

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

FILED

OCT 31 2002

RICHARD W. WIEKING
CLERK, U.S. DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

NATURAL RESOURCES DEFENSE
COUNCIL, et al.

Plaintiffs,

v.

DONALD L. EVANS, et al.,

Defendants.

No. C-02-3805 EDL

**OPINION AND ORDER GRANTING
PLAINTIFFS' MOTION FOR A
PRELIMINARY INJUNCTION**

TABLE OF CONTENTS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

	Page
I. INTRODUCTION	1
II. LIKELIHOOD OF PREVAILING ON THE MERITS	2
A. Scientific Background, Including Basis for 180 dB Threshold	3
B. Marine Mammal Protection Act	7
1. Specified Geographic Region	9
2. Small Numbers	15
a. Statute of Limitations	16
b. Whether NMFS Acted Outside the Scope of its Authority	17
3. The Final Rule’s Definition of “Harassment”	20
a. Potential to Disturb	22
b. Significance Requirement	22
c. Impact on Individual Mammals	24
4. Negligible Impact	26
5. Mitigation and Monitoring	28
C. National Environmental Policy Act	34
1. Reasonable Alternatives Analysis	35
2. Consideration of Reasonably Foreseeable Environmental Impacts	39
3. The Navy’s Refusal to Supplement the EIS	40
4. Reliance on Unpublished White Paper not Subject to Public Comment ...	43
D. Endangered Species Act	44
1. Regulatory Definition of Adverse Modification	46
2. Incidental Take Statements	48
III. INJUNCTIVE RELIEF	53

1 **I. INTRODUCTION**

2 Plaintiffs, various environmental organizations and a concerned individual, seek a
3 preliminary injunction against federal officials to prevent the United States Navy's peacetime use of
4 a low frequency sonar system for training, testing and routine operations.¹ This new technology,
5 Surveillance Towed Array Sensor System ("SURTASS") Low Frequency Active Sonar ("LFA"),
6 sends out intense sonar pulses at low frequencies that travel hundreds of miles in order to timely
7 detect increasingly quiet enemy submarines. Plaintiffs charge that the National Marine Fisheries
8 Service ("NMFS") improperly approved use of SURTASS LFA in as much as 75 percent of the
9 world's oceans in violation of the Marine Mammal Protection Act ("MMPA"), the Endangered
10 Species Act ("ESA"), the National Environmental Policy Act ("NEPA"), and the Administrative
11 Procedure Act ("APA"). Plaintiffs claim that these violations will cause irreparable injury by
12 harassing, injuring and killing marine mammals with sensitive hearing and other sea creatures, many
13 of them rare and endangered, including whales, dolphins, seals, sea turtles and salmon. Defendants
14 counter that they have fully complied with the applicable laws. Defendants argue further that
15 enjoining the peacetime use of LFA sonar would harm national security, even though they would still
16 be free to use it during wartime or periods of heightened threat, because training and testing is
17 necessary for military readiness.

18 As explained below, the Court recognizes the importance of this new sonar technology to
19 national security. The Court also commends defendants' sponsorship of independent scientific
20 research to advance our limited understanding of the effects of low frequency sound on marine
21 mammals. Plaintiffs have shown, however, that they are likely to prevail on a number of issues.
22 These include the likelihood of establishing that the authorization of harassment of up to 12 percent
23 of marine mammals violates the "small numbers" limitation and that NMFS has impermissibly
24

25 ¹ Plaintiffs are Natural Resources Defense Council, Inc.; The Humane Society of the United
26 States; Cetacean Society International; League for Coastal Protection; Ocean Futures Society; and Jean-
27 Michel Cousteau. Defendants are Donald L. Evans, Secretary of the United States Department of
28 Commerce; the National Marine Fisheries Service ("NMFS"); William Hogarth, Assistant Administrator
for Fisheries of the National Oceanographic & Atmospheric Administration; Conrad C. Lautenbacher,
Jr., Vice Admiral, Administrator of the National Oceanographic & Atmospheric Administration; the
United States Department of the Navy; Gordon R. England, Secretary of the United States Department
of the Navy; and Vern Clark, Admiral, Chief of Naval Operations.

