Via Electronic and United States Certified Mail

October 17, 2014

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Re: Notice of Intent to Sue for Violations of the Endangered Species Act Regarding the National Marine Fisheries Service's "Not Warranted" Listing Decision for Blueback Herring

Dear Secretary Pritzker, Dr. Sullivan, and Ms. Sobeck:

On behalf of the Natural Resources Defense Council, Anglers Conservation Network, Delaware River Shad Fishermen's Association, Great Egg Harbor River Council, and Great Egg Harbor Watershed Association Trustees (collectively "NRDC"), we hereby provide notice that the National Marine Fisheries Service ("NMFS" or "the Service") is in violation of the Endangered Species Act ("ESA"), 16 U.S.C. §§ 1531-1544, and the Administrative Procedure Act ("APA"), 5 U.S.C. §§ 500-706, with regard to its determination that ESA protected status for blueback

herring (*Alosa aestivalis)* is "not warranted," 78 Fed. Reg. 48,944-94 (Aug. 12, 2013). This letter is provided pursuant to the sixty-day notice requirements of the citizen suit provision of the Endangered Species Act, to the extent such notice is deemed necessary by a court. *See* 16 U.S.C. § 1540(g)(2).

I. Background

On August 1, 2011, NRDC submitted a petition to NMFS requesting listing under the ESA for two ecologically- and economically-important river herring species—alewife and blueback herring—as well as designation of critical habitat for these species. *See* NRDC, Petition to List Alewife (*Alosa pseudoharengus*) and Blueback Herring (*Alosa aestivalis*) as Threatened Species and to Designate Critical Habitat (Aug. 1, 2011) ("Petition"), available at http://www.nero.noaa.gov/prot_res/CandidateSpeciesProgram/NRDC_Petition_to_List_Alewife_and_BB_Herring_8-1-11.pdf. The petition requested species-wide listings as "threatened" for alewife and blueback herring because each is "likely to become in danger of extinction within the foreseeable future throughout all or a significant portion of its range," s*ee* 16 U.S.C. § 1532(20). In the alternative, the Petition asked that Distinct Population Segments ("DPSs") of alewife and blueback herring be listed separately as threatened species.

The Petition detailed the dramatic declines in populations of blueback herring and alewife along the Atlantic seaboard and ongoing threats to both species, including fishing, dams and other obstructions to spawning habitat, water pollution, and climate change. Up and down the coast, rivers that once had spawning runs of tens or hundreds of thousands of river herring, providing a natural bounty that fed growing human communities and a host of animal species, now have just a few thousand or even just a few hundred fish.

Overall coastal landings of alewives and blueback herring averaged a little more than a million pounds from 2000 to 2009, a decline of more than 98 percent from the 1950 to 1970 average. *See* Petition at i. Blueback herring in particular have been hard hit, with declines continuing or even accelerating in the last decade in many cases, despite fishery closures and restrictions. The huge blueback herring run in the Connecticut River, which averaged 5.4 million fish annually from 1981 to 1995, dropped to just over one million fish per year on average from 1996 to 2001, and then to just over 300,000 fish per year on average between 2002 and 2008—an overall decline of almost 95 percent. *See* Petition at i. Due to declines in abundance, the river herring fisheries of Chesapeake Bay and its tributaries—historically the country's largest and predominantly comprised of blueback herring—have been virtually eliminated, with recent landings in Virginia, Maryland, and from the Potomac River down 99 percent or more from their 1950 to 1970 averages. *See* Petition at i. And by 2007, landings from North Carolina's Albemarle Sound and its tributaries—which once rivaled those from Chesapeake Bay—had dropped by 98 percent or more. *See* Petition at ii.

In response to NRDC's petition, NMFS published a 90-day finding on November 2, 2011, determining that the petition presented substantial scientific information indicating the petitioned action may be warranted. *See* 90-Day Finding on a Petition to List Alewife and

Blueback Herring as Threatened Under the Endangered Species Act, 76 Fed. Reg. 67,652 (Nov. 2, 2011). The 90-day finding announced initiation of a Status Review for the two species and opened a comment period for interested parties. *Id.* To conduct the Status Review, the Service convened a Status Review Team ("SRT"), comprised entirely of agency personnel.

