future must be foreseeable: the status of the species (whether the species *is likely to* become "in danger of extinction" in the foreseeable future). This determination in turn depends on the nature of the threats to the species, how the species is affected by those threats, and how the relevant threats operate over time. Thus, any analysis of the foreseeable future must begin with the foreseeability of the relevant threats over time.

The net result is that the foreseeable future extends only so far as the Secretary can explain reliance on the data to formulate a reliable prediction. What must be avoided is reliance on assumption, speculation, or preconception.<sup>7</sup> Thus, for a particular species, the Secretary may conclude, based on the extent or nature of data currently available, that a trend has only a degree or period of reliability, and to extrapolate the trend beyond that point would constitute speculation.

Indeed, a number of courts have interpreted the best-data-available standard set forth in section 4(b)(1) to prohibit the Secretary from basing listing determinations on factors such as speculation. *Bennett v. Spear*, 520 U.S. 154, 176 (1997) ("The obvious purpose of the requirement that each agency 'use the best scientific and commercial data available' is to ensure that the ESA not be implemented haphazardly, on the basis of speculation or surmise."); *Bldg. Indus. Ass'n v. Norton*, 247 F.3d 1241, 1246–47 (D.C.

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<sup>7</sup> I note this to draw a contrast rather than to suggest any prior section 4(a)(1) determinations were based on such rationales.



Cir. 2001) (“The Service may not base its listings on speculation or surmise . . .”). Although these cases were decided under a different statutory provision, they and the provision they interpret provide important context for interpreting “foreseeable future.”

Further, the use of the word “likely” in the definition of “threatened species” also supports the need for reliability rather than speculation. One may speculate about many possible outcomes, but one cannot determine that a given outcome is more likely than not without the ability to make reliable predictions. At the same time, the fact that the question to be answered is whether a species is “likely” to become an endangered species in the foreseeable future leads to the conclusion that the foreseeable future is not based on predictions that can be made with certainty.

Because a species may be susceptible to a variety of threats for which different data are available, or which operate across different time scales, the Secretary’s ability to make reliable predictions may vary according to the threat at issue. Consequently, the foreseeable future is not necessarily reducible to a particular number of years. Rather, it relates to the predictability of the impact or outcome for the specific species in question. Indeed, in the hypothetical example in the legislative history about exploitation of a species found in three countries, the Department concluded that it was a textbook example of a threatened species without reference to numerical certainty within a specific period of time. In some cases, quantifying the foreseeable future in terms of years may add rigor and transparency to the Secretary’s analysis if such information is available. Such definitive quantification, however, is rarely possible and not required for a “foreseeable future” analysis.

The following hypothetical example demonstrates how the Secretary might analyze a species facing a variety of threats. A marine bird might be subject to three different threats: indirect competition for food because of commercial fishing in the foraging area, habitat destruction due to increased urbanization, and a stochastic threat such as fire. The Secretary might determine that reliable predictions could be made about the threat posed by commercial fishing for the indefinite future because the fishery is subject to a strict quota system based on an historical maximum yield of fish in the area. With respect to habitat loss, data concerning land-use planning in the relevant area might show that there will be an impact over the next twenty years that will increasingly disturb nesting areas, but that any other future expansion of the human population will take place elsewhere because of the region’s geography and therefore will not have an impact. And finally, the possibility of fires could be considered a periodic threat that the Secretary does not expect to change over time, and for which the Secretary might not assign any particular length of years in assessing this threat for the foreseeable future.

In such a case, the Secretary’s analysis of the status of the species could conclude: (1) a determination that the threat from the commercial fishing, while a negative factor that is unlikely to change in the future, is not significant enough to affect the conservation status of the species; (2) over the next twenty years the anticipated habitat loss would reduce the population by 10%, an amount that would not cause the species to become endangered; and (3) the threat posed by fire, given that the species has been subject to that variable for

centuries and does not appear to have experienced notable decline during those earlier periods, is not enough to cause the species to be classified as threatened. Nevertheless, when all of the factors are considered in combination, given the population level at this point, the Secretary could still conclude that the species is likely to become endangered in the foreseeable future. A proper analysis would have to discuss the existing population, any trend data, each of the threats, and then a synthesis of the effects to the extent they can be foreseen. The key to such an analysis is a clear articulation of the facts, rationale, and conclusions.

