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**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF HAWAII**

CONSERVATION COUNCIL FOR
HAWAII *et al.*,

Plaintiffs,

v.

NATIONAL MARINE FISHERIES
SERVICE *et al.*,

Defendants.

Lead Case No. CV 13-00684-
SOM-RLP

Consolidated with Case No. CV 14-
00153-SOM-RLP

**SECOND AMENDED AND
SUPPLEMENTAL COMPLAINT
FOR DECLARATORY AND
INJUNCTIVE RELIEF OF
PLAINTIFFS NATURAL
RESOURCES DEFENSE
COUNCIL, INC.; CETACEAN**

NATURAL RESOURCES DEFENSE COUNCIL, INC.; CETACEAN SOCIETY INTERNATIONAL; ANIMAL LEGAL DEFENSE FUND; PACIFIC ENVIRONMENT AND RESOURCES CENTER; and MICHAEL STOCKER,

Plaintiffs,

v.

NATIONAL MARINE FISHERIES SERVICE; PENNY PRITZKER, in her official capacity as the Secretary of the Department of Commerce; KATHRYN SULLIVAN, in her official capacity as the Administrator of the National Oceanic and Atmospheric Administration; EILEEN SOBECK, in her official capacity as the Assistant Administrator for Fisheries; DEPARTMENT OF THE NAVY; and RAY MABUS, in his official capacity as the Secretary of the Navy,

Defendants.

**SOCIETY INTERNATIONAL;
ANIMAL LEGAL DEFENSE
FUND; PACIFIC
ENVIRONMENT AND
RESOURCES CENTER; AND
MICHAEL STOCKER**

INTRODUCTION

1. Whales and other marine mammals depend on their hearing to survive. They need it to communicate, navigate, find food, and avoid predators. For this reason, marine mammals are acutely sensitive to acoustic disturbance.

2. The U.S. Navy has begun a five-year battery of training and testing exercises using high-powered sonar and explosives in the waters off southern California and Hawaii. Although the Navy has trained in these waters for years, it is now increasing its activities significantly. The National Marine Fisheries Service (the Service) has authorized the Navy's new round of exercises, and the Navy is proceeding, even though the agencies' own analysis reveals that these exercises will have unprecedented impacts on marine mammals: 155 deaths, more than 2,000 permanent injuries, and nearly 9.6 million instances of temporary hearing loss and significant disruptions of vital behaviors. Combined, these numbers represent a 1,100 percent increase over the harm the Navy estimated to have been caused by its last five years of training.

3. During its exercises, the Navy will broadcast high-intensity sound waves into the ocean using "mid-frequency" sonar systems. The

Navy will operate its most powerful sonar systems for nearly 60,000 hours over the next five years, more than triple the number of hours it was authorized to use these systems in the last five years. There is no dispute that the Navy's use of mid-frequency sonar can kill, injure, and disturb marine mammals. Both the Service and the Navy acknowledge that the use of mid-frequency sonar during Navy exercises has contributed to mass strandings of whales and other marine mammals. During the next five years, the Navy will also detonate more than 250,000 explosives. At least 7,000 of these detonations will be more powerful than the charge that killed at least three dolphins during a Navy training exercise in southern California in 2011.

4. Two groups of marine mammals that will be particularly harmed by the Navy's exercises are beaked whales and endangered blue whales. In a new study, Service biologists have found that beaked whale populations off the California coast are declining precipitously. The authors identify Navy sonar and other human-made noise as one of only two "plausible explanations" for this trend. Another new series of studies, conducted in part by Service and Navy scientists, reveals that sonar exposure affects the behavior of beaked whales in serious ways, causing

them to abandon feeding and flee from the source of the noise. A researcher who compared two populations of beaked whales – one that was frequently exposed to Navy sonar and another, nearby population that was not – found that the exposed population was smaller in number and had far fewer juveniles and calves.

5. Exposure to mid-frequency sonar also disrupts the foraging behavior of endangered blue whales, according to another recent study authored in part by Navy scientists. The researchers conclude that frequent exposure to mid-frequency sonar “may pose significant risks to the recovery rates of endangered blue whale populations, which . . . have not shown signs of recovery off the western coast of North America in the last 20 years.”

6. Despite this and other evidence of harm to vulnerable populations of marine mammals, the Service issued a Final Rule and Letters of Authorization allowing the Navy to conduct its training and testing exercises. The Service authorized 10 beaked whale mortalities and more than 450,000 “takes” of beaked whales by harassment, which includes temporary hearing loss and significant disruption of vital behaviors. It authorized up to 13 blue whale mortalities (from vessel strikes) and more

than 23,000 takes of blue whales by harassment. The Service's finding that these takes will have a "negligible impact" on beaked whale and blue whale populations violates the Marine Mammal Protection Act, 16 U.S.C. §§ 1361-1423, because the Service did not adequately consider the best available science, much of which was conducted by Service and Navy scientists.