II. The Not Warranted Decision

On August 12, 2013, the Service published its determination that listing of neither blueback herring nor alewife was warranted, either on a species-wide basis or as separate DPSs. *See* Endangered Species Act Listing Determination for Alewife and Blueback Herring, 78 Fed. Reg. 48,944-94 (Aug. 12, 2013) ("Not Warranted Decision"). The Service did not prepare or publish a Status Review report to accompany the Not Warranted Decision, as is the normal agency practice. Instead, the Service pointed interested parties to the River Herring Species of Concern page of the agency's website for relevant documents. *See* http://www.greateratlantic.fisheries.noaa.gov/protected/pcp/soc/river_herring.html. The Not Warranted Decision relied significantly on a quantitative analysis of alewife and blueback herring population trends conducted by NOAA's Northeast Fisheries Science Center ("NEFSC"). *See* NEFSC, Analysis of Trends in Alewife and Blueback Herring Relative Abundance (2013) ("Trends Analysis"). The Trends Analysis and other key components of the status review did not undergo independent peer review consistent with agency guidance and policy. *See* NMFS, OMB Peer Review Bulletin Guidance 04-108-04 (Dec. 12, 2011); Office of Management and Budget, Final Information Quality Bulletin for Peer Review, 70 Fed. Reg. 2664 (Jan. 14, 2005); NMFS and Fish and Wildlife Service, Endangered and Threatened Wildlife and Plants: Notice of Interagency Cooperative Policy for Peer Review in Endangered Species Act Activities, 59 Fed. Reg. 34270 (July 1, 1994). The Not Warranted Decision stated that it also relied on a 2012 Benchmark Stock Assessment for the two river herring species conducted by the Atlantic States Marine Fisheries Commission ("ASMFC Assessment"). *See* 78 Fed. Reg. at 48,946.

In the Not Warranted Decision, the Service stated that blueback herring and alewife populations were extremely low relative to historical levels—specifically, that both species were potentially already "at or less than two percent of the historical baseline." *Id.* at 48,987. NMFS also noted that declines had continued in recent years in a number of rivers, and mean length as well as length-at-age for populations of both species had declined. *See id.* at 48,947-48. Of twenty-three in-river stocks of blueback herring and alewife for which data were available, twenty-two were considered depleted. *Id.* at 48,948.

The Not Warranted Decision, as well as the ASMFC Assessment, made clear that blueback herring are in particularly dismal condition. According to the Trends Analysis, the maximum likelihood estimate for current population trajectories for three out of four regional populations of blueback herring is decreasing, and the trajectory of the largest population, the Mid-Atlantic, is decreasing with 95 percent certainty. *Id.* at 48,991. When sufficient information was available, by every measure—commercial-catch-per-unit effort, run counts, young-of-the-year surveys, fisheries independent seine, gillnet, electrofishing, and trawl surveys, mean length, frequency of repeat spawners, mortality, and exploitation rates—blueback herring populations

have declined or were in decline in virtually every river along the Atlantic Seaboard. *Id.* at 48,946-47. As one expert noted, the magnitude of population declines appear "markedly greater" for blueback herring than for alewife, with rivers historically dominated by blueback (like the Oyster and Taylor Rivers in New Hampshire) faring worse and evidence of a shift in species composition in New Hampshire river herring overall towards dominance by alewives. Gary Carvalho, Review of Stock Structure and Extinction Risk Analysis Working Group Reports at 10, *available at* http://www.greateratlantic.fisheries.noaa.gov/prot_res/CandidateSpeciesProgram/sswpdocs/2012_09_21%20Carvalho%20RH%20SS%20and%20ERA%20Review%20Report.pdf.

The Not Warranted Decision stated that key threats to both species of river herring include extensive habitat degradation and lack of habitat availability—primarily resulting from dams and other barriers to spawning habitat but also from the destruction of wetlands and degraded water quantity and quality. 78 Fed. Reg. at 48,953-58, 48,971. Another significant threat identified by the Not Warranted Decision is incidental catch in small mesh fisheries, including the Atlantic herring and mackerel fisheries. *Id.* at 48,960-61, 48,964, 48,970-71. Additional threats include climate change and climate variability, inadequate existing management measures, predation, and hybridization. *Id*. at 48,979-84.

