

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA

NATURAL RESOURCES DEFENSE  
COUNCIL, INC.,  
40 West 20th Street  
New York, NY 10011

ANGLERS CONSERVATION NETWORK  
9 Williamsburg Drive  
Tinton Falls, NJ 07753

GREAT EGG HARBOR RIVER COUNCIL  
175 9th Street  
Newtonville, NJ 08346

GREAT EGG HARBOR WATERSHED  
ASSOCIATION  
175 9th Street  
Newtonville, NJ 08346

*Plaintiffs,*

v.

CHRIS OLIVER, in his official capacity as  
Assistant Administrator for Fisheries,  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910

TIMOTHY GALLAUDET, in his official  
capacity as Assistant Secretary of Commerce  
for Oceans and Atmosphere and as Deputy  
Administrator, National Oceanic and  
Atmospheric Administration  
1401 Constitution Avenue NW, Room 5128  
Washington, DC 20230

WILBUR ROSS, in his official capacity  
as Secretary of Commerce,  
United States Department of Commerce

Civil Action No. 20-1150  
ECF Case

1401 Constitution Avenue NW )  
 Washington, DC 20230 )  
 )  
 NATIONAL MARINE FISHERIES SERVICE )  
 1315 East-West Highway )  
 Silver Spring, MD 20910 )  
 )  
*Defendants.* )  
 )  
 )  
 \_\_\_\_\_ )

**COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF**

**INTRODUCTION**

1. Alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*), collectively referred to as “river herring,” play a crucial role in the Atlantic coastal ecosystem. These fish once spawned in huge numbers in rivers along the coast, providing an important source of food for larger fish, birds, and marine mammals, as well as for humans. Their populations have declined precipitously from their historic levels, and both species face significant threats to their survival from climate change.

2. This is the second time this Court has been asked to determine the legality of a decision by the National Marine Fisheries Service (NMFS) regarding whether to list river herring as threatened under the Endangered Species Act. This Court held that NMFS’s previous decision in 2013 not to list blueback herring as threatened was arbitrary and capricious, and therefore unlawful. *NRDC v. Rauch*, 244 F. Supp. 3d 66 (D.D.C. Mar. 25, 2017) (Moss, J.).

3. On remand, NMFS noted that river herring populations “remain[] depleted to near historic lows,” but nonetheless once again determined not to list either alewife or blueback herring as threatened. 84 Fed. Reg. 28,630, 28,636 (June 19, 2019) (the “Listing Decision”).

4. NMFS’s latest decision contains multiple errors of law, including a discounting of the threats to river herring posed by climate change and a reliance on an unsupported theory that river herring will rapidly “recolonize” rivers if the extant populations in those rivers have been wiped out.

5. The Listing Decision violates the Endangered Species Act and the Administrative Procedure Act, and must be held unlawful and set aside.

### **JURISDICTION AND VENUE**

6. The Court has jurisdiction over this action pursuant to 16 U.S.C. § 1540(c), (g) (Endangered Species Act citizen suit provision), 5 U.S.C. §§ 701-706 (judicial review of agency action), and 28 U.S.C. § 1331 (federal question jurisdiction).

7. The relief requested may be granted under 28 U.S.C. §§ 2201-2202 (declaratory and injunctive relief), 16 U.S.C. § 1540(g) (Endangered Species Act citizen suit remedies), and 5 U.S.C. § 706(2) (Administrative Procedure Act, allowing courts to “hold unlawful and set aside” agency actions).

8. Pursuant to 16 U.S.C. § 1540(g)(2), Plaintiffs provided the Secretary of Commerce and all Defendants with written notice of Plaintiffs’ intent to file this suit. That notice was provided more than sixty days prior to the commencement of

this action. A copy of Plaintiffs' notice letter is attached as Exhibit A. Defendants have not corrected their violations of the law.

9. Venue is proper in the United States District Court for the District of Columbia pursuant to 28 U.S.C. § 1391(e), 16 U.S.C. § 1540(g)(3)(A), and 5 U.S.C. § 703, because two Defendants reside in this judicial district and a substantial part of the events or omissions giving rise to the claims occurred in the District of Columbia. Plaintiff NRDC also has an office in Washington, D.C.

## **PARTIES**

### *Plaintiffs*

10. Plaintiff NATURAL RESOURCES DEFENSE COUNCIL, INC. (NRDC) is a nationwide non-profit environmental organization, with more than 100,000 members in the Atlantic coastal states. NRDC's mission is to "safeguard the Earth: its people, its plants and animals, and the natural systems on which all life depends." Protecting the oceans is one of NRDC's six strategic priorities, and NRDC actively works to improve the management of marine and estuarine resources in Atlantic coastal states. NRDC's members regularly visit alewife and blueback herring habitat for recreational and related purposes, seek to view alewife and blueback herring in the wild, and are concerned about the drastic decline in the species' numbers and risk of extinction, as well as the species' diminished role in the ecosystem.

11. Plaintiff ANGLERS CONSERVATION NETWORK is a non-profit association of recreational anglers based on the Mid-Atlantic coast. Anglers

Conservation Network engages in outreach and education among the fishing community, promoting conservation of the East Coast's ocean and river ecosystems and responsible fishing practices. Members of Anglers Conservation Network derive significant enjoyment from fishing for the predator species that are supported by healthy populations of river herring and from healthy river and marine ecosystems; as such, they have a strong interest in protecting and restoring populations of alewife and blueback herring in the Mid-Atlantic region.