7. Additionally, the Service violated the Marine Mammal Protection Act by failing to prescribe adequate mitigation for the Navy's exercises. With only one exception, the Service refused to restrict the Navy's training in certain areas and at certain times of particular biological importance, despite the acknowledgment of the Service's parent agency, the National Oceanic and Atmospheric Administration (NOAA), that protecting important marine mammal habitat is "generally recognized to be the most effective mitigation measure currently available."

8. The Service also violated the Endangered Species Act, 16 U.S.C. §§ 1531-1544, by issuing an unlawful Biological Opinion and Incidental Take Statement for the Navy's training and testing exercises. Once again, the Service did not adequately consider the best available science, including studies authored in part by Navy and NOAA scientists, when it

evaluated the impact of the Navy's exercises on endangered blue whales. The Service also failed to analyze whether the Navy's exercises would reduce the likelihood of recovery of blue whales. Accordingly, the Service's conclusion that the Navy's activities are "not likely to jeopardize the continued existence" of blue whales is arbitrary and capricious. By relying on the Service's legally defective Biological Opinion, the Service and the Navy also violated their substantive duty to ensure that the Navy's activities are not likely to jeopardize the continued existence of blue whales.

9. In authorizing the Navy's training and testing activities, the Service and the Navy have committed these and other specific violations of the Marine Mammal Protection Act, the Endangered Species Act, and the Administrative Procedure Act, 5 U.S.C. §§ 551-706. To remedy these violations of law, Plaintiffs seek (1) a declaration that the United States and each of its named subdivisions and officials are violating federal law in the respects set forth herein; (2) an order remanding the Final Rule, Letters of Authorization, Biological Opinion, and Incidental Take Statement to the Service to comply with the Marine Mammal Protection Act and the Endangered Species Act by a date certain; and (3) a tailored injunction

prohibiting the Navy from using mid-frequency sonar or conducting underwater detonations in specific areas and at specific times of biological importance to vulnerable species of marine mammals, unless the Commander of the Pacific Fleet determines that such activities are necessary, until the Navy and the Service have taken the steps required to bring the challenged exercises and authorizations into full compliance with federal law. In recognition of the importance of military readiness, Plaintiffs do not seek to halt the Navy's exercises. Unless the Court orders the limited relief that Plaintiffs seek, however, beaked whales, blue whales, and other marine mammals risk unprecedented, irreparable harm.

JURISDICTION AND VENUE

10. This Court has jurisdiction over the claims set forth in this Complaint pursuant to 28 U.S.C. § 1331 (Federal Question Jurisdiction), 5 U.S.C. § 702 (Administrative Procedure Act), 16 U.S.C. § 1540(c) and (g) (Endangered Species Act), and 28 U.S.C. § 1361 (Mandamus). The relief sought is authorized by 28 U.S.C. § 2201(a) (Declaratory Relief) and 28 U.S.C. § 2202 (Injunctive Relief).

11. Venue is proper in the District of Hawaii under 28 U.S.C. § 1391(e) because this civil action is brought against agencies of the United

States and officers and employees of the United States acting in their official capacities and under the color of legal authority, and a substantial part of the events or omissions giving rise to the claims occurred in this judicial district.

THE PARTIES

The Plaintiffs

12. Plaintiff Natural Resources Defense Council, Inc. (NRDC), is a national environmental advocacy group organized as a New York not-for-profit membership corporation. NRDC has six U.S. offices, including offices in Los Angeles and San Francisco. Of NRDC's more than 300,000 members, more than 55,000 live in California, and more than 1,500 live in Hawaii. NRDC's mission is to "safeguard the Earth; its people, its plants and animals, and the natural systems on which all life depends."

Defending endangered wildlife and wild places is one of NRDC's six strategic priorities. For two decades, NRDC has worked to protect marine mammals and other marine resources from the detrimental effects of ocean noise.

13. Plaintiff Cetacean Society International (CSI) is a not-for-profit corporation organized under the laws of the state of Connecticut. CSI's

members include professionals from the scientific and conservation communities, both in the United States and abroad. CSI is dedicated to the benefit of whales, dolphins, porpoises, and the marine environment generally through conservation, education, and research.

14. Plaintiff Animal Legal Defense Fund (ALDF) is a nonprofit organization headquartered in Cotati, California. Dedicated to protecting the lives and advancing the interests of animals through the legal system, ALDF files civil actions on behalf of animals, including marine mammals. ALDF has more than 100,000 members nationwide, including more than 14,000 members in California and more than 300 in Hawaii.

15. Plaintiff Pacific Environment and Resources Center is a nonprofit corporation organized under the laws of the state of California and headquartered in San Francisco. Pacific Environment partners with local and indigenous communities in Russia, China, California, and the Alaskan Arctic to protect the living environment of the Pacific Rim. One of the organization's priorities is to protect whales, dolphins, and other marine wildlife from human-made ocean noise in our marine sanctuaries off the coast of California. Pacific Environment also works to conserve critically endangered Western North Pacific gray whales.

