

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA**

SOUTH CAROLINA COASTAL CONSERVATION LEAGUE;
CENTER FOR BIOLOGICAL DIVERSITY; DEFENDERS OF
WILDLIFE; NATURAL RESOURCES DEFENSE COUNCIL,
INC.; NORTH CAROLINA COASTAL FEDERATION;
OCEANA; ONE HUNDRED MILES; SIERRA CLUB; AND
SURFRIDER FOUNDATION,

Plaintiffs,

v.

NATIONAL MARINE FISHERIES SERVICE; WILBUR ROSS,
in his official capacity as the Secretary of Commerce;
and CHRIS OLIVER, in his official capacity as the
Assistant Administrator for Fisheries,

Defendants.

Civ. No. 2:18-cv-3326-RMG
(Consolidated with 2:18-cv-3327-RMG)

**MEMORANDUM IN SUPPORT OF
PLAINTIFFS' MOTION FOR A
PRELIMINARY INJUNCTION**

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TABLE OF ACRONYMS

APA	Administrative Procedure Act
BiOp	Biological Opinion
BOEM	Bureau of Ocean Energy Management
CBD	Center for Biological Diversity
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
MMPA	Marine Mammal Protection Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRDC	Natural Resources Defense Council
OCSLA	Outer Continental Shelf Lands Act

INTRODUCTION

For over 30 years, bipartisan support has prevented oil and gas exploration and development off the Atlantic Coast. As a result, marine species, including the critically endangered right whale, have avoided harm from seismic airgun blasting, an exploration method that locates undersea oil and gas deposits by firing dozens of pressurized airguns into the ocean at once. Unless this Court intervenes, that is about to change. On November 30, 2018, the National Marine Fisheries Service (NMFS), following the President's directive to expedite offshore drilling, issued permits allowing five oil and gas exploration companies to blast seismic airguns up and down the Atlantic coastline. Seismic airguns create an underwater blast louder than all but military-grade explosives. Survey vessels fire these airguns as often as every ten seconds, twenty-four hours a day, for months and months on end. In total, the companies plan to fire airguns more than five million times. And they will begin firing as soon as next month.

For many marine species, seismic blasting will interfere with the ability to find food, care for their young, and communicate—behaviors critical to survival. NMFS concedes that marine mammals will suffer harms like these hundreds of thousands of times. For North Atlantic right whales and beaked whales, the consequences may be the most dire. Only a few hundred North Atlantic right whales remain; just over 100 are breeding females. Each year, right whales migrate south to the waters from South Carolina to Florida—the species' only known calving grounds—to give birth to their young. Given the species' precarious state, the loss of even one female right whale or calf could be disastrous. Despite acknowledging the risk that seismic blasting poses to right whales, including the potential for mother-calf separation, NMFS authorized surveys in the species' migration route and adjacent to their calving grounds. NMFS also authorized surveys in the waters off North Carolina's Outer Banks, home to beaked whales, some of the most acoustically sensitive marine mammals on Earth. These whales can react to loud sounds by

diving erratically, a behavior that can cause serious injury and death. Even so, NMFS authorized surveys that will repeatedly blast some of the world's densest beaked whale populations.

Plaintiffs seek to prevent seismic blasting from causing irreparable harm to marine wildlife, and are likely to prevail on their claims under three federal statutes. First, under the Marine Mammal Protection Act (MMPA), NMFS may authorize the harassment of only “small numbers” of marine mammals, and only if it has a “negligible impact” on marine mammal populations. 16 U.S.C. § 1371(a)(5)(D). Yet NMFS authorized each survey to harass up to 33 percent of many populations—in some cases tens of thousands of animals. NMFS then evaded the negligible-impact requirement by analyzing each survey's impact in isolation, ignoring the other four surveys. Second, the Endangered Species Act (ESA) protects endangered species like right whales against actions likely to jeopardize their survival and recovery. 16 U.S.C. § 1536(a)(2). To dodge that restriction, NMFS minimized the harm to right whales by using a scientific standard that the agency itself has rejected to define the number of animals that will be harmed and by ignoring the potential for surveys to overlap in time and space or be continuous in an area. Third, NMFS bypassed the National Environmental Policy Act's (NEPA) review process by asserting that opening these biologically rich waters to more than five million airgun blasts—harming marine mammals, sea turtles, and other marine life hundreds of thousands of times—was insignificant. *See* 42 U.S.C. § 4332(2)(C).

NMFS embraced these flawed legal interpretations—and repeatedly downplayed the widespread impacts of seismic blasting—to accommodate the administration's offshore drilling policy. Its decision to authorize seismic blasting cannot be reconciled with the protections embodied in the MMPA and ESA, nor with NEPA's mandate to fully consider significant environmental impacts like those here. Plaintiffs respectfully urge the Court to grant preliminary

relief enjoining seismic airgun blasting until NMFS complies with its statutory obligations.

BACKGROUND

I. Factual Background

The Mid- and South Atlantic Ecosystem. NMFS has authorized seismic surveys throughout the Mid- and South Atlantic Outer Continental Shelf planning areas, a coastal region that stretches from Delaware to Florida and provides unique habitat for marine life. *E.g.*, Notice of Issuance of Five Incidental Harassment Authorizations, 83 Fed. Reg. 63,268, 63,270 (Dec. 7, 2018); Ex. 1, Seismic Biological Opinion at 96-113 (hereafter Seismic BiOp).¹ At least 34 marine mammal species swim these waters. *See* 83 Fed. Reg. at 63,316. They include one of the most imperiled marine mammals in the world—the North Atlantic right whale. *Id.* Approximately 411 of these whales remain, including just over 100 breeding females. Ex. 2, 2018 North Atlantic Right Whale Report Card; Ex. 3, NOAA Press Release (Nov. 15, 2018). At least 20 have died since April 2017—an unprecedented number in modern times. *See* 83 Fed. Reg. at 63,319. New births have slowed, with no new calves sighted during the 2017–18 calving season, *see id.*, and only seven calves spotted so far this season, Ex. 4. In the words of one NMFS official, “[y]ou do have to use the extinction word, because that’s where the trend lines say they are.” *See* Ex. 5. Coastal waters from South Carolina to Florida provide the species’ only known calving grounds, and much of its migratory route lies within the survey area. *See* Seismic BiOp at 84. Right whales are present in the region year-round. *Id.*; 83 Fed. Reg. at 63,303, 63,321-23.

The region also includes an area near Cape Hatteras where the Labrador Current and Gulf Stream converge to form one of the most biologically productive marine ecosystems in the

¹ Unless otherwise specified, all exhibits are attached to the Fort Declaration.

western North Atlantic. *See* 83 Fed. Reg. at 63,354; Read Decl. ¶ 24. This area is home to one of the densest populations of beaked whales ever observed. Read Decl. ¶¶ 13, 23. These whales live and feed in the area year-round. *See, e.g.*, 83 Fed. Reg. at 63,302.

The Seismic Surveys. NMFS granted incidental harassment authorizations to five companies: Spectrum Geo Inc., TGS-NOPEC Geophysical Company (TGS), Ion GeoVentures, WesternGeco, LLC (Western), and CGG. *Id.* at 63,268, 63,381. Seismic survey ships each tow dozens of airguns charged with high-pressure air. Every ten seconds or so, each ship's airguns fire together, generating one of the loudest sounds in the ocean—effectively registering at up to 260 decibels, and powerful enough to penetrate thousands of meters below the ocean floor to identify potential subsurface oil and gas deposits. *See id.* at 63,269, 63,272 tbl. 1; Ex. 6, Atlantic Programmatic Environmental Impact Statement (EIS) at 4-133. The ships' paths will overlap, repeatedly blasting the region with a total of more than 5 million blasts in the coming months. *See* Bernard Decl. ¶¶ 12-18 (citing data from Ex. 7, Environmental Assessment (EA) at 26).

The intense, unceasing noise from seismic surveying will transform the Atlantic marine ecosystem. For marine life exposed at close range, it can cause death or permanent injury. Atlantic Programmatic EIS at H-8 to -9; 83 Fed. Reg. at 63,280, 63,338; Rice Decl. ¶¶ 24, 28. Seismic airgun blasting reduces the presence of certain fish species and may kill over 50 percent of zooplankton—the foundation of the marine food web—in the airguns' vicinity. 83 Fed. Reg. at 63,279-80; Rice Decl. ¶¶ 29-30.