12. Plaintiff GREAT EGG HARBOR RIVER COUNCIL (“the River Council”) is an association of twelve local municipalities in New Jersey that share acreage in the Great Egg Harbor River designated Wild and Scenic River Corridor, along with one representative from the Great Egg Harbor Watershed Association. The purpose of the River Council is to assist municipalities in effectively implementing the Great Egg Harbor National Scenic and Recreational River Comprehensive Management Plan as well as local river management plans. The River Council has a strong interest in protecting and restoring populations of alewife and blueback herring in the Great Egg Harbor River area, due to the significant ecological role played by alewife and blueback herring in that area.

13. Plaintiff GREAT EGG HARBOR WATERSHED ASSOCIATION (“the Watershed Association”) is a non-profit organization dedicated to protecting and restoring the natural, cultural, and recreational resources of the Great Egg Harbor River watershed. The Watershed Association engages in research, advocacy, and education related to the Great Egg Harbor River system, and also coordinates the

preservation of land in the watershed. The Watershed Association has a strong interest in protecting and restoring populations of alewife and blueback herring in the Great Egg Harbor River, due to the significant ecological role played by alewife and blueback herring in that area.

14. All Plaintiffs and their members derive significant benefits—recreational, aesthetic, economic, cultural, or scientific—from alewife and blueback herring. Defendants’ failure to comply with federal law and list alewife and blueback herring as threatened under the Endangered Species Act will allow the further degradation and loss of alewife and blueback herring populations, irreparably harming alewife and blueback herring as well as the interests of Plaintiffs and their members and constituents. Plaintiffs have no adequate remedy at law, and the relief requested in this action will redress their injuries.

*Defendants*

15. Defendant CHRIS OLIVER, Assistant Administrator for Fisheries, is the highest-ranking official within the National Marine Fisheries Service and, in that capacity, has responsibility for the administration and implementation of the Endangered Species Act with regard to alewife and blueback herring, and for compliance with all other federal laws applicable to the National Marine Fisheries Service. He is sued in his official capacity.

16. Defendant TIMOTHY GALLAUDET, Ph.D., Assistant Secretary of Commerce for Oceans and Atmosphere and Deputy Administrator of the National Oceanic and Atmospheric Administration, is the highest-ranking official within the

National Oceanic and Atmospheric Administration and, in that capacity, has responsibility for the administration and implementation of the Endangered Species Act with regard to alewife and blueback herring, and for compliance with all other federal laws applicable to the National Oceanic and Atmospheric Administration. He is sued in his official capacity.

17. Defendant WILBUR ROSS, United States Secretary of Commerce, is the highest-ranking official within the Department of Commerce and, in that capacity, has ultimate responsibility for the administration and implementation of the Endangered Species Act with regard to alewife and blueback herring, and for compliance with all other federal laws applicable to the Department of Commerce. He is sued in his official capacity.

18. Defendant NATIONAL MARINE FISHERIES SERVICE (NMFS or the “Service”) is a federal agency within the National Oceanic and Atmospheric Administration in the Department of Commerce, which is authorized and required by law to protect and manage the fish, marine mammals, and other marine resources of the United States, including enforcing and implementing the Endangered Species Act. NMFS has been delegated authority by the Secretary of Commerce to implement the Endangered Species Act for alewife and blueback herring, and is responsible for making listing decisions, processing petitions for such actions, and promulgating related regulations.

## LEGAL BACKGROUND

19. The Endangered Species Act (ESA), 16 U.S.C. § 1531 *et seq.*, is a federal statute enacted to conserve endangered and threatened species and the ecosystems upon which they depend. 16 U.S.C. § 1531(b). The Endangered Species Act is “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 180 (1978). The Supreme Court’s review of the Act’s “language, history, and structure” established “beyond doubt that Congress intended endangered species to be afforded the highest of priorities.” *Id.* at 174. As the Supreme Court held, “the plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost.” *Id.* at 184.

20. The Endangered Species Act protects species listed as either “endangered” or “threatened.” A species is “endangered” if it “is in danger of extinction throughout all or a significant portion of its range.” 16 U.S.C. § 1532(6). A species is “threatened” if it “is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” *Id.* § 1532(20). Defendants are responsible under the Act for determining whether marine species, including anadromous fish such as alewife and blueback herring, are threatened or endangered.

21. Section 4(a) of the Endangered Species Act requires Defendants to determine whether a species is endangered or threatened due to any of the following five factors: (1) The present or threatened destruction, modification, or curtailment

of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting its continued existence. 16 U.S.C § 1533(a)(1).

22. The Endangered Species Act requires that Defendants make listing determinations solely on the basis of the best scientific and commercial data available. 16 U.S.C § 1533(b)(1)(A). The Act further requires that listing determinations include a summary of the data on which the determination is based and shall show the relationship of that data to the listing determination. *Id.* § 1533(b)(8).