16. Plaintiff Michael Stocker is a bioacoustician who resides in Forest Knolls, California, and who has studied anthropogenic undersea noise since 1992. He is the founder and director of Ocean Conservation Research, a research-based, California nonprofit organization focused on understanding the impacts of anthropogenic noise on marine life. Mr. Stocker is the author of numerous publications on marine bioacoustics. He has a professional and personal interest in observing, enjoying, and studying marine mammals and their habitats.

17. Plaintiffs and their members and constituents regularly use, enjoy, and benefit from a healthy marine ecosystem and the presence of diverse marine life, including the marine mammals that have been, or are likely to be, killed, injured, harassed, or disturbed by the Navy's training exercises in southern California and Hawaii. Plaintiffs and their members and constituents derive recreational, aesthetic, economic, and scientific benefits from marine life by engaging in activities including boat touring, deep-sea fishing, scientific study, whale watching, bird watching, kayaking, surfing, and underwater diving in the waters affected by the Navy's exercises. Defendants' failure to comply with federal law and the resulting harm to the marine environment, including the disturbance,

injury, and death of marine mammals that is likely to result from that failure, harm the interests of Plaintiffs and their members and constituents. Plaintiffs' injuries will be redressed by the requested relief.

The Defendants

18. Defendant National Marine Fisheries Service is an agency of the United States Government and is a subdivision of NOAA within the Department of Commerce. The Service is responsible for administering the Marine Mammal Protection Act and the Endangered Species Act, and is the agency that issued the Final Rule, Letters of Authorization, and Biological Opinion challenged here.

19. Defendant Penny Pritzker, Secretary of Commerce, is the head of the United States Department of Commerce and is responsible for ensuring compliance with the Marine Mammal Protection Act and the Endangered Species Act. Secretary Pritzker is sued in her official capacity.

20. Defendant Kathryn Sullivan, NOAA Administrator, is the head of NOAA, an agency of the United States Government that encompasses the Service and is itself a subdivision of the Department of Commerce. Administrator Sullivan is responsible for ensuring compliance with the

Marine Mammal Protection Act and the Endangered Species Act.

Administrator Sullivan is sued in her official capacity.

21. Defendant Eileen Sobeck, Assistant Administrator for Fisheries, is the highest-ranking official within the Service. Assistant Administrator Sobeck is sued in her official capacity.

22. Defendant United States Department of the Navy is one of the armed services of the United States Government. The Navy is proposing to conduct the training and testing exercises that are the focus of this action. As a federal agency, the United States Department of the Navy is responsible for ensuring its compliance with the Marine Mammal Protection Act and the Endangered Species Act.

23. Defendant Ray Mabus, Secretary of the Navy, is the highest-ranking official within the United States Department of the Navy. The Secretary is responsible for the training and testing exercises at issue in this Complaint and for ensuring compliance with applicable federal laws, including the Marine Mammal Protection Act and the Endangered Species Act. Secretary Mabus is sued in his official capacity.¹

¹ Defendants National Marine Fisheries Service, Penny Pritzker, Kathryn Sullivan, and Eileen Sobeck are referred to as the "Service

STATUTORY AND REGULATORY BACKGROUND

24. The Navy's conduct of the training and testing exercises at issue, and the Service's authorization of those exercises, must comply with the Marine Mammal Protection Act and the Endangered Species Act, among other federal statutes.

Marine Mammal Protection Act

25. Congress enacted the Marine Mammal Protection Act because "certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man's activities." 16 U.S.C. § 1361(1). Among other things, Congress was concerned that "there is inadequate knowledge of the ecology and population dynamics of such marine mammals and of the factors which bear upon their ability to reproduce themselves successfully." *Id.* § 1361(3). Legislative history confirms that Congress intended to build a "conservative bias" into the Act "[a]s far as could be done," so that "no steps should be taken regarding these animals that might prove to be adverse or even irreversible in their

Defendants." Defendants United States Department of the Navy and Ray Mabus are referred to as the "Navy Defendants."

effects until more is known.” H.R. Rep. No. 92-707, at 5 (1971), *reprinted in* 1972 U.S.C.C.A.N. 4144, 4148.

26. To protect against further depletion and extinction of marine mammals, the Marine Mammal Protection Act establishes a “moratorium on the taking . . . of marine mammals.” 16 U.S.C. § 1371(a). The term “take” means “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.” *Id.* § 1362(13). All takings of marine mammals (except for certain specific activities not relevant here) are prohibited by the Act unless first authorized by the Secretary of Commerce. *Id.* § 1371(a).

27. Relevant here, the Service may authorize the taking of marine mammals incidental to a specified activity, for periods of five years or less, if it finds that the total taking will have a “negligible impact” on “species or stock” of marine mammals. *Id.* § 1371(a)(5)(A)(i)(I). “Negligible impact” means “an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.” 50 C.F.R. § 216.103. The Service’s negligible impact finding must be based on “the best scientific evidence available.” *Id.* § 216.102(a).