Moreover, seismic surveys threaten the most important sense that marine species like whales and dolphins possess: their hearing. *E.g.*, 83 Fed. Reg. at 63,324. In the depths of the ocean, virtually every essential life function depends on the ability to hear. *See* Ex. 8, NOAA *Ocean Noise Strategy Roadmap* at 27. Seismic blasts will overwhelm marine animals' ability to

hear the world around them, interfering with their ability to find food and communicate with their young calves; the blasts will displace them from migration routes and prime habitat, and drive some to erratic behaviors that risk serious injury or death. *See* 83 Fed. Reg. at 63,276; Seismic BiOp at 172-84; Nowacek Decl. ¶¶ 7, 14-15; Rice Decl. ¶ 36; Tyack Decl. ¶¶ 9, 13-14. By NMFS’s own estimate, whales and dolphins will suffer these disturbances over 375,000 times. *See* 83 Fed. Reg. at 63,376 tbls. 15, 17. Because marine animals hear seismic airgun noise at biologically meaningful levels at distances of tens, hundreds, or even thousands of miles, Nowacek Decl. ¶ 11; Rice Decl. ¶¶ 11, 20, these effects will be felt across vast areas of ocean. Effects will be most severe when they happen repeatedly, as is likely with five surveys crisscrossing the area. *E.g.*, Watkins Decl., Fig. 1 (showing density and overlap of survey tracklines); Ex. 9, 2013 Atlantic Programmatic BiOp at 229; 83 Fed. Reg. at 63,278.

Right whales and beaked whales will suffer particularly severe harm. Seismic blasting “represents an existential threat” to right whales. Kraus Decl. ¶ 5. It will subject the most vulnerable right whales—reproductive females and calves—to a significant additional stressor, lowering the likelihood of reproduction in a population for which every calf is critical to the species’ survival and recovery. *Id.* ¶ 30; Nowacek Decl. ¶ 16. Seismic blasting will also interfere with communication between right whale calves and mothers, risking a premature separation that would be fatal for the calf. Kraus Decl. ¶ 27; Nowacek Decl. ¶ 32. Likewise, beaked whales are among the most acoustically sensitive marine mammals in the world. *See* 83 Fed. Reg. at 63,328, 63,365; Tyack Decl. ¶¶ 10, 14, 16. Because blasting will concentrate near Cape Hatteras, home to many beaked whales, its disruption of whales’ behavior—like interrupting their search for food by causing them to flee and avoid areas of seismic blasting—may injure or kill individual whales and harm entire populations. Read Decl. ¶¶ 13, 36, 39-40, 49.

II. Statutory and Regulatory Framework

Seismic companies must receive two distinct approvals to begin blasting: a geological and geophysical permit from the Bureau of Ocean Energy Management (BOEM) authorizing the surveys, and a harassment authorization from NMFS authorizing the marine mammal harassment that seismic airgun blasting will cause. BOEM's permits are issued under the Outer Continental Shelf Lands Act (OCSLA). NMFS's harassment authorizations are issued under the MMPA. Both approvals are also governed by the ESA and NEPA.

MMPA. Congress enacted the MMPA to protect marine mammal populations “in danger of extinction or depletion as a result of man’s activities.” 16 U.S.C. § 1361(1). The heart of the MMPA is a prohibition on the “taking”—including the harassment—of marine mammals. *Id.* §§ 1371(a), 1372(a). Prohibited harassment includes any act that has the potential to injure a marine mammal or disrupt behavioral patterns like migration, breeding, and feeding. *Id.* § 1362(18)(A). Incidental harassment authorizations are a limited exception to this prohibition under which NMFS may allow activities that will harass marine mammals, so long as the harassment affects only “small numbers of marine mammals of a species or population stock” and will have only “a negligible impact on such species or stock.” *Id.* § 1371(a)(5)(D)(i)(I).

ESA. The ESA is “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978) (“*TVA v. Hill*”). ESA section 7(a)(2) prohibits federal agencies from authorizing any action “likely to jeopardize the continued existence” of endangered or threatened species. 16 U.S.C. § 1536(a)(2). “Jeopardy” results when an action “reduce[s] appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.” 50 C.F.R. § 402.02. When NMFS authorizes private actions that may affect threatened or endangered marine species, it must prepare a biological opinion that determines

whether the action, in the context of the existing status of the species, added to the environmental baseline, and “taken together with cumulative effects, is likely to jeopardize the continued existence of a species.” 50 C.F.R. § 402.14(g)(4), (h)(3); *see* 16 U.S.C. § 1536(b)(3)-(4). NMFS must use the best available scientific data to formulate this opinion. 50 C.F.R. § 402.14(g)(8).

NEPA. NEPA ensures that federal agencies take a hard look at the environmental consequences of their actions before they act. *See* 42 U.S.C. §§ 4321, 4332(2)(C); 40 C.F.R. §§ 1501.2, 1502.5. Federal agencies must prepare an EIS, a thorough environmental review document, for all “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C). Only for insignificant actions may the agency rely on a less demanding EA.

III. Procedural Background

Until recently, the Atlantic was closed to oil and gas production and exploration, including seismic surveys. *See* Seismic BiOp at 9. In 2014, BOEM prepared a Programmatic EIS that looked at the potential effects of a variety of exploration activities in the Atlantic from 2012-2020. *See* Atlantic Programmatic EIS at v. Shortly thereafter, the five survey companies in this case applied to BOEM and NMFS for permits to begin seismic surveying in the Atlantic. *See* 83 Fed. Reg. at 63,268. After careful review, in January 2017, BOEM denied those companies’ applications, concluding that “[d]eep penetration seismic airgun surveys come with an environmental burden,” and that the “value” of “the information from the surveys does not outweigh the risks,” including the “potential disadvantage to [the] small, critically endangered, and declining population [of North Atlantic right whales].” Ex. 10 at 1, 5-6. NMFS then halted consideration of the companies’ pending harassment authorization requests. Ex. 11.

Shortly after taking office, President Trump issued an Executive Order aimed at opening the nation’s oceans, including the Atlantic, to offshore drilling. *See* Ex. 12. At the President’s

direction, NMFS changed course, first proposing and then issuing harassment authorizations to all five companies. 83 Fed. Reg. at 63,273. NMFS also issued a biological opinion under the ESA, concluding that the five companies' surveys would not jeopardize any endangered or threatened species. *See* Seismic BiOp. Finally, NMFS prepared an EA, concluding that a site-specific EIS was not required because the five surveys would not have a "significant" impact. *See* EA. Once BOEM issues its own permits, seismic companies can begin airgun blasting in as little as 30 days. Cruickshank Decl. ¶ 9, ECF No. 72-1.

STANDARD OF REVIEW

A preliminary injunction "preserve[s] the relative positions of the parties until a trial on the merits can be held." *United States v. South Carolina*, 720 F.3d 518, 524 (4th Cir. 2013) (quoting *Univ. of Tex. v. Camenisch*, 451 U.S. 390, 395 (1981)); *see* 5 U.S.C. § 705. A plaintiff is entitled to that remedy upon showing "that he is likely to succeed on the merits, that he is likely to suffer irreparable harm in the absence of preliminary relief, that the balance of equities tips in his favor, and that an injunction is in the public interest." *Di Biase v. SPX Corp.*, 872 F.3d 224, 230 (4th Cir. 2017) (quoting *Winter v. NRDC*, 555 U.S. 7, 20 (2008)).

Plaintiffs' claims are reviewable under the Administrative Procedure Act (APA), which empowers courts to set aside agency actions that are "arbitrary and capricious" or "otherwise not in accordance with law." 5 U.S.C. §§ 701-706. Under the APA, a reviewing court "must not reduce itself to a 'rubber stamp' of agency action." *N.C. Wildlife Fed'n v. N.C. Dep't of Transp.*, 677 F.3d 596, 601 (4th Cir. 2012). The APA requires an agency to "articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made." *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (internal quotation marks omitted). An agency may not "entirely fail[] to consider an important aspect of the problem," or "offer[] an explanation for its decision that runs counter to

the evidence before the agency, or is . . . implausible.” *Id.* If an agency’s decision is “unreasonable as a matter of law, it is likely to have been arbitrary and capricious.” *Friends of Back Bay v. U.S. Army Corps of Eng’rs*, 681 F.3d 581, 587 (4th Cir. 2012).

ARGUMENT

I. Plaintiffs Are Likely to Succeed on the Merits of Their Claims.²

In issuing harassment authorizations, NMFS violated the MMPA, the ESA, and NEPA.³ Time after time, the agency elevated the current administration’s offshore drilling policy over both common sense and the protections of the statutes it was entrusted to implement. NMFS used flawed legal interpretations to avoid the strict requirements of the MMPA. It downplayed the magnitude of harm by artificially segmenting its analysis, considering each survey in isolation even as it greenlighted all five. It conceded the potential for profound impacts to critically endangered species like right whales, then assumed those impacts away. And it short-circuited the review process that would have forced it to grapple with the true effects of seismic blasting by summarily concluding that opening the Atlantic to oil and gas exploration for the first time in decades would be insignificant. NMFS’s many shortcuts and its flawed legal analyses ignore basic principles of administrative law and violate the MMPA, the ESA, and NEPA.