23. The term “species” is defined broadly under the Endangered Species Act to include “any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.” 16 U.S.C § 1532(16). A distinct population segment (“DPS”) of a vertebrate species can be protected as a “species” under the Endangered Species Act even if it has not formally been described as a species in scientific literature.

24. NMFS, along with the U.S. Fish and Wildlife Service, has published a policy for the recognition of DPSs for the purposes of listing, delisting, and reclassifying species under the Endangered Species Act. *See Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act*, 61 Fed. Reg. 4722 (Feb. 7, 1996). Under this policy, once a population segment is found to be both “discrete” and “significant,” it is deemed a separate

“species” for the purposes of the Endangered Species Act and may be considered for listing under the Act.

25. The Administrative Procedure Act, 5 U.S.C. § 551 *et seq.*, provides general rules governing the issuance of proposed and final regulations by federal agencies. Section 10 of the Administrative Procedure Act, 5 U.S.C. § 706, provides standards for judicial review of final agency action. Under that section, a reviewing court must “hold unlawful and set aside agency action, findings, and conclusions found to be ... arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A).

## **FACTUAL BACKGROUND**

### *River Herring*

26. Alewife and blueback herring (collectively referred to as “river herring”) are anadromous fish that reside offshore for most of the year and return to their natal rivers and streams to spawn. Adult river herring average 10 to 11 inches in length, and 7 to 9 ounces in weight. Alewives have a grayish-green dorsal surface, while blueback herring have a dark bluish-green dorsal surface; both have paler and silvery ventral surface and sides. River herring can live up to 10 years, and reach sexual maturity by the age of 3 to 5 years.

27. River herring historically played an important role in the dynamics of food chains in freshwater, estuarine, and marine ecosystems. While at sea, river herring provide food for many species, including sharks, tunas, mackerel, and marine mammals like porpoises and dolphins. In fresh and brackish waters, eels

and bass consume both adult and juvenile river herring. Osprey, eagles, and other fish-eating birds feed on spawning migrations of river herring; these birds may have evolved their late winter and spring nesting strategies in response to the availability of food resources supplied by pre- and post-spawning alosines like river herring. River herring also provide cover for upstream-migrating adult salmon that may be preyed on by eagles or osprey, and for young salmon in estuaries and the open ocean that might otherwise be eaten by seals.

28. River herring populations along the Atlantic coast also bring vital nutrients and carbon into riverine systems through post-spawning mortality. Nutrients released from carcasses of post-spawning alosines such as alewives and blueback herring can substantially subsidize aquatic food webs by stimulating productivity of bacteria and aquatic vegetation, hastening the assimilation of marine-derived nutrients into aquatic invertebrates and fish.

29. Both alewife and blueback herring were once highly abundant in the coastal waters, rivers, and streams of the eastern United States. In larger rivers, spawning runs could reach well into the millions of individual fish. Even as recently as the middle of the twentieth century, river herring populations existed at relatively high levels and supported significant human fisheries. From 1930 through 1970, total commercial landings of alewife and blueback herring in Atlantic coastal states averaged more than 40 million pounds per year.

30. Today, due primarily to the impacts of dams and habitat destruction, overfishing, and water pollution, river herring are reduced to tiny remnant runs.

The commercial fishery has collapsed, with annual coastwide landings of alewives and blueback herring down 95 percent from the 1930 to 1970 average and most state fisheries closed.

31. In many cases, river herring declines have continued or even accelerated, despite the fishery closures and restrictions. For example, 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. Alewife is considered extirpated from the entire state of South Carolina.

*NRDC's 2011 Listing Petition*

32. In August 2011 NRDC petitioned the Secretary of Commerce to list alewife and blueback herring as threatened under the Endangered Species Act, or, in the alternative, to designate distinct population segments and list each as threatened species.

33. In the petition, NRDC detailed the precipitous decline of alewife and blueback herring, as well as the causes of this decline and the ongoing threats facing the species. NRDC also explained why government responses to these threats have been inadequate.

34. In response to NRDC's petition, the Secretary published a 90-day finding determining that the petition had presented substantial scientific information indicating that listing 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 and opened a comment period for interested parties.

*NMFS's 2013 Listing Decision*

35. On August 12, 2013, NMFS published its determination that listing alewife and blueback herring was not warranted, either on a species-wide basis or as distinct population segments. *See* Endangered Species Act Listing Determination for Alewife and Blueback Herring (the “2013 Listing Decision”), 78 Fed. Reg. 48,944 (Aug. 12, 2013).

36. In the 2013 Listing Decision, NMFS stated that alewife and blueback herring 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 that mean length as well as length-at-age for populations of both species had declined. *See id.* at 48,947-48. Nonetheless, NMFS concluded that listing was not warranted for either species. *Id.* at 48,993.

*The 2015 Lawsuit—NMFS's 2013 Listing Decision Held Unlawful*

37. NRDC, Anglers Conservation Network, Delaware River Shad Fishermen’s Association, Great Egg Harbor River Council, and Great Egg Harbor Watershed Association sued NMFS, alleging that its determinations in the 2013 Not Warranted Decision with respect to blueback herring were contrary to law,

arbitrary and capricious, and not based on the best available scientific information. Complaint, ECF No. 1, *NRDC v. Sobeck*, No. 1:15-cv-00198-RDM (D.D.C. filed Feb. 10, 2015).