1 narrowed the definition of harassment, in violation of the MMPA; that NMFS acted arbitrarily in
2 postponing the designation of additional “off limits” areas within the ocean where marine mammals
3 and endangered species are likely to be particularly abundant, and did not sufficiently analyze
4 reasonable alternatives, in violation of NEPA; and that, by relying on an illegal regulatory definition
5 of adverse modification and not including proper incidental take statements in its two biological
6 opinions, NMFS violated the ESA. Plaintiffs have also raised serious questions on the merits on the
7 issues of whether NMFS acted arbitrarily and capriciously in choosing the specified geographic
8 regions identified in the Final Rule, and whether the taking authorized will have more than a
9 negligible impact on marine mammals. However, the Court is not predicating any injunctive relief
10 upon these issues. Defendants are likely to prevail on the remaining issues.

11 The Court concludes that a preliminary injunction should issue. Plaintiffs have shown the
12 likelihood of irreparable injury and of a future violation of the ESA. At the same time, the Court
13 must consider the public interests both in national security and in protecting marine mammals and
14 endangered species. Accordingly, the Court concludes that a carefully tailored preliminary
15 injunction should issue, which permits the use of LFA sonar for testing and training in a variety of
16 ocean conditions, but provides additional safeguards to reduce the risk to marine mammals and
17 endangered species.

18 **II. LIKELIHOOD OF PREVAILING ON THE MERITS**

19 The Court reviews challenges under the MMPA, ESA, NEPA, and APA to ensure that the
20 agency has not acted in a manner that is “arbitrary, capricious, an abuse of discretion, or otherwise
21 not in accordance with law.” Okanogan Highlands Alliance v. Williams, 236 F.3d 468, 471 (9th
22 Cir., 2000); 5 U.S.C. § 706. To obtain a preliminary injunction,

23 the moving party must show either (1) a combination of probable success on the
24 merits and the possibility of irreparable injury or (2) that serious questions are
25 raised and the balance of hardships tips in its favor. These two formulations
represent two points on a sliding scale in which the required degree of irreparable
harm increases as the probability of success decreases.

26 Roe v. Anderson, 134 F.3d 1400, 1402 (9th Cir. 1998). “In exercising their sound discretion, courts
27 of equity should pay particular regard for the public consequences in employing the extraordinary
28 remedy of injunction.” Weinberger v. Romero-Barcelo, 456 U.S. 305, 312-13 (1982) (citing

1 Railroad Comm'n. v. Pullman Co., 312 U.S. 496, 500 (1941)).

2 **A. Scientific Background, Including Basis for 180 dB Threshold**

3 One important scientific dispute between the parties is whether the standard of 180 decibels
4 (“dB”) adopted by NMFS as the threshold for probable injury to marine life is arbitrary and
5 capricious. Decibels measure sound intensity or loudness on a logarithmic scale; for example, a
6 sound measuring 180 dB is approximately ten times more intense than a 170 dB sound. LFA sonar
7 uses low frequency sound waves which travel farther distances in the ocean with less loss of
8 intensity than higher frequency sound waves. Plaintiffs contend that substantial scientific evidence
9 indicates that injury to marine mammals occurs at much lower levels than 180 dB. Defendants
10 respond that an independent scientific team arrived at the 180 dB threshold based on a review of the
11 relevant literature, the results of a specially designed Scientific Research Program (“SRP”), and
12 underwater acoustical modeling. (2nd Johnson Dec. at ¶ 7, 9-11; EIS p. 4.201.)

13 Under the SRP, independent scientists designed controlled scientific studies of the impact
14 of LFA sonar on marine mammals at sound levels between 120 dB and approximately 155 dB, which
15 they conducted over a one-year period using an LFA-equipped ship provided by the Navy. The
16 studies tested the effect of LFA sonar on four species of endangered baleen whales, which specialize
17 in hearing sounds in the low frequency range in which LFA sonar operates, and thus were expected
18 to be most sensitive to LFA sonar. The results surprised the scientists:

19 Prior to the LFS SRP, the expectation was that whales would begin to show
20 avoidance responses at RLs [Received Levels] of 120 dB. Immediately obvious
21 avoidance responses were expected for levels > 149 dB. The LFS SRP experiments
22 detected some short-term behavioral responses at estimated RLs between 120-155 dB.
23 In the Phase II research, avoidance responses were sometimes obvious in the field
24 when the LF source was in the gray whale migration path. Although several
25 behavioral responses were revealed through later statistical analysis, there was no
26 significant change in a biologically important behavior detected in any of the three
27 phases. Most animals that did respond returned to normal baseline behavior within a
28 few tens of minutes.

(EIS at p. ES-16.)