With respect to Distinct Population Segments, the Service decided not to designate DPSs for either species. Although the Service determined that certain regional populations of both species were "discrete" under the test articulated in the 1996 joint agency policy on DPSs, it concluded that none of the discrete populations—including the genetically-distinct Mid-Atlantic population, which spans from the Connecticut River to North Carolina's Neuse River, approximately one-half of the species' U.S. range and encompassing the largest spawning runs as well as unique ecological settings—were "significant." *See* Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, 61 Fed. Reg. 4722 (Feb. 7, 1996) (requiring that a DPS be both "discrete" and "significant"); 78 Fed. Reg. at 48,948-50.

The Status Review Team and the Service then used a two-tier test to evaluate the extinction risk faced by blueback herring and alewife from the identified threats. "Tier A" of the test considered how species viability relies on geographic distribution, habitat connectivity, and genetic diversity, and asked whether or not each species has three or more contiguous regional populations with either "stable" or increasing trends, based on the Trends Analysis. *Id.* at 48,987. Tier A was designed to ensure that a species is not at excessive extinction risk because of the lack of a "properly functioning metapopulation." *Id.* In particular, the Tier A test was intended to determine whether a species has isolated genetic groups that could lead to genetic divergence, the ability to persist across a wide and diverse geographic area, or a risk of localized extinction events. *Id.* For "Tier B" of the test, the Service assigned a risk level or "scenario" to each species based on how many and which population trajectories the Service considered to be increasing, "stable," or decreasing. *Id.* Tier B was intended to evaluate the risk of negative population trends resulting in population collapse and excessive extinction risk. *Id*.

Applying its two-tiered test to blueback herring, the Service stated that there was "insufficient information" to make a conclusion under Tier A, even though information was available for four out of five populations and, of these four, no three contiguous populations are stable or increasing according to the Trends Analysis. *Id.* at 48,992. Under Tier B, the SRT and the Service concluded that blueback herring is at "moderate-low" risk of extinction, even though populations are at historic lows, three of the four blueback herring populations with available data have a maximum likelihood estimate of population trajectory that is still decreasing, and the most important population, the Mid-Atlantic population, is decreasing with 95 percent certainty according to the Trends Analysis. *Id.* at 48,993.

Based on this extinction risk analysis, the Service concluded that blueback herring was not likely to become in danger of extinction in the foreseeable future and that listing as threatened throughout the species' range was not warranted.[1] *Id.* Further, stating that it was applying its draft "significant portion of its range" policy, the Service determined that no portion of the blueback herring's range constituted a "significant portion" of the species' range.[2] *Id.* This specifically included the Mid-Atlantic population, despite its considerable spatial extent both currently and historically, its comparatively large spawning runs, and its unique genetic variation. Accordingly, the Service concluded that blueback herring is not threatened in a significant portion of its range, and listing on this basis was not warranted. *Id.*

III. Legal Inadequacy of the Not Warranted Decision

Listing decisions under the ESA must be made "solely on the basis of the best scientific and commercial data available." 16 U.S.C. § 1533(b)(1)(A). More generally, in judicial review under the APA, agency actions are to be set aside if they are arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. *See* 5 U.S.C. § 706(2). It is well settled that an "agency must examine the relevant data and articulate a satisfactory explanation for its action" that does not "run[] counter to the evidence before the agency" and that "include[s] a rational connection between the facts found and the choice made." *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983) (internal quotation marks omitted).

[1] Because alewife passed the Service's Tier A test (three or more contiguous alewife populations with "stable" or increasing trends, based on the Trends Analysis), and the specific combination of population trends for alewife corresponded to the "Low risk" scenario in the Tier B test, the Service determined that alewife is not in danger of extinction or likely to become so in the foreseeable future. *Id.* at 48,992-93. NRDC is not challenging the Not Warranted Decision with respect to alewives.

[2] Subsequent to the Not Warranted Decision, NMFS and the Fish & Wildlife Service jointly issued a final policy interpreting the phrase "significant portion of its range." *See* 79 Fed. Reg. 37577 (Jul. 1, 2014).