38. In 2017, this Court granted summary judgment to the plaintiffs, concluding that NMFS erred in its statistical analysis of the species' population trends, erred in its analysis of whether the Mid-Atlantic complex of blueback herring represented a significant portion of the species' range, erred in explaining how evidence of a significant population decline in the Mid-Atlantic population supported a finding of a "moderate-low" risk of extinction, and failed to consider in its distinct population segment analysis all of the relevant criteria. *NRDC v. Rauch*, 244 F. Supp. 3d 66, 87-94, 94-96, 96-97, 97-100 (D.D.C. Mar. 25, 2017) (Moss, J.) (No. 1:15-cv-00198-RDM, ECF No. 54).

39. This Court thus vacated the 2013 Not Warranted Decision and remanded the matter to NMFS for further consideration. *Id.* at 100.

40. On remand, NMFS initiated a status review for both alewife and blueback herring. 82 Fed. Reg. 38,672 (Aug. 15, 2017).

*NMFS's 2019 Listing Decision*

41. NMFS issued a new final determination—the decision at issue in this case—on June 19, 2019. Endangered and Threatened Wildlife and Plants; Endangered Species Act Listing Determination for Alewife and Blueback Herring, 84 Fed. Reg. 28,630 (June 19, 2019) (the "Listing Decision").

42. In the Listing Decision, NMFS once again acknowledged that stocks of river herring “remain[] depleted to near historic lows,” and that over the last decade commercial landings of river herring “have remained at levels less than 3 percent of the peak” levels from the late 1960s. 84 Fed. Reg. at 28,636. According to the 2017 update to the latest benchmark stock assessment (from 2012) from the Atlantic States Marine Fisheries Commission, the numbers of both alewife and blueback herring have “declined significantly from historical levels” throughout their ranges. *Id.* at 28,642, 44

43. Nonetheless, NMFS once again concluded that a listing was not warranted for either species. *Id.* at 28,630.

44. On October 4, 2019, NMFS published a “Correction” in the Federal Register making certain edits to the Listing Decision, but not revising any of its ultimate conclusions. Endangered and Threatened Wildlife and Plants; Endangered Species Act Listing Determination for Alewife and Blueback Herring; Correction, 84 Fed. Reg. 53,110 (Oct. 4, 2019) (the “Correction Notice”). Plaintiffs challenge the Listing Decision as modified by Correction Notice.

45. Multiple aspects of the Listing Decision are legally flawed: NMFS’s distinct population segment analysis; its selection of a “foreseeable future” timeframe; its analysis of the threats facing alewife and blueback herring, including from climate change; its ultimate conclusions regarding the risk of extinction to the two species; and its analysis of the status of the significant portions of the ranges of the two species. Each category of flaws is described in the following paragraphs.

*Distinct Population Segment Analysis*

46. Based on genetic data, NMFS determined that alewife may be distinguished into four stock complexes, and blueback herring into five stock complexes. Listing Decision, 84 Fed. Reg. at 28,634. The four alewife stock complexes are: Alewife Canada, Alewife Northern New England, Alewife Southern New England, and Alewife Mid-Atlantic. The five blueback herring stock complexes are Blueback Herring Canada/Northern New England, Blueback Herring Mid-New England, Blueback Herring Southern New England, Blueback Herring Mid-Atlantic (including the Connecticut River), and Blueback Herring Southern Atlantic. *Id.* at 28,633-35 (providing maps of the range of each stock complex).

47. NMFS applied its Distinct Population Segment (DPS) Policy, 61 Fed. Reg. 4722 (Feb. 7, 1996), to each of these stock complexes to determine whether the “discreteness” and “significance” of each stock complex warranted classification as a DPS. Listing Decision, 84 Fed. Reg. at 28,636-39.

48. First, NMFS determined that each of the genetic stock complexes of the two species is a “discrete” grouping. *Id.* at 28,636-37.

49. NMFS then examined whether the discrete stock complexes are “significant.” *Id.* at 28,637-38.

50. NMFS’s evaluation of whether the alewife and blueback herring stock complexes are “significant” turned on “whether the loss of the population segments would result in significant gaps in the range of the taxa.” *Id.* at 28,637. That analysis was based on whether, if a stock complex were extirpated, its range was

likely to be “recolonized.” *Id.* at 28,638. According to NMFS, a “significant gap” was a segment of the species’ range “unlikely to be recolonized with self-sustaining populations within at least 10 generations (40-60 years).” *Id.*

51. For seven of the nine river herring stock complexes, NMFS found that recolonization was “unlikely,” and found that the loss of these stock complex would result in a significant gap. *Id.* at 28,638-39

52. For the Blueback Herring Mid-New England and Southern New England stock complexes, however, NMFS found that recolonization was “likely” across the coastline extent of their ranges—311 kilometers and 2,900 kilometers, respectively—and therefore that the loss of these stock complex would not result in a significant gap. *Id.* NMFS further opined that the gap represented by the potential loss of either of these stock complexes “may be less important to these species because their straying behavior and fecundity may allow them to regain or even maintain connectivity between neighboring stock complexes.” *Id.* at 28,639.