The statute makes it clear that the Secretary must make the determination of “threatened” status on the best available science. 16 U.S.C. § 1533(b)(1). The data, information, analysis, and conclusions relied on by the Secretary must be rationally articulated and fully supported. The Secretary is then in a position to assess the various sources of information to ascertain the evidentiary value of the information, relative weight of the information, and the extent to which the information is reliable concerning projections that are being made into the future.

In evaluating the foreseeable future, the Secretary must look not only at the foreseeability of threats, but also at the foreseeability of the impact of the threats on the species. In some cases, foreseeable threats will manifest themselves immediately; in others, it may be multiple generations before the foreseeable manifestation of the threats occurs. But in each case the Secretary must be able to make reliable predictions about the future. The further into the future that is being considered, the greater the burden to explain how the future remains foreseeable for the period being assessed.

A question has been raised concerning the role of the data and information collected from experts, and the conclusions those experts draw. In either case, the Secretary must consider it pursuant to the best-available-data standard and objectively evaluate its accuracy and relevance. Regarding the conclusions drawn by experts, which may include predictions, the Secretary should consider them, but the Secretary must be cognizant of the fact that experts may be making predictions in contexts very different than that of the Secretary in implementing the ESA. In other contexts in which experts make predictions, speculation may be appropriate. However, to the extent that the predictions of experts in other contexts are made in a manner not consistent with the objectives, standards, and processes required under the ESA, it is not appropriate in the section 4 context to rely on those conclusions without separately analyzing them under the terms of the ESA. Thus, the mere fact that someone has made a prediction concerning the future does not mean that the thing predicted is foreseeable for the purpose of making a listing determination under section 4 of the ESA. Of course, if the Secretary reaches a conclusion that appears to be inconsistent with that of significant relevant experts, the Secretary should explain the basis for the conclusion reached, and why other conclusions were distinguished or rejected.

#### B. Cases

Only two cases have directly addressed the meaning of “foreseeable future” in the

definition of “threatened species.” They shed only limited light on the appropriate meaning of “foreseeable future.” In any case, although they do not address the question in the detail discussed above, they are broadly consistent with that analysis.

First, *Oregon Natural Resources Council v. Daley*, 6 F. Supp. 2d 1139 (D. Or. 1998), involved a challenge to the withdrawal by the National Marine Fisheries Service (NMFS) of the proposed listing of the Oregon coho salmon. The parties disagreed as to what constituted the “foreseeable future.”<sup>8</sup> The court did not define “foreseeable future.” Instead, the court simply concluded that NMFS fell “far short of any reasonable definition of the ‘foreseeable future’” when the agency’s analysis was limited to a determination that the coho would not become an endangered species within two years, the time by which NMFS expected new state conservation measures to be put in place. *Id.*

The second case, *Western Watersheds Project v. Foss*, 2005 U.S. Dist. Lexis 45753 (D. Idaho Aug. 19, 2005), involved the withdrawal of a proposed rule to list the slickspot peppergrass. A science panel assembled by FWS was asked to estimate extinction risk over various time frames. The panel responded by concluding that there was a 64% chance of extinction within 100 years (or 82% if a conservation agreement were not implemented). *Id.* at \*40. I note that although extinction risk over time is obviously relevant to application of the statutory standard of “threatened species,” that standard is not articulated precisely in those terms. In fact, the court noted that the panel was not asked whether the slickspot peppergrass met the statutory definition of an endangered or threatened species under the ESA, *id.* at \*34, nor did FWS provide a definition of the “foreseeable future.” *Id.* at \*40. Thus, FWS reserved the ultimate question for itself. Based on additional considerations and further deliberation, FWS concluded implementation of conservation efforts would postpone the projected time of high risk of extinction beyond the foreseeable future. Consequently, FWS concluded this did not represent a likelihood of the species becoming endangered within the foreseeable future. *Id.* at \*40–41.