28. If the Service makes the required findings, it must issue regulations setting forth the “permissible methods of taking . . . and other means of effecting the least practicable adverse impact” on the species or stock and its habitat. 16 U.S.C. § 1371(a)(5)(A)(i)(II)(aa). For military readiness activities, the “least practicable adverse impact” determination “shall include consideration of personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.” *Id.* § 1371(a)(5)(A)(ii). The Service’s regulations must be “based on the best available information.” 50 C.F.R. § 216.105(c).

29. A “Letter of Authorization” is required to conduct activities under any regulations established by the Service under 16 U.S.C. § 1371(a)(5)(A). 50 C.F.R. § 216.106(a). The Service will issue a Letter of Authorization “based on a determination that the level of taking will be consistent with the findings made for the total taking allowable under the specific regulations.” *Id.* § 216.106(b).

Endangered Species Act

30. Congress enacted the Endangered Species Act out of concern that human activities had caused the extinction of numerous species of wildlife, and additional species “have been so depleted in numbers that

they are in danger of or threatened with extinction.” 16 U.S.C. § 1531(a)(2). Congress declared that “all Federal departments and agencies shall seek to conserve endangered species and threatened species.” *Id.* § 1531(c)(1).

31. Section 7 of the Act requires all federal agencies to “insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification” of critical habitat designated for such species. *Id.* § 1536(a)(2). “Jeopardize” means “to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild” 50 C.F.R. § 402.02.

32. When an agency proposes an action that is likely to have an adverse effect on endangered or threatened species or their designated critical habitat, the agency must engage in “formal consultation” with the Service. *Id.* § 402.14(a), (b).

33. During formal consultation, the Service prepares a Biological Opinion, based on the “best scientific and commercial data available,” which evaluates the proposed action and its direct, indirect, and cumulative effects, and decides whether the action is likely to jeopardize

the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat. *Id.* § 402.14(g)(8), (h)(3).

34. Section 9 of the Endangered Species Act prohibits any person from “taking” species listed as endangered, and empowers the Service to issue regulations prohibiting the taking of any species listed as threatened. 16 U.S.C. §§ 1533(d), 1538(a)(1)(A)-(B), (G). “Take” means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” *Id.* § 1532(19).

35. When the Service issues a Biological Opinion concluding that a federal agency’s proposed action will not jeopardize any listed species, the Service must include in the Biological Opinion an Incidental Take Statement that authorizes the taking of listed species incidental to the proposed action. *Id.* § 1536(b)(4).

36. In the case of endangered or threatened marine mammals, the Service may authorize incidental take under the Endangered Species Act only if “the taking is authorized pursuant to section 1371(a)(5) of [the Marine Mammal Protection Act].” 16 U.S.C. § 1536(b)(4)(C).

37. When the Service’s Permits Division proposes to take an action that may adversely affect a listed species, such as issuing the Final Rule

and Letters of Authorization for the Navy exercises challenged here, the Permits Division is considered an “action agency” subject to the requirements of section 7, and it must engage in formal consultation with the Service’s Endangered Species Act Interagency Cooperation Division (the “consulting agency”).

FACTUAL BACKGROUND

The Navy’s Activities in Southern California and Hawaii

38. The Navy conducts training and testing exercises in three “ranges” in southern California and Hawaii: its southern California (SOCAL) range, which covers 120,000 square nautical miles off the coast of southern California; its Silver Strand complex, in San Diego Bay; and its Hawaii range, which covers more than 2.1 million square nautical miles around the main and northwest Hawaiian Islands. The Navy also conducts exercises in a transit corridor stretching between the SOCAL and Hawaii ranges.

39. The waters in and around the Navy’s southern California and Hawaii ranges are home to an unusually rich diversity of marine life. At least thirty-nine species of marine mammals occur in the Navy’s training areas, including several species of beaked whales, as well as endangered

blue whales, fin whales, Western North Pacific gray whales, humpback whales, sei whales, and sperm whales.

40. Although the Navy has trained in these waters for decades, it is now increasing the frequency and intensity of its training and testing exercises. Over the next five years, the Navy will conduct numerous amphibious warfare exercises, anti-surface warfare exercises, anti-submarine warfare exercises, mine warfare exercises, naval special warfare exercises, and other training and testing exercises.

41. During its anti-submarine warfare exercises, the Navy uses mid-frequency, high-intensity active sonar. Active sonar involves the generation of sound – in this case, sound of extraordinary intensity – for the purpose of detecting objects in the marine environment. Mid-frequency active sonar systems are conventionally defined as those that emit sound at frequencies between one and ten kilohertz (kHz), which is a measure of the frequency of the oscillation of the sound wave (or its “pitch”).

42. Navy vessels are widely equipped with hull-mounted, mid-frequency sonar systems. Mid-frequency active systems are also deployed from the air via helicopter and fixed-wing aircraft and are placed on floating platforms known as sonobuoys.