53. NMFS thus concluded that the seven river herring stock complexes for which recolonization is “unlikely” are Distinct Population Segments, but that the Blueback Herring Mid-New England and Southern New England stock complexes for which recolonization is “likely” are not Distinct Population Segments. *Id.*

54. NMFS’s “recolonization” analysis lacks support in the scientific literature, and was not supported by reasoned explanation in the Listing Decision. NMFS asserted, without support, that river herring will “recolonize” rivers across regions spanning hundreds or thousands of kilometers of coastline, and that they

will do so within 10 generations. NMFS did not cite evidence that river herring can recolonize empty rivers in such rapid fashion after they have been extirpated, or that this phenomenon has ever actually occurred historically.

55. NMFS also assumed, contrary to the best available science, that habitat in extirpated rivers will subsequently become suitable for recolonization. NMFS failed to analyze whether and over what time scale the habitat of extirpated stock complexes would in fact be suitable for new populations to establish themselves.

56. NMFS's analysis of the Southern New England stock complex of blueback herring was flawed for two additional, specific reasons. *First*, NMFS assumed that recolonization of the range of the Southern New England stock complex will occur "because neighboring complexes can recolonize step-wise from the south and north." Listing Decision, 84 Fed. Reg. at 28,638. However, the stock complex to the north, the Mid-New England stock complex, was found by NMFS to be "at a *high* risk of extinction." *Id.* at 28,664 (emphasis in original). NMFS did not analyze whether, in light of that high risk of extinction, the Mid-New England stock complex would be in existence and able to "recolonize" the range of the Southern New England stock complex. NMFS also found that the Mid-New England stock complex "does not have the population numbers or habitat capacity to buffer surrounding stocks against environmental threats," *id.* at 28,665, but did not explain why it nonetheless concluded that fish from that stock complex would "likely" recolonize the range of the Southern New England stock complex, *id.* at

28,638. NMFS also failed to consider whether conditions that would cause the Southern New England stock to be extirpated (as hypothesized in the recolonization analysis) would also cause the extirpation of the high-risk Mid-New England population.

57. *Second*, NMFS failed to explain why it concluded that the range of the Southern New England stock of blueback herring is “likely” to be recolonized in light of its conclusion that the similar (and comparable) Northern New England stock of alewife is not likely to be recolonized. NMFS offered no reason to distinguish between those two stocks: each stock covers a coastline of similar extent, and each stock has neighboring stock complexes to its north and south. NMFS also offered no reason why blueback herring would “recolonize” rivers faster than alewife. Nonetheless, NMFS made the arbitrary conclusion that recolonization of one complex was “likely” while recolonization of the other was “unlikely.”

*Foreseeable Future Timeframe*

58. NMFS began its analysis of the threats facing river herring and the species’ risks of extinction by defining the “foreseeable future” for both species as “a 12 to 18 year time frame (*i.e.*, out to 2030–2036), or a three-generation time period.” *Id.* at 28,641.

59. NMFS stated that given what it characterized as river herring’s “short generation times” and “high population variability,” “projecting out further than a few generations could lead to considerable uncertainty in predicting the response to threats for each species.” *Id.*

60. NMFS stated that it had selected “a period in which impacts of present threats to the species could be realized” and which “would allow for reliable predictions regarding the impact of current levels of mortality” on the species. *Id.*

61. NMFS then used this timeframe to analyze threats to river herring, focusing on the effects that each threat was “currently having on the extinction risk of the species.” *Id.* at 28,645.

62. NMFS’s selection of the 12 to 18-year timeframe failed to follow proper procedures, including its own guidance documents which require it to “project climate change effects for the longest time period over which we can reasonably foresee the effects of climate change on the species’ status.” *Revised Guidance for Treatment of Climate Change in NMFS Endangered Species Act Decisions* at 3 (June 17, 2016). Instead, NMFS imposed an artificial 12 to 18-year cap on its consideration of climate science. NMFS’s choice represents a sharp departure from its consideration of climate change in other listing decisions, and the agency offered no reasoned explanation for why it chose this cramped approach.

63. NMFS failed to consider available scientific information about the length of time over which threats to the species, including climate change, can be projected. NMFS purported to extend the foreseeable future period so far as threats to the species and their response are likely. Listing Decision, 84 Fed. Reg. at 28,641. But NMFS provided no analysis of those criteria in its selection of a foreseeable future timeframe, and the period that NMFS selected is much shorter than the period for which climate change and other threats can be projected.

64. Although purportedly based on biological characteristics, NMFS's selection of a three-generation timeframe was arbitrary. NMFS's suggestion that a 3-generation foreseeable future period is *required* due to "uncertainty" is belied by its reliance on a 10-generation timeframe as the basis for its predictions of "likely" conditions and population-level responses in its Distinct Population Segment analysis, and is undermined by its own findings that alewife and blueback herring populations were have remained at historically low levels for decades since the collapse of the stocks in the 1970s and 1980s.

65. Because NMFS selected an artificially short foreseeable future period, its threats analysis excluded from consideration important scientific information about the impact of climate change in the regions where river herring live and about the likely vulnerabilities of river herring to those impacts.