A. NMFS’s Harassment Authorizations Violate the MMPA.

Plaintiffs are likely to show that NMFS violated the MMPA in two ways. First, NMFS

² Plaintiffs have standing, as demonstrated by their attached declarations. First, their members have standing: NMFS’s actions, and the resulting harm to marine species, injure Plaintiffs’ members by interfering with their use, enjoyment, and research of the ocean and marine life. *See infra* 33-34; *Hill v. Coggins*, 867 F.3d 499, 505 (4th Cir. 2017). The relief Plaintiffs seek will redress these injuries by halting seismic surveys. Second, this suit is germane to Plaintiffs’ organizational purposes, *see, e.g.*, Cantral Decl.; Keyes Decl.; T. Miller Decl. Third, neither the claims asserted nor the relief sought requires the participation of individual members. *See Friends of the Earth, Inc. v. Gaston Copper Recycling Corp.*, 204 F.3d 149, 155 (4th Cir. 2000).

³ For purposes of preliminary relief, Plaintiffs focus here on a subset of the agency’s errors.

violated the MMPA’s “small numbers” requirement by allowing each company to harass up to 33 percent of many marine mammal populations, a percentage that is not “small” under any reasonable definition. Second, NMFS violated the MMPA’s “negligible impact” requirement by evaluating each survey’s impact in isolation, irrationally refusing to analyze whether each survey’s impact would be negligible when added to the other four surveys.⁴

1. NMFS’s Interpretation of “Small Numbers” Is Unlawful.

The MMPA permits NMFS to authorize the harassment of only “small numbers of marine mammals of a species or population stock.” 16 U.S.C. § 1371(a)(5)(D)(i). NMFS interpreted this requirement to allow each company to harass up to 33 percent of many affected marine mammal populations—in some cases, tens of thousands of whales and dolphins. NMFS theorized that Congress’s use of “small numbers” implies there “also could be ‘medium’ or ‘large’ numbers.” 83 Fed. Reg. at 63,375. Based on that assumption, NMFS decided that all numbers must fall into one of three “equal bins,” with “small numbers” those from 0-33 percent, “medium” numbers those from 34-66 percent, and “large” numbers those from 67-100 percent. *Id.* NMFS did not purport to derive its three-equal-bins explanation from the statute’s text, structure, or conservation purpose. NMFS’s explanation certainly does not comport with the way we ordinarily talk or think about numbers. To the contrary, the plain meaning of the phrase “small numbers,” precedent, and the phrase’s use elsewhere in the MMPA all foreclose the agency’s assertion that 33 percent of an entire population is a small number.

The statutory phrase “small numbers of marine mammals” is not defined in the MMPA.

⁴ To the extent NMFS interpreted the MMPA in issuing its harassment authorizations, its interpretations are only entitled to “respect” based on the “persuasiveness” of the agency’s reasoning. *See, e.g., High Sierra Hikers Ass’n v. Blackwell*, 390 F.3d 630, 648 (9th Cir. 2004) (denying deference under *Chevron U.S.A., Inc. v. NRDC*, 468 U.S. 837 (1984), “because [the agency] was granting permits, not acting in a way that would have precedential value”).

“When a term goes undefined in a statute, we give the term its ordinary meaning.” *Taniguchi v. Kan Pac. Saipan, Ltd.*, 566 U.S. 560, 566 (2012). Here, the ordinary meaning forecloses NMFS’s interpretation. A number is small if it is “few in number,” “little,” Webster’s Third New International Dictionary 2149 (1986), or “close to zero,” Merriam-Webster Online Dictionary (2018), <https://www.merriam-webster.com/dictionary/small> (accessed Feb. 19, 2019).⁵ Thirty-three percent of a population is not a “few” members of the population or a “little” number. Common usage makes clear that a “small number of marine mammals” cannot mean one out of every three animals. If one-third of Charleston residents lost power after a storm, no reasonable person would say a “small number” of residents were affected.

Precedent confirms as much. No court has upheld an interpretation of “small numbers” that even approaches the one NMFS advances here. In the only decision to squarely grapple with the meaning of “small numbers” under the MMPA, a federal court concluded that “[a] definition of ‘small number’ that permits the potential taking of as much as 12% of the population of a species is plainly against Congress’ intent.” *NRDC v. Evans*, 279 F. Supp. 2d 1129, 1152 (N.D. Cal. 2003). The sole case NMFS cited to justify its threshold, *CBD v. Salazar*, 695 F.3d 893, 907 (9th Cir. 2012) (cited in 83 Fed. Reg. at 63,375), involved a number of takes “an order of magnitude” lower than the population size—meaning takes of ten percent or less. *Id.*

Moreover, the court in *CBD* merely confirmed that NMFS may adopt a proportional definition of

⁵ NMFS claims a different dictionary definition of “small”—“having comparatively little size”—supports its 33-percent interpretation. 83 Fed. Reg. at 63,301. Not so. The dictionary NMFS cites is clear that when “small” refers to “an objectively measurable aspect (*such as quantity*),” the definitions cited in the main text (“little or close to zero”) control. *See* Merriam-Webster Online Dictionary (emphasis added). In any event, the definition NMFS cites would only support *some* proportional definition of “small.” It does not speak to what proportion is “small.”

“small numbers”; it did not state what proportion is lawful.⁶

When interpreting nearly identical language in the Copyright Act of 1976, courts have unanimously concluded that the statutory phrase “a relatively small number,” 17 U.S.C. § 405(a)(1), excludes proportions over ten percent. *See, e.g., NEC Corp. v. Intel Corp.*, No. C-84-20799-WPG, 1989 WL 67434, at *4 (N.D. Cal. Feb. 6, 1989) (“An examination of twenty federal court decisions that have considered the matter discloses none in which 10.6% was held to be a relatively small number. The highest percentage found to have been within the exception is 9%”). These decisions relied on the plain meaning of “relatively small number,” not any consideration unique to the Copyright Act.

That “small numbers” cannot mean 33 percent is confirmed by that phrase’s use elsewhere in the MMPA. Congress imposed an identical “small numbers of marine mammals” requirement on authorizing activities that may seriously injure or kill marine mammals. 16 U.S.C. § 1371(a)(5)(A)(i); 50 C.F.R. § 216.107(a). In general, “identical words used in different parts of the same act are intended to have the same meaning.” *Healthkeepers, Inc. v. Richmond Ambulance Auth.*, 642 F.3d 466, 472 (4th Cir. 2011) (quoting *Helvering v. Stockholms Enskilda Bank*, 293 U.S. 84, 87 (1934)). If NMFS is right that 33 percent is a “small number,” that would mean Congress intended to allow *each* permittee to injure or kill one out of every three animals in each affected marine mammal population. Yet allowing such extensive harm would directly conflict with the MMPA’s protective purpose, as it could quickly lead to the extinction of the species. *See* 16 U.S.C. § 1361(1), (2), (6) (describing the purposes of the MMPA).

⁶ NMFS’s 33-percent threshold results in takes that are, as an absolute matter, not “small.” For example, NMFS authorized TGS to harass 52,000 short-beaked common dolphins and Western to harass 20,000 bottlenose dolphins. 83 Fed. Reg. at 63,376 tbl. 15. Plaintiffs focus here on the flaws in NMFS’s proportional limit, but the authorized takes are also not small as an absolute matter.

In short, NMFS’s 33-percent threshold was not drawn from the statute’s text, precedent, or purpose. Instead, it was a transparent attempt to squeeze the enormous number of marine mammals harassed by these surveys into the statute’s narrow “small numbers” exception. Plaintiffs are likely to show that NMFS’s interpretation is unreasonable and unlawful.

2. NMFS’s Negligible Impact Analyses Irrationally Considered the Impacts of Each Survey in Isolation.

To be lawful, an agency’s action must “be the product of reasoned decisionmaking.” *State Farm*, 463 U.S. at 52. An agency must “articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made,” and must not “entirely fail[] to consider an important aspect of [a] problem.” *Id.* at 43. NMFS’s negligible-impact determinations violate these commands by failing to account for the overlapping, additive impacts of five contemporaneous seismic surveys.

Under the MMPA, NMFS cannot lawfully authorize any action unless it will have “a negligible impact on [each marine mammal] species or stock.” 16 U.S.C. § 1371(a)(5)(D)(i)(I). An impact is “negligible” if it “cannot be reasonably expected” to “adversely affect the species” by reducing “annual rates of recruitment or survival.” 50 C.F.R. § 216.103. Here, NMFS authorized five seismic surveys during the same time period, in the same area, 83 Fed. Reg. at 63,269, and acknowledged the surveys would disrupt the feeding, communication, and breeding of the same marine mammal populations, *e.g. id.* at 63,316-18. But NMFS never evaluated whether the five seismic surveys it authorized, simultaneously and in one document, would have more than a negligible impact on marine mammal populations. Instead, the agency “consider[ed] the potential impacts” of each survey “independently”—that is, in isolation. *See id.* at 63,269.