43. Some of the Navy's sonar systems employ technology capable of generating sounds in excess of 235 decibels (dB re 1 μ Pa (RMS)).² For example, during a mass stranding of whales in the Bahamas in 2000, which the Service and Navy have concluded was most likely caused by the Navy's use of the hull-mounted AN/SQS-53C sonar system, sound levels generated by the sonar were reported to exceed 235 decibels, and even tens of kilometers away from the source, sound levels remained at 160 decibels – levels that, the Service and Navy agree, have significant impacts on marine mammals. Exactly how loud some of these systems operate is not publicly known.

44. Each year, for the next five years, the Navy plans to operate its most powerful, hull-mounted, mid-frequency active sonar systems for

² The decibel scale is like the Richter scale for earthquakes: it expresses force in logarithmic terms, rising in increasing orders of magnitude from a baseline value. Each ten-decibel rise along the scale corresponds to a tenfold increase in power; thus, a sound measuring 130 dB is considered ten times more intense than a 120 dB sound, a sound of 140 dB is 100 times more intense, and a sound of 150 dB is 1,000 times more intense. Unless otherwise noted, all decibel levels (dB) cited in this Complaint represent the root mean square (RMS) of the acoustic pressure of the sound source, calculated in reference to one micropascal (re 1 μ Pa), at one meter's distance.

more than 11,000 hours, and it plans to use other mid-frequency active sonar for more than 13,000 hours.

45. During its exercises, the Navy will also detonate underwater explosives and conduct torpedo tests, ship-sinking events, bombing exercises, and more. Each year, for the next five years, the Navy plans to detonate more than 52,000 explosives, more than 250 of which will have a net explosive weight that is greater than 500 pounds and will be used, for example, to sink ships.

Harm to Marine Mammals from the Navy's Exercises

46. According to the Navy and the Service's own analysis, the Navy's exercises will cause unprecedented harm to marine mammals. The Navy has requested, and the Service has authorized, nearly 9.6 million takes of marine mammals over the next five years. These takes include 155 deaths, more than 2,000 permanent injuries, and millions of instances of temporary hearing loss and significant disruptions of vital behaviors, such as migration, surfacing, nursing, breeding, feeding, and sheltering.

47. There is no dispute that the Navy's use of mid-frequency active sonar and underwater explosives can kill and injure marine mammals.

Military sonar activities have been linked to dozens of mass strandings of

marine mammals around the world, including at least five events in which the Service and the Navy acknowledge that sonar used during exercises involving the Navy was a contributing factor. The Navy's underwater detonations have also killed marine mammals, as happened during a Navy training event at the Silver Strand complex in San Diego in 2011, when at least three dolphins were killed in an explosion.

48. Besides killing and injuring marine mammals, the Navy's use of mid-frequency active sonar and explosives can disrupt vital behaviors, such as foraging for food. Behavioral disruptions, especially if repeated, can have serious impacts on individual animals and, ultimately, on populations. For example, as the Service explains, "long-term and intense disturbance stimuli can cause population declines by reducing the body condition of individuals that have been disturbed, followed by reduced reproductive success, reduced survival, or both."

49. Recent studies, conducted in part by Navy and Service scientists, reveal that behavioral disruptions resulting from exposure to mid-frequency active sonar may have particularly serious consequences for vulnerable populations of beaked whales and endangered blue whales.

Harm to Beaked Whales from Mid-Frequency Active Sonar

50. Beaked whales comprise a diverse but little-understood group of toothed whale species (“odontocetes”). They are deep divers, frequently foraging for prey at depths exceeding 1,000 meters, and when they surface, their inconspicuous behavior makes them difficult to detect.

51. Several species of beaked whales occur in and around the Navy’s training ranges in southern California and Hawaii: Baird’s beaked whales, Blainville’s beaked whales, Cuvier’s beaked whales, Longman’s beaked whales, and five species grouped together as Mesoplodon beaked whales. One such species, Perrin’s beaked whale, is known to exist only off southern California. Indeed, the Navy’s southern California range contains some of the densest beaked whale habitat that has been found anywhere.

52. Beaked whales are especially sensitive to sonar exposure. Of the five mass strandings in which the Navy and the Service acknowledge that sonar played a role, all five involved beaked whales. In each of these events, the stranded whales exhibited similar injuries, including hemorrhaging around the brain and auditory systems and severe lesions in organ tissue. The leading theory to explain these injuries is that sonar exposure provokes a behavioral response in beaked whales (such as an

unusually rapid ascent to the surface) that causes their tissues to become supersaturated with nitrogen gas, leading to decompression sickness, or the “bends.”

53. A recent study, conducted by a group of researchers including Navy scientists, found that exposure to mid-frequency active sonar can also disrupt beaked whales’ foraging behavior. When exposed to simulated sonar signals, tagged beaked whales initiated a “strong and sustained” avoidance response that included energetic fluking (i.e., lifting their tails), “vigorous” swimming away from the source, and ceasing foraging for up to 7.5 hours. The researchers characterized the whales’ responses as “intense, consistent, [and] long-lasting,” and they noted that these responses occurred at sound levels that are orders of magnitude below what the Navy currently considers harmful. The researchers concluded that the energetic costs of these responses, if repeated, could reduce individual whales’ fitness.