#### *Threats and Risks Analysis*

66. NMFS evaluated threats facing alewife and blueback herring and the risk of extinction posed by those threats. Listing Decision, 84 Fed. Reg. at 28,645-61. It also evaluated "demographic risks" facing the species. *Id.* at 28,642-45.

67. NMFS's Listing Decision imposed additional heightened and unlawful barriers to listing alewife and blueback herring as threatened, beyond the requirements in the Endangered Species Act. *See* 16 U.S.C. § 1532(20) (defining a "threatened" species as one likely to become endangered within the foreseeable future).

68. In the Listing Decision, NMFS ranked each threat as “very low,” “low,” “medium,” “high,” or “very high.” 84 Fed. Reg. at 28,645.

69. For example, a threat was ranked as a “medium” contributor to the risk of extinction if it “contributes significantly to long-term risk of extinction, but does not in itself constitute a danger of extinction in the near future.” *Id.* at 28,645.

70. NMFS found that there were many such “significant[]” threats contributing to the long-term risk of extinction for both of the species and their Distinct Population Segments. *Id.* at 28,645-61.

71. However, when NMFS rated the species’ *overall* risk of extinction based on those threats, it used a rating system that minimized and discounted the threats it had found during the previous step. *See id.* at 28,661. In that system, which uses a different set of definitions, a species is by default at a “low risk” of extinction—a category synonymous with “not facing threats” of extinction—*unless* it fits the definition for being at a “moderate risk” or “high risk” of extinction. A “moderate risk” finding requires that the species “is on a trajectory that puts it at a *high* level of extinction risk.” This in turn requires findings of both a significant long-term risk of extinction and a likelihood of a contribution to a “short-term risk of extinction.”

72. Thus, no matter how much long-term risk of extinction a species faces, even multiple “significant” threats, NMFS’s methodology leads to a finding that there is only a “low” overall risk of extinction unless there is a specific finding that the species faces a current, high-level, and short-term risk. By using that method,

NMFS discounted the available science regarding the threats and risks to river herring, and drew unwarranted conclusions from the facts found.

73. NMFS also improperly limited the information that was considered in its listing decision, including by relying on the 2017 Atlantic States Marine Fisheries Commission River Herring Stock Assessment Update. *See id.* at 28,635, 42-45. By relying on the Update, NMFS excluded available science that it should have considered as part of the status review and in making its listing determination. NMFS did not explain why it failed to consider that science and why it chose not to look at data that were not included in the Update.

74. In its analysis of demographic risks, NMFS abandoned its previous method for analyzing river herring population trends. In its 2013 Listing Decision, NMFS relied on “trend analysis modeling” in its extinction risk analysis. 78 Fed. Reg. at 48,986-92. In its latest decision, NMFS examined population data as one of many factors it considered, but did not update or redo its modeling. NMFS did not use the same “trend analysis modeling” process from 2013 in its 2019 extinction risk analysis. NMFS failed to explain this change of course, or why it did not consider the available 2013 trend analyses in its latest decision.

#### *Analysis of Climate Change Threats*

75. Two of the threats NMFS analyzed were “Climate Change and Vulnerability” and “Climate Change and Variability.” Listing Decision, 84 Fed. Reg. at 28,646-47.

76. The science considered by NMFS demonstrates the ways in which a changing climate will harm the two species. NMFS described scientific studies showing that ocean waters in the Northeast U.S. Shelf region have “warmed faster than the global average” over the last decade and are projected to warm “two to three times faster than the global average.” *Id.* at 28,646. Rising ocean temperatures may shrink the coastal ranges of the river herring and shift their ranges northward. *Id.* In their spawning and early life stages, the fish will be affected by extreme precipitation events and increases in the magnitude and frequency of floods. *Id.* The river herring populations at the southern end of the species’ ranges will likely be affected first by increasing river temperatures and extreme spring river flows as the climate warms. *Id.* at 28,646-47.

77. NMFS rated “vulnerability” to climate change as a “medium” threat to both species, *id.* at 28,647, meaning that it was a threat that “contributes significantly to long-term risk of extinction, but does not in itself constitute a danger of extinction in the near future,” *id.* at 28,645.

78. Separately, NMFS also rated climate change “variability” as a “medium” threat to certain DPSs from both species. *Id.* at 28,646.

79. Because NMFS’s analysis of climate change threats was cabined by its selection of a 12 to 18-year foreseeable future timeframe, the analysis did not consider scientific information regarding the threat of climate change and its effects beyond the year 2036. NMFS failed to consider the best available science, and failed

to follow its own guidance regarding which climate data to consider in its listing decisions.

*Extinction Risk Conclusions*

80. After analyzing climate change and other threats, NMFS ranked the overall extinction risk for each species using a points-based voting system. *Id.* at 28,661-62.

81. For alewife, 75 percent of points were allocated to a “low” risk of extinction, 22 percent to a “moderate” risk, and 3 percent to a “high” risk; for blueback herring, 66 percent of points were allocated to a “low” risk of extinction, 30 percent to a “moderate” risk, and 4 percent to a “high” risk. *Id.* at 28,661.

82. NMFS concluded that neither species met the definition of an endangered or threatened species, either rangewide or in any of the designated DPSs. *Id.* at 28,661-62.