It is helpful to follow the court’s reasoning in this case. Using a standard definition of foreseeable,<sup>9</sup> the court reasoned that FWS’s conclusion—that a prudent person would not reasonably expect extinction of the slickspot peppergrass within 100 years when the evidence suggests a 64% chance of extinction occurring under the most favorable conditions—“defies common sense and the FWS[’s] own experts’ conclusions and recommendations.” *Id.* at \*41. In effect, the court looked at the results of the science panel, and reasoned that, based on the information available to the science panel, the panel had concluded extinction appeared to be virtually inevitable. The court indicated

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<sup>8</sup> Plaintiffs argued that NMFS must analyze the status of the coho in the long term (up to 100 years); defendants conceded that ten life cycles of the coho (30 years) would be a reasonable time frame for the foreseeable future. *Id.* at 1151.

<sup>9</sup> In evaluating the issue, the court turned to a dictionary definition of “foreseeable” similar to that given above: “such as reasonably can or should be anticipated: such that a person of ordinary prudence would expect it to occur or exist under the circumstances.” *Id.* at \*41 (quoting *Merriam-Webster’s Dictionary of Law* (1996)). Although more general than the guidance in this opinion, this definition is consistent with the principles expressed herein.

that a short-term delay of “the inevitable” by a conservation agreement did not in and of itself push the risk of extinction beyond the foreseeable future. *Id.* at \*41.

Although the court noted that other agencies and organizations have found species to be “threatened” when the extinction risk was lower in the next 100 years, the court stated that such standards were instructive but not dispositive. *Id.* at \*43–44. In the end, of course, the court did not directly address the ultimate question of whether the slickspot peppergrass was likely to become in danger of extinction in the foreseeable future. Rather, the court acknowledged that the foreseeable future should be established on a case-by-case basis, but held that FWS’s conclusion was arbitrary and capricious because FWS failed to explain its conclusion in a way that allowed for effective judicial review. *Id.* at \*44–49. The court stressed that, “[i]f the FWS had outlined in detail which quantitative and general factors it considered . . . rather than merely relying on conclusory statements,” the court might not have dismissed FWS’s conclusions.<sup>10</sup>

It may be that the court would not have reached the conclusion it did if FWS had structured the questions presented in a different way, instructed the panel of scientists to limit their predictions to those that were reasonably reliable given the available data, or better articulated the factors leading to its ultimate conclusion. This guidance should make it easier in the future for FWS to (1) obtain more useful data and information when utilizing such panels, and (2) articulate its reasoning.

#### IV. Guidance

Since the Congress did not define “foreseeable future,” the Secretary has significant discretion to determine what constitutes the future that is foreseeable when considering the effect that a particular threat or a combination of threats has on a species. But the Secretary’s exercise of this discretion must be consistent with the ordinary meaning of the term “foreseeable” and the context in which it is used in the ESA.

Combining the insight provided by the ordinary meaning of the words “foreseeable future,” the legislative history, the context in which the phrase is used, and general principles of administrative law, I provide the following guidance in making determinations about the future conservation status of a species.<sup>11</sup>

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<sup>10</sup> The court remanded the decision to FWS to make a new determination. *Id.* at 52–53. On remand, FWS again withdrew the proposed listing rule; the court reversed the new determination and again remanded the decision to FWS, this time on other grounds. *Western Watersheds Project v. Kempthorne*, 2008 U.S. Dist. Lexis 44298 (D. Idaho June 4, 2008). In neither case did the court suggest that the record required FWS to list the species. Rather, both decisions were rooted in the court’s conclusions that FWS failed to explain its reasoning adequately. *E.g.*, *Western Watersheds Project v. Foss*, 2005 U.S. Dist. Lexis 45753, \*48.

<sup>11</sup> This guidance applies both to determinations about the future conservation status of species that are not listed, and those that are, i.e., it applies to listing, delisting, and reclassification. Neither section 4(a)(1) nor any of the relevant definitions make a distinction between listing, delisting, or reclassification; therefore, although the available data may differ significantly, the applicable standard and analytical process for making a determination of status is the same in each context. Of course, if the Secretary has previously made a section 4(a)(1) determination for the species, the Secretary should explain any differences in the analysis or conclusions in the new determination.