54. The evidence from three additional studies, taken together, indicates that behavioral disruptions caused by sonar exposure may already be having an adverse impact on beaked whale populations. First, using existing data, researchers (including a Navy scientist) developed an

energetics model to predict how disruptions to feeding could affect the survival and reproduction of beaked whales. The model showed that female beaked whales are able to survive, but not reproduce, when their habitat quality is degraded. The researchers concluded that “anthropogenic disturbances that cause a consistent, minor reduction in energy intake over an extended period of time” could have serious consequences for beaked whale reproduction.

55. Second, a Navy-funded Ph.D. dissertation offers real-world evidence that supports the predictions from the energetics modeling. The researcher compared the abundance and age composition of two populations of beaked whales in the Bahamas – one on a Navy range, and regularly exposed to sonar, and one off the Navy range, and rarely exposed to sonar. The study revealed a substantially lower abundance of beaked whales on the Navy range than at the control site. Most troubling, the proportion of juveniles and calves to adult females was far lower on the Navy range. After ruling out several other possible causes for these disparities, the researcher concluded that “[i]ndirect impacts associated with chronic stress from acoustic disturbance could be affecting reproductive success, resulting in lower abundance at the navy range.”

56. Finally, a new study by two Service biologists has found a sharp decline in almost all beaked whale populations in the California Current ecosystem over the past twenty years. The authors identify Navy sonar and other anthropogenic noise as one of only two “plausible explanations” for this trend. They posit that “Navy ranges occurring in high-quality beaked whale habitat,” such as the Navy’s southern California range, could act as “population sinks,” areas to which beaked whales are drawn, but where they cannot survive and reproduce well because of acoustic disturbance.

Harm to Endangered Blue Whales from Mid-Frequency Active Sonar

57. Blue whales are the largest animals ever to have lived on earth. Decimated by whaling in the nineteenth and early twentieth centuries, blue whales are listed as endangered throughout their range.

58. The International Whaling Commission banned all hunting of blue whales in 1966. Scientists expected population growth following the ban, but blue whales have shown no evidence of recovery in the last twenty years. According to the Service, the number of blue whales in the world’s oceans is now “only a small fraction” of what it was in the early twentieth century.

59. The Service issued a Recovery Plan for blue whales in 1998. According to the Recovery Plan, protection of important habitat for blue whales, including waters off California, is “essential to population recovery.”

60. Blue whales are filter feeders, and they feed mainly on krill. They rely on large, dense patches of prey to meet their energy requirements. Southern California is an important feeding area for Pacific blue whales from June to November.

61. Because blue whales produce low-frequency vocalizations, it was previously assumed that blue whales did not hear mid-frequency active sonar. Two recent studies demonstrate, however, that not only do blue whales hear mid-frequency sonar, but it can disrupt their foraging behavior.

62. The first study, funded by the Navy, found that blue whales in southern California stopped making foraging calls and went silent when mid-frequency sonar was present. Because even low levels of sonar elicited this response, the researchers hypothesized that a single mid-frequency sonar source was capable of affecting blue whales’ behavior “over a broad region of the Southern California Bight.”

63. The second study, conducted by a group of researchers including Navy and NOAA scientists, found that tagged blue whales exposed to simulated mid-frequency sonar and other mid-frequency noise broke off deep-feeding dives and traveled away from the sound source. The researchers concluded that “[s]onar-induced disruption of feeding and displacement from high-quality prey patches could have significant and previously undocumented impacts on baleen whale foraging ecology, individual fitness and population health.” They warned that repeated exposure to mid-frequency sonar “may pose significant risks to the recovery rates of endangered blue whale populations.”

Administrative Proceedings

64. In April 2012, the Navy submitted an application to the Service, requesting two Letters of Authorization for the take of thirty-nine marine mammal species incidental to the Navy’s training and testing exercises in southern California and Hawaii from January 2014 to January 2019. The Navy supplemented its request in September 2012.

65. For its training exercises, the Navy sought authorization to kill up to 57 marine mammals, to permanently injure up to 1,314 marine mammals, and to cause nearly 8.4 million instances of temporary hearing

loss and significant disruptions of vital behaviors. For its testing exercises, the Navy sought authorization to kill up to 98 marine mammals, to permanently injure up to 725 marine mammals, and to cause nearly 1.2 million instances of temporary hearing loss and significant disruptions of vital behaviors.

66. The Navy proposed limited mitigation measures, including using lookouts to watch for marine mammals; reducing or halting sonar or explosive use if a marine mammal is visually observed within a certain radius; and establishing a “humpback whale cautionary area” in Hawaii, in which high-level clearance is required to use mid-frequency active sonar between December 15 and April 15. No such cautionary areas were proposed for southern California.

67. Plaintiff NRDC submitted comments to the Service on the Navy’s request for Letters of Authorization. Among other comments, NRDC urged the Service to consider limiting or excluding training and testing exercises in areas of biological importance for marine mammals.