26 Dr. Tyack, Senior Scientist at Woods Hole Oceanographic Institution, originally became
27 concerned about the potential impact of the LFA sonar system on whales as a volunteer science
28 advisor to plaintiff NRDC. (Tyack Decl. ¶ 6.) He was subsequently retained by the Navy as one of

1 two principal investigators of SRP. He explained:

2 The SRP was designed to study exposure ranges from 120-160 dB, the range in which
3 we expected to see significant responses. The experiments were carefully designed to
4 start at the low end of this exposure range and slowly work up, stopping at the level at
5 which significant responses were observed. The results from the SRP show minor
6 enough responses that most scientific reviewers have urged further study of higher
7 exposure levels, at least from 160-180 dB.

8 (Tyack Dec. at ¶¶ 29-30.)

9 Similarly, Dr. Clark, the other principal investigator of the SRP concluded:

10 The SRP results support the conclusion that the received level at which behavioral
11 responses occur is around 140 dB, not 120 dB as expected based on the earlier gray
12 whale research. This result cannot be extended to arctic species such as the bowhead
13 and beluga whales, which are known to be extremely sensitive to noises from human
14 activities. However, since the Navy has stated that LFA will not be used in the
15 Arctic, these sensitive species are not placed at risk. For lower latitude areas, the SRP
16 results reduce the scale of potential impact by as much as several orders of magnitude.
17 The results showing that responses last for only tens of minutes and involve modest
18 changes in behavior does not mean that animals are not responsive to LFA sounds. It
19 means that their response levels are much less than those expected based on the best
20 evidence available prior to the SRP.

21 (Clark Dec. at ¶ 22; see also Fristrup Dec. at ¶ 11 (the brevity and subtlety of the behavioral
22 responses observed “are strong indicators that LFA exposures at received levels up to 155 dB could
23 not affect survivorship or reproduction.”)).

24 The SRP did not test responses of marine mammals to LFA sonar at received levels above
25 155 dB, but instead used modeling to extrapolate from a presumed 95 percent risk at a received level
26 of 180 dB. According to Dr. Kurt Fristrup,

27 Having attached the Risk Continuum to 95% risk at 180 dB, the remaining choice
28 involved determining how rapidly risk declined with decreasing received level. The
OEIS/EIS incorporates a plausible, worst-case assumption that biologically significant
behavioral reactions could begin to appear at received levels just above the received
levels we achieved in the experiments (155 dB). As a result, the Risk Continuum
provides an upper bound for the plausible impact of LFA signals in the range of
received levels for which no experimental evidence is available. For example, a 50%
risk value is assigned for exposure to one LFA signal at a received level of 165 dB.
Thus, we expect that there is less than a 50% chance that exposure to a single LFA
broadcast at 165 dB could result in a biologically significant response.

(Fristrup Dec. at ¶¶ 16-18.)

In addition to results from the SRP, defendants relied on extrapolations from levels of
sound that cause injury to other species, including humans and guinea pigs. 67 Fed. Reg. 46779.

1 Mr. Johnson, Technical Director for the Chief of Naval Operations, explains that “[h]earing loss due
2 to sound exposure is well studied in humans and other land animals, but data for marine mammals
3 are sparse. These data gaps . . . prompted the use of models and extrapolations, in order to provide a
4 rational basis for the assessment of risk potential.” (2nd Johnson Dec. at ¶ 8.)

5 Plaintiffs argue that the mass stranding of marine mammals, primarily beaked whales, in
6 March 2000 in the Bahamas, which the Navy’s and NMFS’s own task force linked to military
7 exercises involving the use of underwater mid-frequency sonar, demonstrates that the injury
8 threshold of 180 dB is too high. The task force report indicated that the injured whales were likely
9 exposed to levels of 165 dB. The whales sustained hemorrhages in the inner ear, in some tissues
10 adjacent to the ear, and in the fluid spaces surrounding the brain, as well as clotting in the cerebral
11 ventricles, although their deaths apparently resulted most immediately from protracted exposure
12 upon beaching. (Ketten Dec. at ¶¶ 16-17.) Rescuers returned some whales to the sea, but those
13 whales have not been seen again. (Balcomb Dec. at ¶ 10.) Plaintiffs’ expert contends that they
14 either died at sea or were largely driven to abandon their habitat. (Balcomb Dec. at ¶ 11.)
15 Defendants’ expert argues that there is not enough data on resighting rates to support this conclusion.
16 (Ketten Dec. at ¶ 38.) Plaintiffs’ expert Balcomb, however, testified at the hearing that he and his
17 scientific team had studied beaked whales in the area prior to the mass stranding and identified and
18 photographed 35 as frequent visitors. Yet, in the two years since the stranding, his team has seen
19 only one of the previously identified whales return to the area.