NMFS’s approach is irrational because it ignores the reality that each survey will not take place in isolation and marine mammals will not experience its effects in isolation. Instead, five

million aggregate airgun blasts, over months of survey activity, will hit the same marine mammal populations—driving them from their food, potentially separating them from their vulnerable calves, and disrupting their behavior. *See id.* at 63,269-70. The combined surveys will have more significant impacts on affected species than a single survey would: they will harass more animals than a single survey would, and they will harass individual animals more times than a single survey would. As the agency acknowledged, disruptions “are more likely to be significant if they last more than one [day] or recur on subsequent days.” 82 Fed. Reg. 26,244, 26,278 (June 6, 2017) (incorporated by reference at 83 Fed. Reg. 63,325). By looking at each survey’s “impact” in isolation, NMFS refused to consider the ways in which those impacts will build on one another.⁷ While a survey might harass a marine mammal for the third, fourth, or fifth time, NMFS pretended that each survey would be the *sole* source of seismic blasting in the region.

Courts have recognized in analogous contexts that an agency’s analysis of a proposed action is irrational if it fails to consider the real-world environmental stressors that will influence how, and how significantly, the proposed action affects the environment. For example, in *Concerned Friends of the Winema v. U.S. Forest Service*, the court held that the agency improperly evaluated “the adverse effects of . . . grazing on [a] sensitive species” when it considered only authorized grazing, ignoring unauthorized grazing occurring in the same place. No. 1:14-CV-737-CL, 2016 WL 10637010, at *8-9 (D. Or. Sept. 12, 2016), *R. & R. adopted by* 2017 WL 5957811 (D. Or. Jan. 18, 2017); *see also U.S. Air Tour Ass’n v. FAA*, 298 F.3d 997, 1001, 1018-19 (D.C. Cir. 2002) (finding arbitrary agency decision to analyze only noise from air tours and not from other flights in measuring flight noise levels at the Grand Canyon).

⁷ NMFS could have conducted one negligible-impact analysis for the total take from all five surveys, or perhaps could have conducted five negligible-impact analyses, each evaluating the impact of each new survey when added to the others. NMFS did neither.

NMFS itself has previously agreed that, in evaluating whether an activity's impact will be negligible, it must consider the other stressors to which it will be added. In promulgating its definition of "negligible impact," NMFS asserted that "the impacts . . . from successive or contemporaneous activities must be added to the baseline of existing impacts to determine negligible impact." 54 Fed. Reg. 40,338, 40,342 (Sept. 29, 1989). NMFS recognized that even impacts that are "fairly minor" could "be more than negligible when measured against a baseline that includes a significant existing take of marine mammals from the other activities." *Id.*⁸

The agency claimed to follow that principle here, adding each survey's impact to those of other "past and ongoing anthropogenic activities," like vessel strikes, entanglement in fishing gear, and exposure to contaminants. 82 Fed. Reg. at 26,296, 26,299. But, inexplicably, NMFS refused to add the impact of each survey to the impact of the *other four surveys*. Instead, NMFS claimed—for each survey—that the other surveys, though authorized the same day, and though occurring contemporaneously, were "future" activities that were "unrelated" to the survey being evaluated and thus did not need to be considered. *See* 83 Fed. Reg. at 63,283. But it is logically impossible for all five surveys to be "future" activities with respect to one another. They will either be contemporaneous, or they will follow one another—in which case the later surveys' impacts will build on those of the prior surveys. Far from being "unrelated," the surveys will harass the same marine mammals at the same time, resulting in mounting impacts. NMFS's approach irrationally ignores these realities.

The flaw in NMFS's approach is perhaps best exposed by the absurd results it would permit. The primary purpose of the "negligible impact" standard is to prevent the "extinction or

⁸ Plaintiffs dispute NMFS's conclusion that each survey's isolated impact is negligible, but NMFS's analysis is irrational even if the agency is right about those isolated impacts.

depletion” of marine mammal species, 16 U.S.C. § 1361(1), by “ensuring that marine mammals are maintained at healthy population levels,” H.R. Rep. No. 97-228, at 11 (1981); *see* 16 U.S.C. § 1361(2). But, by its rationale here, if NMFS concluded that injuring ten endangered whales would have a negligible impact on the species, it could authorize applicants to simultaneously injure *all* remaining whales—perhaps repeatedly—so long as it did so in separate authorizations and no individual applicant injured more than ten. By that logic, even if an activity would, when added to other stressors on the species, lead to extinction, NMFS could authorize that activity so long as its impact was “negligible” if viewed in isolation. At least one court has refused to allow NMFS to apply the “negligible impact” standard in a way that would risk “authorizing the wiping out of endangered and threatened species.” *Conservation Council for Haw. v. NMFS*, 97 F. Supp. 3d 1210, 1221 (D. Haw. 2015). This court should do the same. NMFS’s negligible-impact analyses, which irrationally considered each survey in isolation, are unlawful.

B. The Biological Opinion Violates the ESA.

Section 7 of the ESA prohibits federal agencies from authorizing any action “likely to jeopardize the continued existence” of endangered or threatened species. 16 U.S.C. § 1536(a)(2). Here, NMFS violated its obligation to analyze rationally—based on the best available scientific data—whether seismic blasting will jeopardize the survival and recovery of endangered species like North Atlantic right whales. *See id.* § 1536(b)(3)(A); 50 C.F.R. §§ 402.02, 402.14(g), (h). The loss of a single right whale mother or calf has serious ramifications for a population of 411 animals in which deaths are far outpacing births. *See* Seismic BiOp at 126 (stating right whales “continue to face very high risks of extinction because of their small population sizes and low population growth rates”). The right whale has no margin for NMFS’s errors, guesswork, or unsubstantiated assumptions. Yet NMFS’s “no jeopardy” conclusion depended on multiple analytical omissions and assumptions, and is not based on the best available science. NMFS’s

jeopardy analysis also failed to address the full scope of the agency’s action. Plaintiffs are likely to succeed on their claim that the biological opinion is arbitrary and capricious.

1. NMFS Relied on Unfounded Assumptions and Violated Its Statutory Obligation to Rely on the Best Available Science.

In the biological opinion, NMFS found that North Atlantic right whale mother and calf pairs are the most vulnerable to threats from seismic surveys. *See, e.g.*, Seismic BiOp at 193 (finding “females with calves are expected to be the most vulnerable to energetic losses” from harassment from seismic blasts and that “[t]his is especially true for North Atlantic right whales given that many right whales appear to be in poor health”); *id.* at 188-89, 190. NMFS also concluded that disturbance from noise can harm right whale calves. *See, e.g., id.* at 189 (survey blasts could “have effects on mother-calf communication and behavior,” which, if they prevented mothers and calves from reuniting or initiating nursing, could “lead to reduced growth, starvation, and even death”); *id.* at 189 (concluding that survey blasts could interfere with mother-calf reunions); *id.* at 139 (finding that mother-calf pairs appear to be most reactive to vessel disturbance). In the end, NMFS estimated that the seismic surveys will harass at least 19 right whales, including four mothers and calves, *id.* at 158, but concluded that they are “not likely to jeopardize” the species, *id.* at 205. That conclusion is based on science that the agency itself has rejected, a series of unfounded assumptions, and critical analytical omissions.⁹

a. NMFS Violated the ESA and Significantly Underestimated the Harm from Seismic Surveys by Relying on an Outdated Threshold that the Agency Itself Has Rejected.

Section 7 of the ESA requires NMFS to “use the best scientific and commercial data available” in its biological opinion. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(g)(8). As the

⁹ While most problematic for right whales, NMFS’s errors pervade the conclusions of the biological opinion for all listed species.

Fourth Circuit has recognized, when a biological opinion uses “data [that] are either outdated or inaccurate, it should, at the very least, analyze the new data or explain why it nevertheless chose to rely on the older data.” *Dow AgroSciences LLC v. NMFS*, 707 F.3d 462, 473 (4th Cir. 2013); *see also Sierra Club v. U.S. Dep’t of Interior*, 899 F.3d 260, 273 (4th Cir. 2018) (holding that “best scientific and commercial data” standard requires consideration of post-application data). An agency’s reliance on outdated information is arbitrary and capricious. *Intertribal Sinkyone Wilderness Council v. NMFS*, 970 F. Supp. 2d 988, 998-1002 (N.D. Cal. 2013) (invalidating NMFS’s reliance on outdated exposure thresholds the agency had abandoned elsewhere); *Ocean Mammal Inst. v. Gates*, 546 F. Supp. 2d 960, 975 (D. Haw. 2008), *modified in part*, No. CIV. 07-00254DAELEK, 2008 WL 2020406 (D. Haw. May 9, 2008) (same).

NMFS failed to rely on the best available science to estimate the number of exposures of endangered whales. To minimize the impacts of seismic blasting, it relied instead on a standard the agency itself recently rejected. NMFS employed a sound threshold of 160 decibels to estimate the number of instances of marine mammal “harassments” that will result from seismic surveying. Seismic BiOp at 151, 153. That is, NMFS only counted whales as “harassed” if they were exposed to sound levels at or above 160 decibels. *Id.* NMFS characterized this exposure threshold as “utiliz[ing] the best available information and methods.” *Id.* at 151.