83. Because NMFS failed to properly evaluate the threats to the two species due to climate change, its ultimate extinction risk conclusions improperly discounted the risk that the species may become extinct or in danger of extinction.

84. NMFS’s overall conclusions regarding the extinction risk to the species were also flawed because NMFS used improper methods when analyzing the threats and risks to the species

85. NMFS failed to explain its overall conclusions. NMFS failed to explain why the several threats that it found “contribute[] significantly to long-term risk of extinction”—including the significant threat of climate change to both species—

created only a “low” overall level of extinction risk, both separately and in combination with each other. 84 Fed. Reg. at 28,661-62; *see id.* at 28,645-61 (enumerating threats creating significant long-term risk).

*Significant Portion of Its Range Analysis*

86. NMFS also concluded that neither species was endangered or threatened in any significant portion of its range. *Id.* at 28,662-65.

87. NMFS failed to assess appropriate candidates for this part of its analysis.

88. NMFS failed to analyze whether the Southern New England stock complex of blueback herring is a significant portion of the range of the species. NMFS found that this stock complex is a genetically distinct group. *Id.* at 28,633-34. Although NMFS examined whether other stock complexes and populations of blueback herring were significant portions of its range, *id.* at 28,663-64, it did not analyze the Southern New England stock complex.

89. NMFS’s determination that the Southern New England stock complex of blueback is not a distinct population segment, coupled with its decision to exclude the stock from the significant portion of its range analysis, led to a failure by NMFS to perform *any* analysis of the risks and threats facing this stock, or of the overall risk of extinction to the stock.

90. NMFS also failed to consider whether any combination of stock complexes or regions of either species constitute a significant portion of its range. For example, it did not consider whether the combination of the Mid- and Southern

New England stock complexes of blueback herring constitute a significant portion of the species' range, despite the fact that the loss of those two stock complexes would leave a gap in the blueback herring's range stretching from the middle of Maine to the Rhode Island-Connecticut border. *See id.* at 28,641 (map).

91. Had the Service considered the loss of those two stock complexes together, it would likely have found that region to be "significant" given its geographical extent. Yet the Service failed to analyze the possible of the loss of this portion of the range, despite determining that the Mid-New England stock complex faces a high risk of extinction, *id.* at 28,664, and despite not conducting an analysis of the threats to the Southern New England stock complex.

92. As part of its significant portion of its range analysis, NMFS also concluded that the Mid-New England stock complex of blueback herring—which NMFS assessed to be at a "high" risk of extinction—did not represent a significant portion of the species' range. *Id.* at 28,664-65. Despite finding that the loss of this stock complex could disrupt connectivity across the range of the species, NMFS wrongly assumed that blueback herring from other stock complexes would "recolonize" rivers in the Mid-New England range. NMFS did not provide a legally defensible explanation for why this stock complex is not a significant portion of the species' range.

## FIRST CLAIM FOR RELIEF

### Alewife

(Violation of Endangered Species Act and Administrative Procedure Act)

93. Each and every allegation set forth in the preceding paragraphs is incorporated herein by reference.

94. Section 4 of the Endangered Species Act requires Defendants to list a species as threatened if it “is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” 16 U.S.C. §§ 1533(a), 1532(20).

95. Defendants must make a listing determination “solely on the basis of the best scientific and commercial data available.” 16 U.S.C § 1533(b)(1)(A). Defendants must include in their determination a summary of the data on which the determination is based, and must show the relationship of that data to the listing determination. *Id.* § 1533(b)(8).

96. Defendants’ Listing Decision for alewife was based on a flawed foreseeable future timeframe. Defendants’ decision to look only 12 to 18 years into the future was contrary to the Endangered Species Act and Defendants’ own regulations.

97. Defendants’ Listing Decision excluded the best available science regarding the effects of climate change on the species, including by failing to analyze effects beyond 12 to 18 years into the future.

98. Defendants' Listing Decision used a flawed method of analysis and reached the arbitrary conclusion that the species is not threatened or endangered despite Defendants having found multiple threats—including climate change—contributing to a long-term risk of extinction for the species.

99. Defendants' Listing Decision for alewife is arbitrary, capricious, and abuse of discretion, and not in accordance with law. 16 U.S.C. § 1540(g); 5 U.S.C. § 706(2)(A).

## **SECOND CLAIM FOR RELIEF**

### **Blueback Herring**

(Violation of Endangered Species Act and Administrative Procedure Act)

100. Each and every allegation set forth in the preceding paragraphs is incorporated herein by reference.

101. Defendants' Listing Decision for blueback herring was based on a flawed foreseeable future timeframe. Defendants' decision to look only 12 to 18 years into the future was contrary to the Endangered Species Act and Defendants' own regulations.

102. Defendants' Listing Decision excluded the best available science regarding the effects of climate change on the species, including by failing to analyze effects beyond 12 to 18 years into the future.

103. Defendants' Listing Decision used a flawed method of analysis and reached the arbitrary conclusion that the species is not threatened or endangered

despite Defendants having found multiple threats—including climate change—contributing to a long-term risk of extinction for the species.

104. Defendants’ Listing Decision for blueback herring is arbitrary, capricious, and abuse of discretion, and not in accordance with law. 16 U.S.C. § 1540(g); 5 U.S.C. § 706(2)(A).