20 The experts on both sides agree that the mechanism of injury in the Bahamas strandings is
21 unknown. (Potter Dec. at ¶ 15; Cudahy Dec. at ¶ 17.) What they dispute is the implication to be
22 drawn from this lack of scientific knowledge; in particular, whether LFA, which operates at much
23 lower frequencies than the sonar involved in the Bahamas strandings, is likely to cause similar
24 injuries. Plaintiff’s expert Dr. Potter, Research Associate Professor of the Tropical Marine Science
25 Institute, opines that “[s]ince the mechanism is unknown, it is not scientifically justifiable to assume
26 anything about its frequency-dependence. The mechanism may well also apply at low frequencies,
27 such as those used by the SURTASS LFA sonar.” (Potter Dec. at ¶ 15.)

28 Defendant’s experts Dr. Cudahy and Dr. Fristrup counter that it is speculative to assume that

1 the unknown mechanism involved in the strandings related to mid-frequency sonar will apply when
2 low frequency sonar is employed. For example, Dr. Cudahy states that:

3 [while] there is little data on the non-auditory physiological impact of mid-frequency
4 underwater sound on animals or humans. . . . there is an extensive data set on non-
5 auditory and auditory injury due to low frequency underwater sound, collected on
6 over 500 animals and over 100 humans. The conclusions drawn in the EIS regarding
7 tissue damage at low frequencies were based in part on these data. Currently, there is
8 no established mechanism for the tissue damage observed in the marine mammals
9 stranded in the Bahamas in March 2000 and very little data to bring to bear on what
10 happened. Nor is there a data set collected on other animals exposed to mid-
11 frequency underwater sound that addresses non-auditory damage. This makes
12 extrapolation from mid-frequency data to low-frequency data very problematic. In
13 order to make such an extrapolation, clear physiological data on a large sample set
14 (tens or hundreds) of animals exposed to mid-frequency underwater sound is needed.
15 In the absence of such data all that exists are hypotheses. Again, the best
16 extrapolations will be made from data collected in the same frequency region and for
17 comparable organ systems. Thus, it is incorrect to draw the kind of correlation that
18 the plaintiffs in this case assert between the stranding of beaked whales in the
19 Bahamas when exposed to mid-frequency sonar and possible impacts to marine
20 mammals associated with the operation of the low frequency SURTASS LFA.

21 (Cudahy Dec. at ¶ 17-18.) Similarly, Dr. Fristrup points out that natural sources of loud low
22 frequency sound, such as earthquakes and lightning strikes, are common in the ocean, so marine
23 mammals likely adapted to such loud low frequency sounds in their evolution. (Fristrup Dec. at ¶
24 25.) Dr. Ketten concludes:

25 We are logically compelled to infer that the traumas observed in the Bahamian
26 strandings, whatever the mechanism, is species or taxa specific and is not common to
27 whales much less marine mammals per se. For this reason alone it is highly
28 inappropriate to construe this event as an indicator of similar events in other whales
from the same or other sonars or acoustic devices.

(Ketten Dec. at ¶ 33.) The EIS states that “[c]urrent evidence would suggest that[,] while beaked
whales may be sensitive to frequencies above SURTASS LFA sonar, there is little evidence that they
are more sensitive to LFA sounds than the species selected as subjects for the LFS SRP.” (Stafford
Dec. Ex. 1 at 3.2-47) (as corrected).

Plaintiffs respond that defendants themselves have extrapolated from mid- and even high-
frequency sound to low frequency sound, and across species, even though they chastise plaintiffs’
experts for doing so with respect to the mass strandings. (Navaro Dec. Ex. 14 at 1-23 to 1-28, 4.2-21
to 4.2-23; 67 Fed. Reg. 46737, 46740-46741; Navaro Dec. Ex. 3 at 104-06). Furthermore, there have
been prior strandings correlated with the use of mid-frequency military sonar, although these events

1 were less well studied. (Stafford Dec. Ex. 20.) For example, another mass stranding of beaked
2 whales occurred along the west coast of Greece in 1996, which was correlated with the movements
3 of an active sonar system operated by NATO in both low and mid-frequency bands. (Stafford Dec.
4 Ex. 20.)