But months earlier, in proposing to authorize seismic surveys in the Gulf of Mexico, NMFS abandoned the 160-decibel threshold. *See* 83 Fed. Reg. 29,212, 29,247-48 (June 22, 2018). There, the agency announced that “[s]tudies of marine mammals in the wild and in experimental settings do not support” use of a single 160-decibel threshold. *Id.* at 29,247. NMFS declared “that an approach reflecting a more complex probabilistic function is better reflective of available scientific information,” because it “takes the fundamental step of acknowledging the

potential for . . . harassment at exposures to received levels below 160 [decibels].” *Id.* at 29,248.

The model that NMFS relied on there in place of the 160-decibel threshold employs more protective exposure thresholds for certain whales during migration, to account for their “heightened sensitivity”; it assumes these whales are harassed at received sound levels far below 160 decibels. *See id.* Had NMFS employed that more protective approach here, it would have yielded dramatically higher exposure estimates for right whales and other whale species. The area where animals are exposed to sound at 150 decibels could be as much as 15 times greater than the area in which animals are exposed to sound at 160 decibels. *See Atlantic Programmatic EIS* at D-87. The area of ocean exposed to sound levels of 120 to 140 decibels—the levels endorsed by the model NMFS used in the Gulf—is even greater. Nowacek Decl. ¶ 30 n.3. The use of an outdated 160-decibel threshold undoubtedly affected the agency’s jeopardy analysis, as NMFS relied on the threshold for its (1) take estimates, Seismic BiOp at 151-52, (2) choice of a 10-kilometer buffer zone around area closures, *id.* at 31, and (3) conclusion that whales, including migrating mother and calf right whales, will be exposed to harmful levels of sound for only “brief” periods, *id.* at 159.

Nowhere did NMFS justify or analyze its continued use of the outdated and “simplistic” 160-decibel threshold here, 83 Fed. Reg. at 29,248, or consider whether use of the newer model it adopted in the Gulf would have altered its conclusions. *See Intertribal Sinkyone Wilderness Council*, 970 F. Supp. 2d at 998-1002; *see also State Farm*, 463 U.S. at 43. NMFS’s reliance on a sound threshold that it has abandoned elsewhere—and that drastically underestimates the effects of seismic surveys—is a straightforward legal error. Without accurate estimates of the number of harassments, NMFS could not draw rational conclusions about whether the surveys would jeopardize the survival and recovery of endangered whales.

b. NMFS Violated the ESA by Failing to Adequately Address the Risk of Repeated Harassment from Overlapping or Continuous Surveying.

As a corollary to its obligation to rely on the best available science, NMFS cannot rely on assumptions or guesswork about critical issues in the biological opinion or fail to address known risks. When the agency, rather than analyzing a potential risk, simply assumes it will not occur based on “speculation or surmise,” its analysis is arbitrary and capricious. *See Bennett v. Spear*, 520 U.S. 154, 176 (1997); *see also Ohio River Valley Envtl. Coal., Inc. v. Kempthorne*, 473 F.3d 94, 102-04 (4th Cir. 2006) (finding that agency’s “failure to analyze” effects of an action in way that might make program “less environmentally protective” rendered approval arbitrary). In addition to underestimating the number of harassments by using the outdated threshold described above, NMFS failed to rationally address the impact of repeat harassment on species, especially the critically endangered right whale, for which the loss of even one mother or calf could decrease the likelihood of the species’ survival and recovery.

NMFS admitted that repeated exposure to seismic blasts can harm marine mammals more than a single exposure would, especially if the animals have little time for recovery. *See* Seismic BiOp at 213. NMFS further conceded that, if migrating right whales and calves “were to travel in the same direction as an active seismic vessel, exposure could be longer,” *id.* at 159, increasing the harm. Repeated or prolonged exposures could separate a mother and calf, a serious threat to a species on the knife’s edge. *See id.* at 189. Notwithstanding the critical importance of the possibility and impact of repeat exposures, NMFS largely threw up its hands over the issue. The agency conceded that each of the five seismic surveys can “continue for weeks, or months,” *id.* at 11; that it did not know where seismic vessels would be at any given time, *see id.* at 159 (noting “temporal and spatial uncertainty of seismic vessels and [animals] within the action area”); and that it did not “know the exact distribution of survey effort within each company’s

operating window,” *id.* at 156.

Yet NMFS nowhere analyzed the effects of multiple seismic companies operating in the same area at the same time, or of one seismic survey immediately following another through an area, subjecting animals in that area to repeated harassments in rapid succession.¹⁰ The agency cannot both concede that repeat exposures can have significant effects on species, and then opt out of considering whether such impacts will occur. Nor can NMFS claim that the actual tracks of the surveys are irrelevant. Indeed, NMFS recommended that BOEM require staggering the surveys to “reduce the overall additive impacts associated with the proposed action.” *Id.* at 213. NMFS cannot, however, identify the potential for repeat harassment, take no concrete action on such harm, and then hope that another agency will later solve the problem. *See, e.g., NWF v. NMFS*, 254 F. Supp. 2d 1196, 1214-15 (D. Or. 2003) (agency may not base no-jeopardy conclusion on mitigation measures to be imposed by another agency). This flaw also renders the biological opinion arbitrary and capricious.

c. NMFS Failed to Consider the Effects of the Action Added to Other Present and Future Noise-Generating Activities.

NMFS compounded its error by failing to analyze how listed species will be affected by the effects of seismic blasting together with the simultaneous and overlapping impacts of other human activities that increase ocean noise levels. NMFS cannot conduct its jeopardy analysis in a vacuum without considering whether the effects of the action, “when added to the underlying baseline conditions, would tip the species into jeopardy.” *NWF v. NMFS*, 524 F.3d 917, 929

¹⁰ The biological opinion contains numerous passages downplaying the impacts of seismic surveys as “brief.” *See* Seismic BiOp at 159, 189, 193 (predicting exposure for North Atlantic right whale mother-calf pairs will last “in most cases only several minutes”). To state the obvious, the duration of any individual exposure is irrelevant to whether exposures are repetitive.

(9th Cir. 2008). But NMFS never analyzed how the baseline and cumulative effects of other sound-generating activities, including Navy training and noise generated by vessel traffic,¹¹ would overlap with, and exacerbate, the acoustic impacts of the five seismic surveys.

One egregious example is NMFS's failure to evaluate the combined impacts of seismic surveys and U.S. Navy activity in the same waters. In a biological opinion issued just months ago, NMFS concluded that Navy training would cause tens of thousands of instances of harassment of these same species over a five-year period. *See* Ex. 13, Navy Atlantic Biological Opinion at 490. The same endangered whale may be disturbed by noise from a seismic survey, then by Navy sonar and explosives, then by another seismic survey. But while NMFS recognized that multiple disturbances coming one after the other have the "greatest impact" because animals "are more frequently disturbed and have little time for recovery between disturbances," Seismic BiOp at 213, it failed to add, let alone analyze, the impact of the seismic surveys to the impacts from the Navy's activities.¹² Without accounting for these multiple exposures, NMFS could authorize infinite stressors with no analysis of their combined effects. The ESA prohibits such a blinders-on approach. *See Pac. Coast Fed'n of Fishermen's Ass'ns v. NMFS*, 265 F.3d 1028, 1036-37 (9th Cir. 2001) (holding that if "individual projects are diluted to insignificance and not aggregated," then NMFS's "assessment . . . is tantamount to assuming that no project will ever

¹¹ The biological opinion repeatedly cites evidence that vessel noise masks right whale calls and increases stress. *See, e.g.*, Seismic BiOp at 87 (exposure to vessel noise may limit the species' communication space by as much as 67 percent); *id.* at 140-41, 182 (reduced shipping noise linked to reduced stress hormones in right whales). Although the agency noted masking effects may be worse in the action area than in areas studied to date, *id.* at 176, it never analyzed the effects of seismic blasting when combined with the baseline effects of vessel noise in the area. Given the species' health decline and its very low resilience to future perturbations, *id.* at 88, this omission underscores that the no-jeopardy finding is arbitrary and unlawful.

¹² While the agency briefly acknowledges that the Navy trains in this area, Seismic BiOp at 133-134, it does not analyze adding seismic surveys to the impacts from these training activities.

lead to jeopardy of a listed species”). By minimizing or ignoring the potential for repeated exposure, NMFS’s analysis resulted in an unlawful jeopardy determination.