1. Congress intended the Secretary to apply the concept of the foreseeable future based on the facts applicable to the species being considered for listing. Congress purposefully did not set a uniform time frame for the Secretary's consideration of whether a species was likely to become an endangered species, nor did Congress intend that the Secretary set a uniform time frame.
2. In any particular analysis under section 4(a)(1), the Secretary has broad discretion with respect to what constitutes the foreseeable future in the context of that analysis, as long as the rationale is articulated.
3. The Secretary's discretion must be exercised consistent with the ordinary meaning of the statutory language and context in which the phrase is used.
4. The Secretary's analysis of what constitutes the foreseeable future for a particular listing determination must be rooted in the best available data that allow predictions into the future, and the foreseeable future extends only so far as those predictions are reliable. "Reliable" does not mean "certain"; it means sufficient to provide a reasonable degree of confidence in the prediction, in light of the conservation purposes of the Act.
5. 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.
6. Since the foreseeable future is uniquely related to population, status, trends, and threats for each species and since species often face multiple threats, the Secretary is likely to find varying degrees of foreseeability with respect to the various threats. Although the Secretary's conclusion as to the future status of a species may be based on reliable predictions with respect to multiple trends and threats over different periods of time or even threats without specific time periods associated with them, the final conclusion is a synthesis of that information.
7. The Secretary must make the determination of "threatened status" based on the best scientific and commercial data available. This may include reliance on the exercise of professional judgment by experts when such judgments are consistent with the concepts laid out in this opinion, including the need to document the basis for the conclusion.
8. The Secretary need not identify the foreseeable future in terms of a specific period of time. Rather, it is important that the information and data used by the Secretary are reliable for the purpose of making predictions with respect to a particular threat. Nevertheless, if the information or data are susceptible to such precision, it may be helpful to identify the time scale being used.
9. With respect to any relevant prediction, when the point is reached that the conclusions

concerning the trends or the impacts of a particular threat are based on speculation, rather than reliable prediction, those impacts are not within the foreseeable future.

10. The administrative record for a decision under section 4(a)(1) should include more than just a conclusion as to what is foreseeable given the data available—it should also explain how the Secretary reached that conclusion.

In summary, the foreseeable future describes the extent to which the Secretary can, in making determinations about the future conservation status of the species, reasonably rely on predictions about the future. Those predictions can be in the form of extrapolation of population or threat trends, analysis of how threats will affect the status of the species, or assessment of future events that will have a significant new impact on the species. The Secretary's ability to rely on predictions may significantly vary with the amount and substance of available data.

This guidance is consistent with the express purposes of the ESA, as well as the intent of Congress found in the legislative history. This interpretation of “foreseeable future” does give effect to “the Secretary’s ability to forecast population trends by permitting him to regulate these animals [and plants] before the danger becomes imminent while long-range action is begun.” If the Secretary can forecast (*i.e.*, reliably predict) that a negative population trend will ultimately continue until the species becomes endangered, the Congress has provided the authority for the Secretary to list the species as threatened before it gets to that point.<sup>12</sup> Moreover, defining the “foreseeable future” as excluding speculation is consistent with the broader congressional intent to permit earlier action than was available under the Endangered Species Conservation Act of 1969.

## V. Reliance on Default Time Periods

Having set forth guidance for understanding the “foreseeable future,” it is appropriate to address the use of “default” time periods in determining the foreseeable future for a particular listing determination. Although the Secretary has the responsibility to make the ultimate judgments on issues relating to biology, the expertise and discretion used in making those judgments are subject to the strictures of the law. The law requires that the future likely status of a threatened species actually be foreseeable by the Secretary, based on the data available. In other words, to determine the foreseeable future it is necessary to look at the ability of the decision-maker to foresee the future. An arbitrary time frame, not based on the degree to which the Secretary can make reliable predictions, is not consistent with the requirements of the ESA. As a result, the 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. In some circumstances, data expressed in

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<sup>12</sup> Similarly, after a species is listed as threatened because of a negative population trend, new conservation measures may be put in place that then allow the Secretary to reliably predict that the population trend will be reversed before the species becomes an endangered species. If so, the Secretary might determine that the species is no longer threatened (because it is no longer likely to become an endangered species), and remove it from the list.

biological terms such as generation length may inform the analysis of foreseeable future. In such cases, it may be appropriate to use such data in combination with other relevant information concerning population status, trends, and threats. The resulting foreseeable future may in part be expressed in biological terms.