68. The Service issued a Proposed Rule in January 2013. The Service proposed to find that the Navy’s nearly 9.6 million requested takes of marine mammals would have a negligible impact on marine mammal

species and stocks, and it proposed to authorize all the requested takes.

Besides the humpback whale cautionary area, the Service proposed not to require the Navy to limit its training and testing exercises in any biologically important areas.

69. Plaintiffs NRDC, ALDF, and CSI submitted comments on the Service's Proposed Rule. Plaintiffs urged the Service to withdraw the Proposed Rule and revise its analysis and mitigation consistent with the requirements of the Marine Mammal Protection Act. Plaintiffs contended that the Service had failed to consider the best available science, that it was proposing to authorize a greater than negligible level of take, and that it had failed to include meaningful mitigation. Plaintiffs expressed particular concern about vulnerable species such as endangered blue and fin whales, and beaked whales. Plaintiffs asked the Service to consider restricting the Navy's training and testing exercises in specific areas, and at specific times, of biological importance to vulnerable marine mammal species.

70. The Service issued a Final Rule, and two Letters of Authorization, on or around December 13, 2013. *See* Takes of Marine Mammals Incidental to Specified Activities, 78 Fed. Reg. 78,106 (Dec. 24, 2013). The Service authorized all of the nearly 9.6 million takes requested

by the Navy, including up to 10 beaked whale mortalities from stranding, up to 13 blue whale mortalities from vessel strikes, more than 450,000 disruptions of beaked whales' vital behaviors, and more than 23,000 disruptions of blue whales' vital behaviors (including more than 14,000 instances of temporary hearing loss). Other than the humpback whale cautionary area off Hawaii, the Service refused to restrict the Navy's training and testing exercises in any biologically important areas.

71. On May 7, 2014, the Service published a Federal Register notice amending the preamble to the Final Rule published on December 24, 2013. *See Takes of Marine Mammals Incidental to Specified Activities*, 79 Fed. Reg. 26,188 (May 7, 2014). On or around May 12, 2014, the Service issued two new Letters of Authorization to the Navy that supersede the Letters of Authorization issued on December 13, 2013.

72. The Service and the Navy consulted with the Service's Endangered Species Act Interagency Cooperation Division about the effects of the Navy's training and testing exercises on endangered and threatened species, including endangered blue whales, fin whales, Western North Pacific gray whales, humpback whales, sei whales, and sperm whales.

73. On or around December 13, 2013, the Service issued a Biological Opinion concluding that the Navy's proposed training and testing exercises would not jeopardize the continued existence, or adversely modify the critical habitat, of any endangered or threatened species, including endangered blue whales. The Service also issued an Incidental Take Statement authorizing the take of endangered and threatened species incidental to the Navy's exercises, including up to 7 blue whale mortalities from vessel strikes and more than 23,000 disruptions of blue whales' vital behaviors.

74. On or around April 23, 2014, the Service issued a "corrected final biological opinion" that supersedes the Biological Opinion issued on December 13, 2013. The Service also issued a new Incidental Take Statement, authorizing up to 15 blue whale mortalities from vessel strikes and more than 23,000 disruptions of blue whales' vital behaviors.

75. On January 21, 2014, Plaintiffs sent the Service and the Navy a sixty-day notice letter alleging that the Service's Biological Opinion, as well as the Service's and the Navy's reliance on the Biological Opinion, violated the Endangered Species Act.

Time-Area Closures Are Needed to Mitigate the Harm Caused by Mid-Frequency Active Sonar

76. According to NOAA, the Service's parent agency, protecting important marine mammal habitat is "generally recognized to be the most effective mitigation measure currently available" to reduce the harm that mid-frequency active sonar use inflicts on marine mammals.

77. Avoidance of important habitat is effective mitigation because it does not depend on an observer's ability to detect marine mammals during an exercise, which is difficult even under ideal conditions. For example, Service and Navy scientists have estimated that observers conducting mitigation monitoring are likely to detect fewer than 2 percent of beaked whales that are directly in the path of the ship. Additionally, habitat avoidance can reduce significant impacts that occur far from the source of the noise.

78. NOAA has established a working group on Cetacean Density and Distribution Mapping, which is identifying and mapping biologically important areas for marine mammals throughout the Navy's training and testing ranges. These are areas where species are known to gather for

specific behaviors, such as feeding or calving, at specific times, or where small populations are limited to a restricted range.

79. NOAA has already published its maps of biologically important areas in Hawaii. Plaintiffs are informed and believe that NOAA has also developed maps of biologically important areas for certain species in southern California, including blue whales, based on years of marine mammal survey efforts.

80. Seasonal restrictions on Navy training and testing exercises in areas of biological importance for vulnerable species of marine mammals, such as blue whales and beaked whales, would provide significant mitigation against the harm inflicted by mid-frequency active sonar use.

FIRST CLAIM FOR RELIEF

(Unlawful Issuance of Final Rule and Letters of Authorization Under the Marine Mammal Protection Act and Administrative Procedure Act— Against the Service)

81. Plaintiffs reallege and incorporate by reference the allegations contained in Paragraphs 1 through 80 of the Second Amended and Supplemental Complaint.