2. NMFS Violated the ESA by Authorizing an Agency Action It Did Not Analyze.

NMFS is required to consider the “effect of the *entire* agency action” in any biological opinion. *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 521 (9th Cir. 2010) (citation and quotation marks omitted); *see also Greenpeace v. NMFS*, 80 F. Supp. 2d 1137, 1147 (W.D. Wash. 2000). It cannot segment its analysis by deferring until some future date its consideration of any aspects of an authorized action that may influence its jeopardy analysis. *See Conner v. Burford*, 848 F.2d 1441, 1455, 1457-58 (9th Cir. 1988); *see also CBD v. Rumsfeld*, 198 F. Supp. 2d 1139, 1153-55 (D. Ariz. 2002) (vacating biological opinion that allowed Army to continue action but deferred review of mitigation plan necessary to alleviate actions’ harm).

Here, NMFS took a novel and unlawful approach. The biological opinion’s analysis, and in turn NMFS’s no-jeopardy finding, are contingent on mitigation measures that include a closure area prohibiting seismic operations within 90 kilometers of shore between November and April.¹³ Seismic BiOp at 26, 31. Indeed, in its no-jeopardy determination, NMFS explicitly relies on its finding that “[t]he proposed North Atlantic right whale closure greatly limits the exposure of North Atlantic right whales.” *Id.* at 204.¹⁴

¹³ Plaintiffs dispute the efficacy of NMFS’s closure area in mitigating effects on right whales. While NMFS hinges its no-jeopardy determination for right whales on this November to April closure, it acknowledges “near year round presence” of some right whales off Virginia and North Carolina. *See* Seismic BiOp at 84. This mitigation measure cannot protect right whales that are present year-round in waters where seismic blasting is allowed from May through October.

¹⁴ NMFS also based its harassment estimates on the implementation of this closure area. *See* Seismic BiOp at 31, 156. As a result, NMFS’s estimates that only 19 right whales, including 4 mother-calf pairs, would be harassed is flawed not just because of the agency’s use of the wrong 160-decibel harassment threshold discussed above, but also because the estimates are based on a 90-kilometer closure that companies may opt out of.

Yet, in what it termed a “minor change[],” NMFS announced that it may later reduce the closure area to 47 kilometers if a company submits a monitoring and mitigation plan providing “comparable protection.” *Id.* at 5, 32. Nothing in the biological opinion or any other document explains how such a monitoring and mitigation plan would be evaluated or what criteria would be used to evaluate “comparable protection,” let alone whether NMFS will reinitiate formal consultation, as required by regulation when an action is modified in a manner that affects listed species beyond what was considered in the biological opinion. 50 C.F.R. § 402.16(c). Moreover, the biological opinion nowhere analyzes the impact of seismic blasting as close as 47 kilometers to the shore. NMFS failed to estimate how many more takes would occur if the closure area were cut nearly in half, or what the impacts of a reduced closure would be on its jeopardy determination for right whales. Indeed, NMFS appears to concede that surveys conducted closer to shore could have dramatically different consequences for right whale mothers and calves, because—as NMFS admitted—these most vulnerable members of the species have been spotted at this distance and further offshore. *See* 83 Fed. Reg. at 63,282.

NMFS cannot, through deferral to some future process, satisfy its obligation to analyze whether the “entire agency action” results in “jeopardy” under the ESA. Here, NMFS authorized two scenarios—one action authorizing five seismic surveys with a mandatory 90-kilometer closure and one action authorizing some or all of the surveys to reduce the closure area to 47 kilometers—but analyzed right whale take and jeopardy only under the first scenario. NMFS’s failure to analyze both scenarios was unlawful. *See Conservation Council*, 97 F. Supp. 3d at 1233 (“NMFS was required to focus on what it was authorizing the Navy to take, not on what the Navy said it anticipated it would actually take”); *see also NRDC v. Rodgers*, 381 F. Supp. 2d 1212, 1240, 1242 (E.D. Cal. 2005) (finding biological opinion arbitrary where agency authorized

larger action than it analyzed). NMFS cannot create a novel, extra-statutory process whereby the agency, in the future and in secret, may waive the protections on which the no-jeopardy finding depends. NMFS's attempt to postpone its analysis violated the ESA.

C. NMFS's Failure to Prepare an EIS Violates NEPA.

Plaintiffs are likely to succeed on their claim that NMFS violated NEPA by failing to prepare an EIS to evaluate the harassment authorizations. “[B]y focusing the agency’s attention on the environmental consequences of a proposed project, NEPA ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). An EIS is required for every “major Federal action[],” 42 U.S.C. § 4332(2)(C), when there is a “substantial possibility” that such action “may have a significant impact on the environment,” *Friends of Back Bay*, 681 F.3d at 590. Significance considers both the context and intensity of an action. 40 C.F.R. § 1508.27. NEPA regulations list numerous factors that may make an action significant, including cumulatively significant impacts, impacts on endangered species, and highly controversial or uncertain environmental impacts. *Id.* § 1508.27(b).

The significance of these harassment authorizations is facially clear. NMFS authorized more than five million airgun blasts over half of the Atlantic seaboard, in ecosystems that have not experienced such blasts in over three decades. *See* Bernard Decl. ¶¶ 12-18; Seismic BiOp at 9. The vessels will disrupt marine mammals hundreds of thousands of times as they traverse and re-traverse the region with over 87,000 miles of survey lines. *See* 83 Fed. Reg. at 63,269-70, 63,376 tbs. 15, 17. The surveys will emit intense, nearly continuous noise into some of the richest biological waters in the Atlantic and the migratory route and only known calving grounds of the North Atlantic right whale. *See supra* at 3-6. NMFS authorized a total of over 375,000 instances of harassment of marine mammals. *See* 83 Fed. Reg. at 63,376 tbs. 15, 17. Courts have

found a likelihood of success on a claim that an agency was required to prepare an EIS in similar cases involving acoustic harassment of far fewer marine mammals. *See, e.g., Ocean Mammal Inst.*, 546 F. Supp. 2d at 979-80; *NRDC v. Winter*, 518 F.3d 658, 689-91 (9th Cir.), *rev'd on other grounds*, 555 U.S. 7 (2008).

Even if the surveys' sheer magnitude does not establish the significance of their impact, the factors NMFS must consider in determining whether to prepare an EIS plainly do. *See* 40 C.F.R. § 1508.27(b). The presence of just one factor "may be sufficient to require preparation of an EIS." *Ocean Advocates v. U.S. Army Corps of Eng'rs*, 402 F.3d 846, 865 (9th Cir. 2005); *see Friends of Back Bay*, 681 F.3d at 589 ("Without discounting the potential applicability of any of the ten factors, two in particular militate strongly in favor of [preparing an EIS]."). Here, numerous significance factors are present, including the following:

Impacts on Endangered Species. An action is likely significant if it "may adversely affect an endangered or threatened species." 40 C.F.R. § 1508.27(b)(9). Here, NMFS admitted that five endangered whale species and five threatened or endangered sea turtle species "are likely to be adversely affected by the proposed action." Seismic BiOp at 73-113, 202. In a similar situation, the Ninth Circuit held that the agency's finding "that [sonar] exercises 'may adversely affect'" endangered species "by its own terms ma[de] clear that the [sonar] exercises may 'significantly' affect the environment," likely requiring an EIS. *Winter*, 518 F.3d at 692. The same is true here.

Highly Controversial Effects. An action is likely significant when there is "a substantial dispute" about its "size, nature or effect." *Rucker v. Willis*, 484 F.2d 158, 162 (4th Cir. 1973); 40 C.F.R. § 1508.27(b)(4). This standard is easily met here. These surveys are controversial even within the agencies, which previously denied these permits because of their "environmental

burden,” including “the potential disadvantage” to North Atlantic right whales. Ex. 10 at 5, 6. Moreover, government agencies, conservation groups, scientists, and fisheries management councils dispute NMFS’s judgment on many critical scientific questions, like the distance at which seismic airgun sound disrupts marine mammal behavior; the sound threshold at which hearing loss occurs; and the potential for long-term, population-level consequences. *See, e.g.*, Ex. 14, NRDC Comments; Ex. 15, Marine Mammal Commission Comments; Ex. 16, Comments of Attorneys General of MD, DE, DC, MA, NY, NC, PA, RI; Ex. 17, Comments of eight prominent marine scientists; Ex. 18, Comments of UNC Wilmington scientists; Ex. 19, Comments of Mid-Atlantic Fishery Management Council. These objections from “conservationists, biologists, and other knowledgeable individuals” demonstrate that an EIS was required. *Found. for N. Am. Wild Sheep v. U.S. Dep’t of Agric.*, 681 F.2d 1172, 1182 (9th Cir. 1982); *Ocean Mammal Inst.*, 546 F. Supp. 2d at 980 (same).