A. The Service Violated the ESA and APA When It Failed To List Blueback Herring as Threatened Throughout All or a Significant Portion of Its Range

The ESA defines a threatened species as any species likely to become in danger of extinction within the foreseeable future throughout all or a significant portion of its range. *See* 16 U.S.C. § 1532(20). To determine whether a species is threatened, the Service must consider five statutorily prescribed 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; [and]
(E) other natural or manmade factors affecting its continued existence.

16 U.S.C. § 1533(1)(A)-(E). The agency "must consider each of the listing factors singularly and in combination with the other factors." *Carlton v. Babbitt*, 900 F. Supp. 526, 530 (D.D.C. 1995). "Each factor is equally important and a finding by the Secretary that a species is negatively affected by just one of the factors warrants a non-discretionary listing as either endangered or threatened." *Nat'l Wildlife Fed. v. Norton*, 386 F. Supp. 2d. 553, 558 (D. Vt. 2005) (citing 50 C.F.R. § 424.11(c)). Likewise, a species must be listed if it is endangered or threatened because of "a combination of" factors. *See, e.g.*, 50 C.F.R. § 424.11(c). *See also* NMFS Guidance on Conducting Status Reviews Under the ESA, *available at* http://www.nmfs.noaa.gov/pr/listing/conducting_a_status_review_under_the_esa_-_guidance.pdf. The Service's determination that blueback herring is not threatened throughout all or a significant portion of its range is arbitrary, capricious and contrary to law, and is not based on the best scientific information, for the reasons discussed below.

1. The Service Unlawfully Concluded that Blueback Herring Is Not Threatened Throughout All of Its Range

As discussed above, the Service relied on a two-part test to assess river herring extinction risks: Tier A, which examined the adequacy of the species' metapopulation characteristics to stave off extinction, and Tier B, which examined population trajectories to assess extinction risk in the foreseeable future. This two-tier analysis—and the Service's reliance on it to conclude that blueback herring is not threatened throughout all of its range—was arbitrary and capricious, contrary to law, and failed to use the best available information.

First, the Service arbitrarily applied Tier A of its extinction risk analysis. The goal of this specific test was "maintain[ing] three contiguous stock complexes that are stable or increasing." 78 Fed. Reg. at 48,986. Blueback herring did not pass this test. The Service responded by simply ignoring this result, rather than acknowledge the likelihood that the species' metapopulation characteristics are inadequate and may lead to blueback herring becoming an endangered species in the foreseeable future.

Second, the Service arbitrarily applied Tier B of its extinction risk analysis, by which it labeled population trends as increasing, decreasing, or "stable" and then assigned an extinction risk to the species based on which and how many population trajectories fell into each labeled category. Three out of four regional blueback herring populations had maximum likelihood estimates for their population trajectories that were decreasing—an alarming finding for a species that the Service concedes to be "at or less than two percent of the historical baseline." *Id.* at 48,987. For the largest of these three regional populations, the Mid-Atlantic, the estimate of a decreasing trend had a "95% confidence" level associated with it. For the other two regional populations, Southern New England and Northern New England, the maximum likelihood estimates of population trajectories were decreasing, but the decreasing trend could not be established with 95% confidence, due to scientific uncertainty. Instead of labeling these two populations as decreasing, but with a lower percent certainty, the Service labeled the Southern New England and Northern New England populations as "stable." This in turn allowed the Service to assign a "moderate-low" extinction risk ranking to the species as a whole, using the rules in the Tier B test. If the Service had based its determination on the maximum likelihood estimates, or used a lower standard of scientific certainty, blueback herring would have been found to be at a "high" risk of extinction under the Tier B test. The Service provided no basis or explanation for demanding 95% certainty to label a population trajectory as decreasing, when these population trajectories were its exclusive analytic tool for determining the *likelihood* of becoming endangered in the foreseeable future. Moreover, the Service provides no basis or explanation, and no basis otherwise exists, for labeling the declining Southern New England and Northern New England populations as "stable," based solely on statistical analyses showing high but less than 95% confidence that the population trends are decreasing.