5 It appears to the Court that both plaintiffs' and defendants' experts make reasonable points
6 about the possible implications of the strandings, but that both sets of experts must, of necessity,
7 engage in some speculation, given the current state of scientific uncertainty. The possibility that the
8 stranding in the Bahamas, and other strandings, could foretell similar injuries from LFA sonar is very
9 troubling. It would be more protective of marine mammals to adopt the plaintiffs' experts' more
10 conservative approach to uncertainty and not deploy LFA sonar unless and until further scientific
11 research rules out a similar impact from LFA sonar. The law is clear, however, that when qualified
12 experts on both sides reach carefully reasoned but different conclusions, the Court must defer to the
13 agency's experts: "When specialists express conflicting views, an agency must have discretion to
14 rely on the reasonable opinions of its own qualified experts even if, as an original matter, a court
15 might find contrary views more persuasive." Marsh v. Oregon Natural Resources Council, 490 U.S.
16 360, 378 (1989) (quoting Citizens to Preserve Overton Park Inc. v. Volpe, 401 U.S. 402, 416
17 (1971)).

18 In conclusion, while the Court is concerned about potential dangers of LFA operated at
19 levels below 180 dB, on this record, plaintiffs have not shown that they are likely to prevail on their
20 argument that adoption of the 180 dB threshold was arbitrary and capricious, even in light of the
21 stranding in the Bahamas and other mass strandings. Qualified experts, many of whom are not Navy
22 employees but researchers at major scientific institutions such as Woods Hole, adopted the 180 dB
23 threshold based on reasonable original research and review of the literature. While plaintiffs'
24 qualified scientists reach different conclusions in an area of scientific uncertainty and legitimate
25 disagreement among experts, the Court is not empowered to adopt their views in lieu of the
26 reasonable views of defendants' qualified experts.

27 **B. Marine Mammal Protection Act**

28 The Marine Mammal Protection Act ("MMPA") was enacted in 1972 to prevent the

1 extinction or depletion of marine mammal stocks as a result of man’s activities. 16 U.S.C.
2 § 1361(1). “[S]uch species and population stocks should not be permitted to diminish beyond the
3 point at which they cease to be a significant functioning element in the ecosystem of which they are a
4 part, and, consistent with this major objective, they should not be permitted to diminish below their
5 optimum sustainable population.” 16 U.S.C. § 1362(2). The MMPA generally prohibits the taking
6 of marine mammals, with certain statutory exceptions. 16 U.S.C. § 1371(a)(3).

7 “Take” is defined as “to harass, hunt, capture, collect, or kill, or attempt to harass, hunt,
8 capture, collect or kill, any marine mammal.” 50 C.F.R. § 216.3;16 U.S.C. § 1362(13). The
9 definition of “take” includes any negligent or intentional act which results in disturbing or molesting
10 a marine mammal. 50 C.F.R. § 216.3.

11 The MMPA defines “harassment” as “any act of pursuit, torment or annoyance” that:
12 (i) has the potential to injure a marine mammal or marine mammal stock in the wild; or
13 (ii) has the potential to disturb a marine mammal or marine mammal stock in the
14 wild by causing disruption of behavioral patterns, including but not limited to,
migration, breathing, nursing, breeding, feeding, or sheltering.

15 16 U.S.C. § 1362 (18)(A). Harassment as defined in subsection (i) is referred to as Level A
16 harassment. 16 U.S.C. § 1362(18)(B). Harassment as defined in subsection (ii) is referred to as
17 Level B harassment. 16 U.S.C. § 1362(18)(C).

18 Citizens of the United States who engage in a specified activity other than commercial
19 fishing within a specified geographical region may petition the Secretary to authorize the incidental,
20 but not intentional, taking of small numbers of marine mammals within that region. 16 U.S.C.
21 § 1371(a)(5)(A). Such authorization is limited to a period of not more than five consecutive years.
22 Id. The Secretary “shall allow” the incidental taking if the Secretary finds that “the total of such
23 taking during each five-year (or less) period concerned will have a negligible impact on such species
24 or stock and will not have an unmitigable adverse impact on the availability of such species of stock
25 for taking for subsistence uses” Id. If the Secretary allows the incidental taking, the Secretary
26 also must prescribe regulations setting forth: (i) permissible methods of taking pursuant to such
27 activity, and other means of effecting the least practicable adverse impact on such species or stock
28 and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar

1 significance, and on the availability of such species or stock for subsistence uses; and (ii)
2 requirements pertaining to the monitoring and reporting of such taking. *Id.*

3 Thus, to receive a “small take” authorization, an activity must: (i) be limited to a “specified
4 geographical region,” (ii) result in the incidental take of only “small numbers of marine mammals of
5 a species or population stock,” and (iii) have no more than a “negligible impact” on species and
6 stocks. In addition, in issuing an authorization, the Secretary must: (iv) provide for the monitoring
7 and reporting of such takings, and (v) prescribe methods and means of effecting the “least
8 practicable adverse impact” on species and stock and their habitat. 16 U.S.C. § 1371(a)(5)(A).