Highly Uncertain and Unique, Unknown Risks. An action is likely significant where “the possible effects on the human environment are highly uncertain or involve unique or unknown risks.” 40 C.F.R. § 1508.27(b)(5). “[T]o the extent that a paucity of scientific data” on harm to marine species exists, “that is a reason to conduct further research and prepare an EIS,” the purpose of which “is to obviate the need for speculation.” *Winter*, 518 F.3d at 690 (citation omitted); *Ocean Mammal Inst.*, 546 F. Supp. 2d at 979-80 (uncertainty about effects of sound on animals—“at what levels, at what distances, under what conditions, and on which species”—underscored need for an EIS). NMFS repeatedly asserted that the science regarding seismic airgun blasting’s impact on marine life is uncertain, stating for instance that “the consequences of anthropogenic sound on . . . marine mammals and sea turtles at the population or species scale remain uncertain,” Seismic BiOp at 131-32, and that “given that much less is known about how

[sea turtles] use sound, the impacts of anthropogenic sound are difficult to assess,” *id.*

Cumulatively Significant Impacts. “Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment.” 40 C.F.R. § 1508.27(b)(7). As discussed above, these five surveys will all affect the same animals, in the same region, at the same time. They will be in addition to other activities in the area, such as Navy training activities and shipping. *See supra* 22-23. And additional disruptive activity in the region is likely, with a total of twelve geological and geophysical permits currently pending before BOEM. Cruickshank Decl. ¶ 4; 40 C.F.R. § 1508.7 (defining cumulative impact to include “reasonably foreseeable future actions”). Taken together, these activities create a risk of serious cumulative effects that “militate[s] strongly in favor of” an EIS. *Friends of Back Bay*, 681 F.3d at 589.

In summary, there is at least a “substantial possibility” that the surveys “may have a significant impact on the environment.” *Id.* at 590 (citation omitted). NMFS was required to prepare an EIS. Its failure to do so violates NEPA and the APA.¹⁵

II. Absent Preliminary Injunctive Relief, Plaintiffs Will Suffer Irreparable Harm.

“Environmental injury, by its nature, can seldom be adequately remedied by money

¹⁵ NMFS cannot escape its obligation to take a “hard look” at the environmental impacts of seismic surveys by relying on (or “tiering” to) BOEM’s five-year old programmatic EIS. *See* 42 U.S.C. § 4332(2)(C) (requiring an EIS for “every . . . major Federal action[.]”) (emphasis added). First, the existence of a programmatic EIS does not absolve the agency of the obligation to consider the significant environmental effects of site-specific actions. *See Blue Mts. Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1214 (9th Cir. 1998) (“Nothing in the tiering regulations suggests that the existence of a programmatic EIS for a [program] obviates the need for any future project-specific EIS, without regard to the nature or magnitude of a project”). Second, the programmatic EIS is already dated and does not consider significant new information regarding the impacts of seismic surveys on marine resources released in the last five years. *See* 40 C.F.R. §§ 1502.9(c)(1), 1506.3(a). NEPA requires NMFS to prepare an EIS to evaluate direct, indirect, and cumulative impacts of the seismic surveys and account for significant new information. The agency failed to do so. *See* EA at 69 (summarily dismissing recent study showing airgun blasts cause mass zooplankton mortality). As such, “[t]iering to the [BOEM]-EIS cannot save the EA[.]” *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 997 (9th Cir. 2004).

damages and is often permanent or at least of long duration, i.e., irreparable.” *Amoco Prod. Co. v. Vill. of Gambell*, 480 U.S. 531, 545 (1987); *see also Nat’l Audubon Soc’y v. Dep’t of Navy*, 422 F.3d 174, 201 (4th Cir. 2005). This case is no exception. Intense noise from the authorized seismic surveys will harass, injure, and kill marine life across the Mid- and South Atlantic, causing irreparable harm to the environment and Plaintiffs’ members.

A. Seismic Blasting Will Harass and Seriously Injure or Kill Marine Mammals.

“Irreparable harm should be determined by reference to the purposes of the statute being enforced.” *NWF v. NMFS*, 886 F.3d 803, 818 (9th Cir. 2018); *see also Amoco*, 480 U.S. at 544 (irreparable-harm inquiry requires consideration of the “purpose” and “underlying substantive policy” of the act). For the MMPA and ESA, that purpose is the protection of marine mammals and endangered species. *See Evans*, 279 F. Supp. 2d at 1188 (noting Congress’s “concern about . . . harassment of marine mammals” embodied in MMPA); *TVA v. Hill*, 437 U.S. at 184 (noting Congress’ desire in ESA to “halt and reverse the trend toward species extinction, whatever the cost”); *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 768 (2004) (describing NEPA’s purpose of assuring the public that the agency has considered environmental consequences before it commits itself to a course of action). Seismic airgun blasting threatens the precise harms these statutes were enacted to prevent.

Courts have repeatedly concluded that the harassment and injury of marine mammals caused by loud underwater sound constitutes irreparable harm. In *Evans*, the court enjoined the use of naval sonar because it deemed irreparable “the certain harassment and possible injury of marine mammals and other sea creatures, many of them endangered.” 279 F. Supp. 2d at 1188. In *NRDC v. Gutierrez*, the court issued a preliminary injunction because “marine mammals, many of whom depend on sensitive hearing for essential activities like finding food and mates and avoiding predators,” would “at minimum be harassed by the extremely loud and far traveling

[sound]” created by naval sonar. No. C-07-04771 EDL, 2008 WL 360852, at *30 (N.D. Cal. Feb. 6, 2008). And in *CBD v. National Science Foundation*, the court issued a temporary restraining order blocking seismic airgun blasting because “if the airgun blasting continue[d],” it was “virtually inevitable that marine mammals [would] be injured, resulting in irreparable harm to the environment.” No. C 02-5065 JL, 2002 WL 31548073, at *5 (N.D. Cal. Oct. 30, 2002).¹⁶

The harm in this case is no different. By NMFS’s own estimates, the authorized seismic blasting will harass and injure marine mammals hundreds of thousands of times. *See* 83 Fed. Reg. at 63,340 tbl. 6, 63,379 tbl. 17. Seismic surveys will disrupt marine mammals as they search for food and mates, migrate, and raise their young—that is, as they engage in behaviors vital to their survival. Nowacek Decl. ¶ 8. These harms, like those in *Evans*, *Gutierrez*, and *CBD*, are irreparable. Moreover, as detailed below, seismic blasting will cause even more severe consequences for North Atlantic right whales and beaked whales.

Right Whales. The North Atlantic right whale is fighting for survival. Kraus Decl. ¶¶ 9-20. Just over 100 breeding female right whales are left, and many are barely healthy enough to produce calves. *Id.* ¶ 17. During last winter’s calving season, for the first time in decades, no new calves were seen. *See* 83 Fed. Reg. at 63,319. To ensure survival and recovery, significant stressors must be eliminated, and mortalities must be prevented. Kraus Decl. ¶ 19.

According to two of the world’s foremost right whale experts—on whose work NMFS itself relied—the authorized blasting “represents an existential threat.” *Id.* ¶ 5; *see* Nowacek Decl. ¶ 16. Seismic blasts will raise background noise levels across large stretches of ocean, including in the right whales’ migration path and only known calving grounds. Nowacek Decl.

¹⁶ These courts all found irreparable harm was likely or near certain, meeting the Supreme Court’s later holding that harm must be “likely” without an injunction. *Winter*, 555 U.S. at 23.

¶¶ 17, 23, 34-39; Kraus Decl. ¶ 31. The noise from seismic blasting will burden this critically endangered species in at least two ways. First, it will raise right whale stress levels, even at distances of hundreds of kilometers. Nowacek Decl. ¶¶ 20-23, 35-39; Kraus Decl. ¶ 30. Noise-induced stress depresses reproduction and compromises immune systems. Kraus Decl. ¶ 30. Thus, seismic blasts will interfere with right whales’ ability to reproduce and subject vulnerable females and calves to a significant stressor. *Id.* ¶ 26. In the species’ present state, *any* significant new stressor will further reduce the chances of reproduction and recovery. *Id.* ¶ 30.

Second, seismic blasts will mask the sound of mother-calf communications, making it more difficult for mothers and calves to stay together and increasing the risk of a premature—and for the calf, fatal—separation. *Id.* ¶ 27. Thus, seismic blasts will hit “the subset of individuals most critical for the survival and recovery of the species.” Ex. 9, 2013 Atlantic Programmatic BiOp at 281. This risk will arise as soon as blasting begins: seven right whale calves have been spotted on the calving grounds in recent weeks. *See* Ex. 4.

NMFS’s prohibition on seismic blasting within 90 kilometers of the coast between November and April will not prevent these harms. Because the low frequency noise of seismic airgun blasting travels great distances underwater, “keeping seismic vessels out of nearshore waters will not prevent airguns from ensonifying prime right whale habitat” at levels high enough to cause harm. Nowacek Decl. ¶¶ 41-43; Kraus Decl. ¶ 31; *see supra* 17-19 (discussing agency’s reliance on outdated sound threshold to estimate right whale exposures). Further, because right whales occur in the survey area year-round, including at distances far offshore, the coastal exclusion will not protect all whales. Nowacek Decl. ¶ 43; Kraus Decl. ¶ 32.