Third, the Service acted contrary to law and failed to use the best available information by relying so singularly on the two-tier analysis to make its listing determination and dismissing or ignoring other available data. The Service's determination not to list blueback herring as threatened runs counter to the overwhelming weight of the evidence in the record and ignores important aspects of the threats and risks facing the species. Although the Service gathered information about different types of threats facing blueback herring, with scientists labeling some as moderate/high to high level threats, the Service dispensed with any analysis of how these threats might change in the "foreseeable future" (which it defined as 12-18 years), claiming that predictions would be unreliable. *Id*. at 48,987. The Service also failed to incorporate other population trend information—such as the data provided in the ASMFC Assessment showing declining age structure and length at age—into its extinction risk analysis. Finally, the agency ignored recent declining population trends in certain river populations and critical expert opinion, particularly about the need to evaluate life history characteristics as part of assessments of stock structure and extinction risk and developing clear extinction risk criteria and thresholds.

2. The Service Unlawfully Concluded That Blueback Herring Is Not Threatened Throughout a Significant Portion of Its Range

Even if a species is not likely to become endangered across its entire range, it still must be listed as threatened under the ESA if it is likely to become endangered in a significant portion of its range. *See* 16 U.S.C. § 1532(20) ("The term 'threatened species' means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."). Courts have made clear that the determination of whether a species is threatened throughout a "significant portion of its range" cannot be conflated with the question of whether it is threatened throughout its range—that is, the agency cannot determine a species is threatened in a significant portion of its range only if it is threatened everywhere. *See, e.g.*, *Defenders of Wildlife* v. *Norton*, 258 F.3d 1136, 1145 (9th Cir. 2001). Moreover, the agency must consider both current and historical habitat in making this determination. *See WildEarth Guardians v. Salazar*, 741 F. Supp. 2d 89, 98 (D.D.C. 2010); *Defenders of Wildlife*, 258 F.3d at 1145. The Service's determination that blueback herring is not threatened in a significant portion of its range is arbitrary, capricious, and contrary to law, and failed to use the best scientific information available, for several reasons.

First, the determination was based on a flawed interpretation of the law that has been invalidated by the federal courts. *Compare* 78 Fed. Reg. 48,944, 48,993 (asserting that the "mid-Atlantic stock complex is not significant to the species, given that even though it is decreasing, the overall coastwide trend is stable") *with Defenders of Wildlife* v. *Norton*, 258 F.3d at 1141 (invalidating the interpretation of the statute that "assumes that a species is in danger of extinction in 'a significant portion of its range' only if it is in danger of extinction everywhere"). Like previously invalidated interpretations, the Not Warranted Decision's approach effectively writes the phrase "significant portion of its range" out of the statute. *See id.* at 1141-42 (invalidating interpretation that a species is endangered or threatened in a significant portion of its range only if "it faces threats in enough key portions of its range that the *entire* species is in danger of extinction, or will be within the foreseeable future" (emphasis in original).

Moreover, the Service wholly failed to consider the loss of historic blueback herring habitat in making its determination of whether blueback herring is likely to become threatened in a significant portion of its range. *See, e.g., WildEarth Guardians v. Salazar,* 741 F. Supp. 2d 89, 98 (D.D.C. 2010) (historical habitat must be considered as part of analysis of whether a species is endangered or threatened in a "significant portion of its range"). The Not Warranted Decision concedes that blueback herring habitat losses have been "significant," and include a loss of 80 percent of historical blueback herring habitat in Maine, *see* 78 Fed. Reg. 48,971, which is much larger than historical habitat losses that courts have ruled require explanations. *See, e.g., Defenders of Wildlife v. Norton*, 258 F.3d 1138-45 (9th Cir. 2001) (34 percent loss of historical habitat requires agency explanation).

Second, the Service applied a legal test that required blueback herring to be *endangered* in a significant portion of its range, and not simply threatened. For example, the Service states that the loss of the Mid-Atlantic population would "not place the entire species at risk of

extinction," 78 Fed. Reg. 48993, or "render the species *endangered*." *Id.* (emphasis added). This heightened standard is arbitrary, capricious, and not in accordance with law. *See Western Watersheds Project v. Foss*, 2005 WL 2002473, at *17 (D. Idaho Aug. 19, 2005); *see also Western Watersheds Project v. Fish & Wildlife Serv.*, 535 F. Supp. 2d 1173, 1184 (D. Idaho 2007) (finding agency's negative listing determination arbitrary and capricious due in part to a lack of discussion regarding whether a 36% chance of a species becoming extinct is akin to a 50% chance that it will be *in danger of* extinction); 79 Fed. Reg. 37577, 37578-79 (Jul. 1, 2014) (final significant portion of its range policy explaining change in definition of "significant" to include when the portion of the species' range is so important that, without that portion, the species would be likely to become in danger of extinction in the foreseeable future); *Southwest Ctr. for Biological Diversity v. Babbitt*, 926 F. Supp. 920, 928 (D. Ariz. 1996).