### **THIRD CLAIM FOR RELIEF**

#### **Blueback Herring—Distinct Population Segments**

(Violation of Endangered Species Act and Administrative Procedure Act)

105. Each and every allegation set forth in the preceding paragraphs is incorporated herein by reference.

106. Defendants’ duty to list any threatened “species” requires them to list any threatened “distinct population segment” of blueback herring. 16 U.S.C. § 1532(16).

107. Defendants’ analysis of whether each stock complex of blueback herring was a distinct population segment was based on a flawed analysis of whether the extirpation of a given stock would result in a “significant gap” in the species’ range.

108. Defendants’ conclusion that the Mid-New England and Southern New England stock complexes of blueback herring are not distinct population segments of the species was based on an assumption that the rivers occupied by both the Mid-New England and Southern New England stock complexes of blueback herring will

be “recolonized” by fish from other regions within 10 generations, a theory that is not supported by and is contrary to the best available science.

109. Defendants’ Listing Decision with respect to the distinct population segments of blueback herring is arbitrary, capricious, and abuse of discretion, and not in accordance with law. 16 U.S.C. § 1540(g); 5 U.S.C. § 706(2)(A).

#### **FOURTH CLAIM FOR RELIEF**

##### **Blueback Herring—Significant Portions of Its Range**

(Violation of Endangered Species Act and Administrative Procedure Act)

110. Each and every allegation set forth in the preceding paragraphs is incorporated herein by reference.

111. Section 4 of the Endangered Species Act requires Defendants to list a species or a distinct population segment of that species as threatened if it is likely to become in danger of extinction within the foreseeable future in “a significant portion of its range.” 16 U.S.C. §§ 1533(a), 1532(20).

112. Defendants failed to assess whether the Southern New England stock complex of blueback herring constituted a significant portion of the range of the species.

113. Defendants failed to find that the Mid-New England stock complex was a significant portion of the range of the species, despite finding that this stock complex is “at a high risk of extinction.” Listing Decision, 84 Fed. Reg. at 82,664. Defendants’ decision that this stock complex is not biologically significant was based on its flawed “recolonization” theory.

114. Defendants failed to analyze whether any combination of stock complexes or regions of blueback herring constitute a significant portion of its range.

115. Defendants failed to analyze whether the potential loss of both the Mid-New England and Southern New England stock complexes of blueback herring would be a loss of a significant portion of the species' range, despite assessing the Mid-New England stock complex to be at a "high" risk of extinction, failing to analyze the threats facing the Southern New England stock complex or its level of risk of extinction, and assuming that each stock complex would be in existence and able to "recolonize" the other.

116. Defendants' Listing Decision with respect to the significant portions of the range of blueback herring and of the ranges of the distinct population segments of blueback herring is arbitrary, capricious, and abuse of discretion, and not in accordance with law. 16 U.S.C. § 1540(g); 5 U.S.C. § 706(2)(A).

### **PRAYER FOR RELIEF**

WHEREFORE Plaintiffs request that the Court:

1. Declare that Defendants are in violation of the Endangered Species Act and the Administrative Procedure Act;
2. Declare unlawful and set aside the Listing Decision, and order the Defendants to prepare a new listing determination that complies with the Endangered Species Act and the Administrative Procedure Act, within one year of this Court's order;

3. Retain jurisdiction over this matter until such time as Defendants have complied fully with the Court's order;
4. Grant Plaintiffs their costs of suit, including reasonable attorney fees;  
and
5. Grant Plaintiffs such other relief as the Court deems just and proper.

Dated: May 4, 2020

Respectfully Submitted,

/s/ Sharon Buccino  
Sharon Buccino  
D.C. Bar No. 432073  
Natural Resources Defense Council  
1152 15th Street NW, Suite 300  
Washington, DC 20005  
Tel.: 202-289-6868  
Fax: 202-289-1060  
sbuccino@nrdc.org

Samuel D. Eisenberg  
IL Bar No. 6333964  
(*pro hac vice* pending)  
Natural Resources Defense Council  
20 N Wacker Drive, Suite 1600  
Chicago, IL 60606  
Tel.: 312-651-7922  
Fax: 312-332-1908  
seisenberg@nrdc.org

Bradford H. Sewell  
NY Bar No. 2565596  
(*pro hac vice* pending)  
Natural Resources Defense Council  
40 West 20th Street  
New York, NY 10011  
Tel.: 212-727-4507  
Fax: 212-727-1773  
bsewell@nrdc.org

*Counsel for Plaintiff*  
NATURAL RESOURCES DEFENSE  
COUNCIL, INC.

/s/ Roger Fleming (with permission)  
Roger Fleming  
D.C. Bar No. ME0001\*\*  
Blue Planet Strategies, LLC  
47 Middle Street  
Hallowell, ME 04347  
Tel.: 978-846-0612  
Fax: 253-559-8035  
rflemingme7@gmail.com

*Counsel for Plaintiffs*  
ANGLERS CONSERVATION  
NETWORK, GREAT EGG HARBOR  
RIVER COUNCIL, and GREAT EGG  
HARBOR WATERSHED ASSOCIATION

\*\*Not admitted to the District of  
Columbia Bar. Representation is limited  
to a Federal Court of the United States.