As this District has recognized, interference with a species’ reproductive capability is an irreparable harm. Just last year, Judge Norton held that a temporary sea wall caused irreparable

harm because it blocked female sea turtles from reaching some nesting sites, reducing the chance of successful reproduction. *Sierra Club v. Von Kolnitz*, No. 2:16-CV-03815-DCN, 2017 WL 3480777, at *7 (D.S.C. Aug. 14, 2017). Similarly, in *Red Wolf Coalition v. U.S. Fish & Wildlife Service*, the court found that an increased likelihood of mortality in a small, endangered population constitutes irreparable harm. 210 F. Supp. 3d 796, 805-06 (E.D.N.C. 2016).

The risk posed by seismic airgun blasting to right whale reproduction, and the increased risk of mortality, are irreparable. The species is already in decline, and seismic blasts threaten to “further push the [species] towards extinction.” Kraus Decl. ¶ 34. The impairment of an endangered species’ successful reproduction and calf rearing is paradigmatic irreparable harm.

Beaked Whales. The approved seismic blasts will also cause severe consequences for beaked whales. The area off the coast of Cape Hatteras is home to one of densest populations of beaked whales found anywhere in the world. Read Decl. ¶ 24. It is also “of critical interest” to the seismic companies, 83 Fed. Reg. at 63,303; all five companies will survey that area, and several will subject it to more concentrated blasts than other areas, *see, e.g.*, Seismic BiOp at 16, 19, 21, 23, 25; Watkins Decl., Fig. 1. As a result, the Cape Hatteras beaked whale population will experience intense and sustained seismic blasting. NMFS authorized the harassment of more beaked whales than any other type of whale and acknowledged that the “likely consequences” for beaked whales are “high.” *See* 83 Fed. Reg. at 63,340 tbl. 6, 63,379 tbl. 17.

Beaked whales are among the most sensitive marine mammals to noise, and will react severely to seismic blasting. Tyack Decl. ¶¶ 8-9; Read Decl. ¶ 29. Top beaked whale experts expect the authorized seismic surveys to create a significant risk of serious injury and death for some beaked whales in the survey area. Tyack Decl. ¶ 9. Beaked whales dive to extraordinary depths—deeper than any other mammal—relying on a delicate balancing of nitrogen gases and

stretching their oxygen supply to the limit. Read Decl. ¶¶ 16, 25; Tyack Decl. ¶ 14. Intense sound can cause these whales to flee rapidly, abort dives unexpectedly, or remain at depth longer than usual. Tyack Decl. ¶¶ 12-14. Those behavioral reactions make the whales susceptible to injury or death from stranding on the beach or suffering decompression sickness. *Id.* ¶¶ 9-20; Read Decl. ¶ 33. The risk is not hypothetical: beaked whales have repeatedly stranded on beaches and died, or died at sea, following exposure to loud anthropogenic noise sources, including seismic surveys and naval sonar. Tyack Decl. ¶ 10.

Beaked whales will also suffer intense behavioral disruption. The Cape Hatteras area provides prime habitat and dense concentrations of prey, offering important year-round habitat for these whales. Read Decl. ¶¶ 21-24. Many beaked whales will flee the area as seismic vessels approach, *id.* ¶ 34, likely moving far away and taking days to return, Tyack Decl. ¶ 29. Because NMFS authorized all five companies to conduct concentrated blasting in this area, beaked whales will be displaced repeatedly. *Id.* ¶¶ 30-31; Read Decl. ¶¶ 35-40. These repeated disturbances are likely to reduce foraging, leaving whales with less energy to pursue vital life functions like breeding. Read Decl. ¶ 49. Scientists expect the surveys will “have a long-term and significantly adverse effect on [the] populations of beaked whales” in the region. *Id.*; Tyack Decl. ¶ 32. This certain harassment and likely injury of beaked whales, which threatens individual whales and the Cape Hatteras population, is irreparable. *See Evans*, 279 F. Supp. 2d at 1188.

B. Harassing, Injuring, or Killing Marine Wildlife Will Irreparably Harm Plaintiffs’ Members’ Ability to Enjoy and Study that Wildlife.

The harms to marine mammals identified above will impair Plaintiffs’ members’ ability to study, observe, and conduct scientific research on these species. For example, the area off Cape Hatteras offers Danielle Waples and Heather Foley a unique opportunity to study beaked whales; if whales abandon that area, even temporarily, it will interfere with their work. Waples

Decl. ¶ 14; Foley Decl. ¶¶ 5, 8. Johnny Miller enjoys watching right whales from the beach; if right whales abandon their calving grounds, a special part of what it means to him to live in Fernandina Beach will be lost. J. Miller Decl. ¶ 7; *see also* Daves Decl. ¶¶ 4, 7 (describing enjoyment of whales and dolphins off Georgia coast). Similarly, Regina Asmutis-Silvia photographs right whales and advocates for their protection; if seismic airgun blasting reduces their ability to survive and recover, it will interfere with her ability to enjoy and learn about right whales. Asmutis-Silvia Decl. ¶¶ 10-15, 20. These injuries to Plaintiffs' members' aesthetic and research interests are irreparable. *See Red Wolf Coal. v. N.C. Wildlife Res. Comm'n*, No. 2:13-CV-60-BO, 2014 WL 1922234, at *9 (E.D.N.C. May 13, 2014); *Red Wolf Coal.*, 210 F. Supp. 3d at 805; *NWF*, 886 F.3d at 822.

III. The Balance of Equities and the Public Interest Favor Injunctive Relief.

Once Plaintiffs have shown irreparable harm to an endangered species, the Court's inquiry is at an end: "[t]he equitable scales are always tipped in favor of the . . . species." *Red Wolf Coal.*, 210 F. Supp. 3d at 806 (quoting another source); *see TVA v. Hill*, 437 U.S. at 194 (Congress "[made] it abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities"); *see also S.C. Dep't of Wildlife & Marine Res. v. Marsh*, 866 F.2d 97, 100 (4th Cir. 1989) (stating that if there is irreparable harm to the environment, the balance of harms usually favors an injunction).

Even if this Court were to re-weigh the balance, the result would be the same. Plaintiffs and the public have an "extremely strong" interest in protecting "the survival and flourishing of marine mammals and endangered species" against acoustic harassment. *Evans*, 279 F. Supp. 2d at 1190; *see also Ocean Mammal Inst.*, 546 F. Supp. 2d at 983 (same); *NRDC*, 2008 WL 360852, at *31 (same). Allowing NMFS to imperil marine life while this suit is decided would undermine the protective purposes that animate the MMPA, ESA, and NEPA. *See, e.g., TVA v. Hill*, 437

U.S. at 194 (ESA); *Evans*, 279 F. Supp. 2d at 1190 (MMPA); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989) (NEPA). An injunction will simply preserve the status quo that has existed for the last three decades, and any alleged harm the government or third parties might assert from a “delay in reaping” the purported “economic benefits” of industrial activity is “outweighed by . . . permanent harm to the environment.” *Ohio Valley Envtl. Coal. v. U.S. Army Corps of Eng’rs*, 528 F. Supp. 2d 625, 632 (S.D.W. Va. 2007).

Finally, the public interest favors an injunction. NMFS itself acknowledges that, in hundreds of thousands of comments and petitions, the public has expressed “overwhelming opposition” to oil and gas exploration in the Atlantic. 83 Fed. Reg. at 63,273. Up and down the Atlantic coast, states and municipalities have rejected seismic blasting. NMFS cannot cloak its policy preferences in a “public interest” the public does not support.

CONCLUSION

NMFS has violated the MMPA, the ESA, and NEPA, elevating the administration’s policy of oil exploration over the laws Congress enacted. Absent intervention from this Court, hundreds of thousands of marine mammals will be exposed to disorienting, disruptive, and potentially lethal seismic blasting. Plaintiffs thus respectfully urge the Court to enter a preliminary injunction staying the effectiveness of NMFS’s harassment authorizations.¹⁷

Dated: February 20, 2019

Respectfully submitted,

s/ Catherine M. Wannamaker

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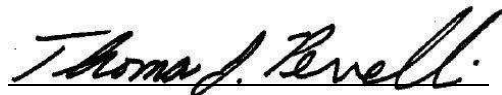
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¹⁷ Federal Rule of Civil Procedure 65(c) requires that Plaintiffs post security. But “where plaintiffs are public interest groups who might otherwise be barred from obtaining meaningful judicial review,” a nominal bond suffices. *Red Wolf Coal.*, 210 F. Supp. 3d at 807.

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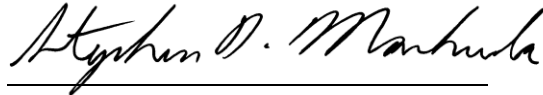
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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Memorandum in Support of Plaintiffs' Motion for a Preliminary Injunction was on this date served upon all counsel of record by filing the same on the Court's ECF system.

Charleston, South Carolina, this 20th day of February, 2019.

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