Third, the Service's determination that blueback herring is not threatened in a significant portion of its range is arbitrary and capricious because the Service failed to apply properly its "significant portion of its range" policy. The policy requires an analysis of whether the *complete loss* of a portion of a species' range would place the species as a whole in danger of extinction. *See* 76 Fed. Reg. 76,987, 76995 (Dec. 9, 2011) (discussion in draft policy); 79 Fed. Reg. 37577, 37581-82 (Jul. 1, 2014) (discussion in final policy). However, the Status Review Team (according to the Not Warranted Decision) concluded only that a *declining trend* in a portion of the species' range did not endanger the species as a whole. *See* 78 Fed. Reg. at 48,993. Beyond conclusory statements, the Service failed to examine or offer any analysis of what the fate of the species as a whole would be assuming the *complete loss* of the Mid-Atlantic stock (let alone the loss of neighboring stocks whose maximum likelihood estimates of population trend are negative). *See id.* ("The SRT determined that the mid-Atlantic stock complex is not significant to the species, given that even though it is decreasing, the overall coastwide trend is stable. Thus, the loss of this stock complex would not place the entire species at risk of extinction. We concur with this conclusion.").

In addition, the policy requires the Service to consider the key biological concepts of resiliency, redundancy, and representation of the species in assessing significance. *See* 76 Fed. Reg. 76,987, 76,994 (Dec. 9, 2011) (discussion in draft policy); 79 Fed. Reg. 37577, 37592-94 (Jul. 1, 2014) (discussion in final policy).[3] In the blueback herring Not Warranted Decision, the Service did not consider these factors. The Service failed to consider *at all* the amount or quality

[3] The draft policy explains:

> Resiliency (abundance, spatial distribution, productivity) describes the characteristics of a species that allow it to recover from periodic disturbance. Redundancy (having multiple populations distributed across the landscape; abundance, spatial distribution) may be needed to provide a margin of safety for the species to withstand catastrophic events. Representation (the range of variation found in a species; spatial distribution, diversity) ensures that the species' adaptive capabilities are conserved.

76 Fed. Reg. 76,987, 76,994 (Dec. 9, 2011); *see also, e.g.,* 79 Fed. Reg. 37577, 37578-79 (Jul. 1, 2014) (similar discussion in final policy).

of habitat represented by its "significantly" declining Mid-Atlantic population alone or together with the Southern New England and Northern New England populations, which had negative maximum likelihood estimates of population trajectories. *See* 78 Fed. Reg. at 48,993; *see also* 78 Fed. Reg. at 48,990-91 and Trends Analysis at 38 (Figure 15) (regarding relative certainty of Mid-Atlantic trends). Nor did the Service's "significant portion of its range" analysis take into account how the species' genetic diversity may suffer with the loss of the "significantly" declining Mid-Atlantic population (or the loss of the Southern New England and Northern New England populations). Not only does the Service's sole reliance on coastwide trends and current habitat disregard biological concepts that the draft policy requires and that the agency has found central in past listing decisions, but it also ignores the "critical importance" of maintaining multiple, contiguous populations of blueback herring, which the agency emphasizes elsewhere in the Not Warranted Decision are needed to protect metapopulation function, prevent genetic divergence, and ensure the species exists in diverse environmental conditions and habitats to protect against localized environmental catastrophes. *See* 78 Fed Reg. at 48,986.

B. The Service Violated the ESA and APA When It Failed To Designate the Mid-Atlantic Population of Blueback Herring as a DPS

For vertebrate species, the ESA defines species to include "distinct population segments" or DPSs. *See* 16 U.S.C. § 1532 (defining "species" to include a "distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature"). To determine whether a DPS should be designated, the Service considers the "1) discreteness of the population segment in relation to the remainder of the species or subspecies to which it belongs; [and] 2) the significance of the population segment to the species or subspecies to which it belongs." Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, 61 Fed. Reg. 4722, 4724 (Feb. 7, 1996).