82. Before authorizing the Navy's take of marine mammals incidental to its training and testing exercises, the Service was required to

find that the take would have a “negligible impact” on “species or stock” of marine mammals. 16 U.S.C. § 1371(a)(5)(A)(i)(I). The Service’s “negligible impact” finding was required to be based on “the best scientific evidence available.” 50 C.F.R. § 216.102(a).

83. Additionally, the Service’s Final Rule was required to set forth “means of effecting the least practicable adverse impact” on marine mammal species or stock and their habitat. 16 U.S.C. § 1371(a)(5)(A)(i)(II)(aa). The Service’s Final Rule was required to be “based on the best available information.” 50 C.F.R. § 216.105(c).

84. The Service’s issuance of a Final Rule and Letters of Authorization permitting the take of marine mammals incidental to the Navy exercises challenged here violates the requirements of 16 U.S.C. § 1371 and its implementing regulations. The Service failed, among other things, to consider the best available scientific information, and to properly analyze the information it did consider, when it concluded that the requested takes of beaked whales, endangered blue whales, and other marine mammals will have a negligible impact on those species or stocks. The Service also failed to prescribe adequate mitigation. The conclusions of the Final Rule and Letters of Authorization are contrary to the Service’s

findings, do not reflect the best available science, are not based on the evidence, and are arbitrary and capricious.

85. Thus, under the Administrative Procedure Act, the Final Rule and Letters of Authorization constitute final agency action that is “arbitrary,” “capricious,” an “abuse of discretion,” “not in accordance with law,” and “without observance of procedure required by law.” 5 U.S.C. § 706(2)(A), (D).

SECOND CLAIM FOR RELIEF

(Issuance of and Reliance on Legally Defective Biological Opinion and Incidental Take Statement Under the Endangered Species Act and Administrative Procedure Act – Against the Service and the Navy)

86. Plaintiffs reallege and incorporate by reference the allegations contained in Paragraphs 1 through 85 of the Second Amended and Supplemental Complaint.

87. The challenged Navy exercises are actions “authorized, funded, or carried out” by a federal agency within the meaning of 16 U.S.C. § 1536(a)(2). Both the Service and the Navy are therefore required to ensure that these exercises are “not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification” of a listed species’ designated critical habitat. *Id.* In

fulfilling this requirement, each agency must “use the best scientific and commercial data available.” *Id.*

88. The Service’s issuance of a Biological Opinion for the Navy exercises challenged here violates the requirements of 16 U.S.C. § 1536 and its implementing regulations. The Service failed, among other things, to consider the best available scientific information on the impacts to endangered blue whales and other listed species from mid-frequency active sonar and underwater explosives. The Biological Opinion also fails to analyze impacts on the recovery of blue whales and other listed species. The conclusions of the Biological Opinion and Incidental Take Statement are contrary to the Service’s findings, do not reflect the best available science, are not based on the evidence, and are arbitrary and capricious.

89. The Biological Opinion and Incidental Take Statement therefore constitute final agency action that is “arbitrary,” “capricious,” an “abuse of discretion,” “not in accordance with law,” and “without observance of procedure required by law” under the Administrative Procedure Act. 5 U.S.C. § 706(2)(A), (D).

90. By relying on the Service’s legally defective Biological Opinion, the Service and the Navy further violated their substantive duty to ensure

that the challenged Navy exercises are “not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification” of a listed species’ designated critical habitat. 16 U.S.C. § 1536(a)(2).

PRAYER FOR RELIEF

Plaintiffs respectfully request that this Court:

1. Declare that the Service Defendants are each in violation of the Marine Mammal Protection Act as described above;
2. Declare that the Service and Navy Defendants are each in violation of the Endangered Species Act as described above;
3. Remand the Final Rule and Letters of Authorization for the Service to prepare a Final Rule and Letters of Authorization that comply with the Marine Mammal Protection Act, on a schedule to be set by the Court;
4. Remand the Biological Opinion and Incidental Take Statement for the Service’s Endangered Species Act Interagency Cooperation Division to reinitiate consultation with the Service’s Permits Division and the Navy, and to prepare a Biological Opinion and Incidental Take Statement that

comply with the Endangered Species Act, on a schedule to be set by the Court;

5. Enjoin Defendants from authorizing or proceeding with training and testing exercises using mid-frequency active sonar or underwater detonations in specific areas of biological importance, at specific times of biological importance, unless the Commander of the Pacific Fleet determines that it is necessary for the Navy to conduct such exercises in those areas and at those times, until Defendants have corrected the violations of law set forth herein;

6. Grant Plaintiffs their costs of suit, including reasonable attorney fees;

7. Grant Plaintiffs such further relief as is necessary and appropriate.

Dated: October 8, 2014

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that, on the dates and by the methods of service noted below, a true and correct copy of the foregoing was served on the following at their last known addresses:

Served electronically by CM/ECF:

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DATED: October 8, 2014

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