9 There is no private right of action under the MMPA. Hawaii County Green Party v.
10 Clinton, 124 F. Supp. 2d 1173, 1190 (D.Haw. 2000) (citing Didrickson v. U.S. Dep’t of Interior, 982
11 F.2d 1332, 1338 (9th Cir. 1992)). Citizens challenging actions done under the MMPA must sue
12 under the APA. *Id.* Therefore, actions challenged under the MMPA are reviewed under the APA
13 “arbitrary and capricious” standard.

14 Plaintiffs argue that the Final Rule² violates the MMPA in four ways. First, they contend
15 that the Final Rule is not limited to a specified geographical region. Second, they argue that the
16 Final Rule uses an improper definition of “small numbers.” Third, they claim that the Final Rule
17 uses an improper definition of “harassment.” Finally, plaintiffs argue that the Final Rule will have
18 more than a negligible impact on marine mammals.

19 1. Specified Geographical Region

20 The Final Rule authorizes incidental taking by Level A and Level B harassment of
21 mysticete whales (whales without teeth), odontocete whales (whales with teeth), and pinnipeds
22 (seals, sea lions, fur seals, and walruses) in 15 different biomes, divided into numerous provinces
23 and subprovinces. 50 C.F.R. § 216.180. Plaintiffs argue that the “provinces” identified by NMFS
24 are gargantuan in scale and far too large to meet the MMPA’s requirement of a “specific
25 geographical region.” 16 U.S.C. § 1371(a)(5)(A). Defendants argue, on the other hand, that there is
26 no requirement in either the statute or the regulations that the specified geographic regions must be

27
28 ² The MMPA requires that NMFS give notice and an opportunity for public comment for public
comment when processing a small take request. This process culminated in the Final Rule for issuance
of a one-year Letter of Authorization for SURTASS LFA operations.

1 small, as long as they are no larger than necessary to accomplish the specified activity.

2 In reviewing the NMFS' interpretation of the MMPA, the Court must first determine
3 whether Congress has directly spoken to the precise question at issue. Chevron, U.S.A., Inc. v.
4 Natural Resources Defense Council, Inc., 467 U.S. 837, 842 (1984). "If the intent of Congress is
5 clear, that is the end of the matter; for the court, as well as the agency, must give effect to the
6 unambiguously expressed intent of Congress." Id. at 842-43. The Court "must reject administrative
7 constructions which are contrary to clear Congressional intent." Id. at 843 n.9. If Congress has not
8 directly addressed the precise question at issue, the court may not simply impose its own
9 construction of the statute, but must determine whether the agency's answer is based on a
10 permissible construction of the statute. Id. at 843. "The court need not conclude that the agency
11 construction was the only one it permissibly could have adopted to uphold the construction, or even
12 the reading the court would have reached if the question initially had arisen in a judicial proceeding."
13 Id. at 843 n.11.

14 If Congress has expressly delegated authority to elucidate a specific provision of the statute
15 by regulation, those regulations are given controlling weight unless they are arbitrary, capricious, or
16 manifestly contrary to the statute. Id. at 843-44. If the legislative delegation to an agency on a
17 particular question is implicit rather than explicit, a court may not substitute its own construction of
18 a statutory provision for a reasonable interpretation made by the administrator of an agency. Id. at
19 844.

20 The only language in the legislative history that addresses the "specified geographic region"
21 requirement provides:

22 It is the intention of the Committee that both the specified activity and the
23 specified region referred to in section 101(a)(5) be narrowly identified so that the
24 anticipated effects will be substantially similar. Thus, for example, it would not
25 be appropriate for the Secretary to specify an activity as broad and diverse as outer
26 continental shelf oil and gas development. Rather, the particular elements of that
27 activity should be separately specified as, for example, seismic exploration or core
28 drilling. Similarly, the specified geographical region should not be larger than is
necessary to accomplish the specified activity, and should be drawn in such a way
that the effects on marine mammals in the region are substantially the same.
Thus, for example, it would be inappropriate to identify the entire Pacific Coast of
the North American continent as a specified geographical region, but it may be
appropriate to identify particular segments of that coast having similar
characteristics, both biological and otherwise, as specified geographical regions.