A population segment is considered "discrete" if it is "markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors. Quantitative measures of genetic or morphological discontinuity may provide evidence of this separation." *See, e.g.*, *Northwest Ecosystem Alliance v. United States Fish & Wildlife Serv*., 475 F.3d 1136, 1150 (9th Cir. 2007). A population segment is considered significant based on:

(1) "persistence of the discrete population segment in an ecological setting unusual or unique for the taxon,"
(2) "evidence that loss of the [DPS] would result in a significant gap in the range of a taxon,"
(3) "evidence that the [DPS] represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historic range, or"
(4) "evidence that the [DPS] differs markedly from other populations of the species in its genetic characteristics."

Home Builders, 340 F.3d at 851. A "gap in the range of a taxon" is defined as "empty geographic space in the range of the taxon." *Home Builders*, 340 F.3d at 846 (upholding agency's "gap in the fence" interpretation as reasonable). A gap may be considered if it would "decrease the genetic variability of the taxon," substantially reduce the current geographical or historical range of the taxon, result in a gap at the edge of the species range, or cause the loss of a population that is numerous and a large percentage of total taxon members. *See id.*

Although the Service identified five genetically distinct populations of blueback herring along the Eastern Seaboard, it declined to find any significant, based at least in part on the "expect[ation] that river herring would recolonize neighboring systems over a relatively short time frame" in the event of the loss of a regional population. 78 Fed. Reg. at 48,950. These regional blueback herring populations that the Service determined are not "significant" include the Mid-Atlantic population, which spans from the Connecticut River to North Carolina's Neuse River, or approximately 50 percent of the species' U.S. spawning habitat, and includes the largest historic and current spawning runs.

The Service's decision not to designate at least a Mid-Atlantic blueback herring DPS based on its significance is arbitrary, capricious and contrary to law, and failed to use the best scientific information available. NRDC challenges NMFS's significance findings, including for the following reasons:

First, the Service failed to take account of unique ecological settings encompassed by the Mid-Atlantic population—which includes separate and distinct ecoregions that have served as the basis for finding significance for other species. *See, e.g.*, 75 Fed. Reg. 61,872, 61,877 (determining that discrete Atlantic sturgeon populations were significant because they were found in "separate and distinct ecoregions").

Second, the Service overlooked ample information in the record, including expert opinion, demonstrating that the loss of the Mid-Atlantic populations would constitute a significant gap in the species' range. The Service wholly ignored the size and historical (and current) importance of the Mid-Atlantic blueback herring population. In addition, the suggestion that, in the event of the loss of the Mid-Atlantic blueback herring population, recolonization would occur across entire watersheds, and ultimately across the entire Mid-Atlantic region, in a "relatively short time frame" is not supported by the record;[4] moreover, allowing such broad-scale recolonization to occur would undermine the goal of maintaining genetic diversity. The Service's failure to determine that the genetically distinct Mid-Atlantic population's loss would result in a significant range gap is also inconsistent with other species' listing determinations. *See, e.g.*, *id.* at 61,879 (noting that because each discrete Atlantic sturgeon population is genetically distinct and reproduces in unique ecological setting, the loss of any of these populations is likely to create a significant gap in the range of the taxon.)

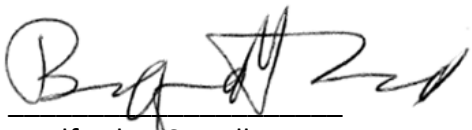
[4] There is no basis for a presumption that, in the event of the extirpation of the Mid-Atlantic population, it will be replaced absent mitigation of the cause(s) of the initial extirpation.

Third, without legal support and contrary to the information in the record, the Service dismissed the significance of evidence of genetic differences across the distinct populations.

IV. Conclusion

We intend to pursue legal action in federal court to challenge the Service's "not warranted" listing decision for blueback herring under the Endangered Species Act and Administrative Procedure Act. Should you wish to discuss this matter, or if you believe any of the foregoing is in error, please do not hesitate to contact us.

Sincerely,



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