The fact that other organizations, not governed by the specific statutory language of the ESA, reach conclusions concerning their definition of “threatened” based on the use of standards of their own choosing, does not provide a basis for the Secretary to rely on such conclusions in complying with the terms of the statute. In particular, I have considered whether the Secretary can simply follow an approach of emulating or reflecting the International Union for the Conservation of Nature (IUCN) conclusions as a default.

When the IUCN makes determinations of conservation status for its “Red List” based on projections of future population declines, it scales its analysis using the greater of three generations of the species at issue or ten years, but no more than 100 years. Guidelines for using the IUCN Red List Categories and Criteria at 13 (Version 7.0 August 2008), *available at* <http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf> (IUCN Guidelines). Although the IUCN and FWS both engage in assigning conservation statuses to species, the bases for their respective actions are completely different. FWS is implementing a specific mandate from Congress (the ESA) and is authorized to act only consistent with that mandate and with generally applicable standards of rational decisionmaking. The IUCN assessment process is neither tethered to a particular statutory mandate nor subject to the standards of administrative law; the IUCN has created its own standards, and they are not identical to those of the ESA.

Importantly, the IUCN is not bound by any “foreseeability” standard, and the Guidelines never use the term “foreseeable.” The Red List provides an important informational service, but, unlike the ESA, it does not have any direct regulatory implications; therefore, the IUCN may carry out its responsibilities by reaching different results in terms of foreseeability and acceptable levels of uncertainty. The IUCN Guidelines do not impose any particular approach for addressing uncertainty in assessments of conservation status; rather, the Guidelines provide only non-binding suggestions to those implementing the Guidelines. IUCN Guidelines at 17. Thus, although the Secretary is free to review the IUCN processes and conclusions while implementing the ESA, the Secretary must make independent decisions according to the standards Congress set forth in the ESA.

## VI. The Foreseeable Future with Limited Data

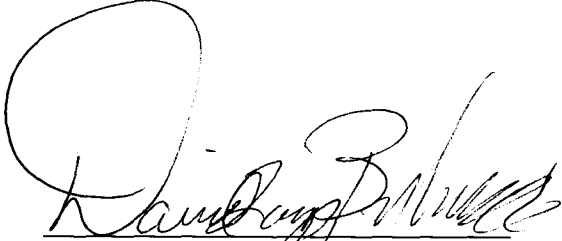
Understanding that the foreseeable future is defined in relation to population trends and the effect of threats facing the species, a question arises: how does the Secretary apply the standards of the ESA to a species in decline when the cause of that decline is not fully or directly known? In some circumstances, lack of understanding of the cause of the decline will make it impossible to reliably extrapolate the population trend into the future. If so, the Secretary should not rely on such an extrapolation. However, in other circumstances, the Secretary might find such extrapolation sufficiently reliable after

assessing the data and considering the professional judgment of experts. For example, there may be a situation that clearly indicates that, based on the biology of similar species or other objective scientific analogues, there is reason to believe that the decline is not part of the normal lifecycle variability of the species, and allows the Secretary to reliably predict that the decline is likely to continue until such time as the species becomes in danger of extinction. It may also be that in some cases little extrapolation is necessary because the Secretary, based on the data presented and analyzed, concludes that a population decline is reaching a point at which it is irrelevant what initial threat caused the decline and whether that threat is still occurring, because the population is so small that it is in danger of extinction, or likely to become so in the foreseeable future, on the basis of the small population size alone. In such cases, the Secretary's conclusions about reliability should be well documented.

## VII. Conclusion

This memorandum does not attempt to define the dividing line between reliable prediction and speculation. The Secretary has broad discretion to determine what is foreseeable, subject to the limitations discussed above; consistent with the Department's position in 1973, the Secretary should exercise that discretion based on the best scientific and commercial data available, informed particularly by any data provided by, and subject to the scrutiny of, the States and the public. For the States' and the public's scrutiny to be effective, as well as to satisfy applicable standards for judicial review under the Administrative Procedure Act, the Secretary should articulate a reasoned explanation as to why reliable predictions can be made, and to the extent that the Secretary quantifies the foreseeable future, a basis for that particular point in the future versus others.

This opinion was prepared with the assistance of Benjamin C. Jesup and Robert Faber of the Division of Parks and Wildlife.



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