1 H.R. Rep. No. 97-228 (1981), reprinted in 1981 U.S.C.C.A.N. 1458, 1981 WL 21352 at **1469-70.
2 The Code of Federal Regulations defines “specified geographical region” as “an area within which a
3 specified activity is conducted and which has similar biogeographic characteristics.” 50 C.F.R.
4 § 216.103.

5 Initially, NMFS’ proposed rule divided the world’s oceans into sixteen regions. See 66
6 Fed. Reg. 15390 (2001) (proposed 50 C.F.R. § 216.180). At that time, NMFS explained that:

7 NMFS believes that the regions described in this proposed rule are in keeping
8 with Congress’ legislative intent in enacting this provision. Although SURTASS
9 LFA sonar requires fairly large geographic regions because of the Navy’s need to
10 deploy the system on a world-wide basis, these areas have been selected so as to
11 retain similar biological characteristics within each region. As a result, NMFS
12 believes that these areas are large enough to accomplish the specified activity
13 without being so large that the effects on marine mammals will not be
14 substantially the same.

11 It should be noted that the regions described in this proposed rule differ from
12 those contained in the Navy’s original application and described in the ANPR.
13 Based on a suggestion made by NMFS in the ANPR, the U.S. Navy revised its
14 original proposal for 10 regions to one that proposes to adopt, with modification,
15 the United Nation Food and Agriculture Organization’s (FAO) division of the
16 world’s oceans into 16 distinct areas

15 66 Fed. Reg. 15378. NMFS then received objections that this division of the world’s oceans into
16 sixteen regions did not meet the requirement of the MMPA for a “specified geographical region.” 67
17 Fed. Reg. 46768 (2002). NMFS agreed that the use of those 16 regions violated its own definition of
18 “specified geographical region” as “an area within which a specified activity is conducted and which
19 has certain biogeographic characteristics.” Id. (citing 50 C.F.R. § 216.103.) NMFS agreed that “the
20 16 areas designed in the proposed rule document were not based on biogeographic characteristics as
21 specified in the definition, but were based on other considerations by the U.N. Food and Agricultural
22 Organization.” Id.

23 NMFS then adopted its current approach of dividing the oceans into 15 biomes, and 54
24 provinces within those biomes, as designed by Longhurst (1998). Id. NMFS stated that it believed
25 that this approach met the statutory definition because “a biome is the most likely geographic region
26 to contain the majority of a specific marine mammal stock, especially those that are migratory.” Id.

27 While admittedly, the Longhurst schematic was designed for plankton, it is the
28 best scientific application available for designating specified geographic regions
because no biogeographic concept has been designed for marine mammals and, in
general, the distribution of marine organisms at higher trophic levels resembles

1 the general geographic patterns of primary productivity, with the largest
2 aggregations concentrated in coastal areas and zones of upswelling. (Longhurst,
1998).

3 Id. at 46768-69. “These provinces and biomes effectively delineate the area wherein discrete
4 population units reside thereby allowing NMFS to analyze impacts from SURTASS LFA sonar on a
5 species and/or stock basis.” Id. at 46769.

6 Plaintiffs object that the biomes and provinces identified by NMFS are still far too large.
7 Plaintiffs have provided a map, attached as Exhibit A to their motion, showing the very large size of
8 some of these provinces. According to plaintiffs, Province 60 is larger than the continental United
9 States and encompasses six million square miles of open ocean. The Court notes that Province 66
10 covers the entire Pacific coast from roughly Cabo San Lucas at the southern tip of Baja California to
11 the Canadian border. Plaintiffs argue that if “it would be inappropriate to identify the entire Pacific
12 coast of the North American Continent as a specified geographical region,” H.R. Rep. No. 97-228
13 (1981), reprinted in 1981 U.S.C.C.A.N. 1458, 1981 WL 21352 at **1469-70, then surely an area
14 twice the size of the United States violates the MMPA.

15 Defendants argue that the specified regions need not be small, but they should not be larger
16 than necessary to accomplish the specified activity. (Hollingshead Decl. ¶ 19.) Here, fairly large
17 areas were needed in order for a SURTASS LFA sonar mission to remain within one, or at most two
18 specified geographic regions. (Id.) NMFS felt that it had three choices: (1) deny the requested
19 authorization because Naval operations could not, and should not, be confined to a single
20 biogeographic area; (2) issue up to 54 sets of regulations so that each set of regulations would be
21 effective in only one area; or (3) issue a single set of regulations and then issue a Letter of
22 Authorization designating which areas a single ship would operate within in any single year. Id.
23 NMFS chose the third alternative as an efficient way to comply with the requirements of the MMPA.
24 Id. Choosing smaller regions would not have worked because NMFS had to make the geographic
25 regions big enough to accomplish the specified activity. Id. ¶ 20. LFA can be heard at very large
26 distances from the vessel; plaintiffs acknowledge that the LFA sonar has a sound pressure level of
27 approximately 140dB more than 400 miles from the vessel. Id. In addition, “LFA sonar in most
28 cases does not transmit equitably throughout the ocean but has a narrow ray path that tends from its

1 origin towards the ocean bottom (below the habitation zone of marine mammals) and reflects back
2 towards the surface and back down again with its second and third reflection at the surface upwards
3 of 100km (54nm) and 150 km (81nm), respectively, from the vessel.” Id. “Therefore, smaller
4 geographic regions would be functionally inappropriate, as sounds could easily transmit across a
5 number of them.” Id. Defendants also point out that smaller geographic units are not necessarily
6 geographically stable; some, for instance, may change during an El Niño period. (Hollingshead
7 Decl. ¶ 22.)

8 Plaintiffs also argue that Congress intended that “specified geographic region . . . should be
9 drawn in such a way that the effects on marine mammals in the region are substantially the same.”
10 H.R. Rep. No. 97-228 (1981), reprinted in 1981 U.S.C.C.A.N. 1458, 1981 WL 21352 at **1469.
11 The Code of Federal Regulations similarly defines “specified geographical region” as “an area within
12 which a specified activity is conducted and which has similar biogeographic characteristics.” 50
13 C.F.R. § 216.103. Plaintiffs interpret this language to require that the abundance and distribution of
14 particular marine mammals must be relatively uniform within any given specific geographical area,
15 but the language does not address distribution of mammalian populations throughout the area.
16 Instead, it requires that the effects on marine mammals be substantially the same throughout the
17 region, and that there be similar biogeographic characteristics throughout the region.

18 Plaintiffs’ expert Rodney M. Fujita, who has a Ph.D. in marine ecology, attests that the
19 Longhurst biomes are not particularly useful for estimating biological impacts on specific
20 populations of marine mammals or other organisms. (Fujita Decl. ¶ 7.) According to Fujita, the
21 provinces identified by NMFS are so large that each one contains many diverse habitats, species
22 assemblages, and levels of productivity. (Id. ¶ 8.) “Even if NMFS’ purpose in creating very large
23 biogeographical provinces was to ensure that they contain whole stocks of migratory marine
24 mammals, the boundaries are somewhat biologically arbitrary, failing to correspond to population
25 distributions of gray whales, blue whales, and other species.” (Id. ¶ 12.) Fujita particularly notes
26 that:

27 to ensure that marine mammal impacts are substantially the same in a
28 biogeographic area, it is necessary to consider the effects of LFA on smaller areas
where marine mammals congregate to feed, breed, and rear their young.
Disruption of communication by LFA signals may be especially harmful in such

1 areas.

2 (Id.) Fujita concludes that:

3 The biogeographic biomes and provinces defined by NMFS do not have
4 homogeneous ecological or biogeographical characteristics. Each province
5 contains many distinctive habitats and biogeographic subdivisions, some of which
6 may be vitally important to marine mammals and others less important. Thus,
these biomes and provinces are not consistent with the intent of the MMPA to
limit permitted activities to distinct biogeographic areas with similar
characteristics.

7 (Id. ¶ 13.)

8 NMFS acknowledges in the Final Rule that the biomes and provinces were not chosen
9 because of their specific relevance to marine mammals. 67 Fed. Reg. at 46768-69. NMFS stated,
10 however, that “it is the best scientific application available for designating specified geographic
11 regions because no biogeographic concept has been designed for marine mammals” Id. at
12 46769; see also Hollingshead Decl. ¶ 21. Fujita does not dispute this point.

13 Defendants contend that to the extent scientific information permits, the specified
14 geographical regions have been drawn so that the effects on marine mammals in a specified region
15 are substantially the same. (Hollingshead Decl. ¶ 24.) Anticipated effects on marine mammals from
16 LFA sonar noise will be based primarily on their hearing anatomy and on water mass characteristics
17 (such as water temperature), which influence the way in which sonar sound propagates. Id.
18 Defendants fail to explain how the enormous provinces set forth in the Final Rule have similar
19 biogeographic characteristics, however. Even water temperature obviously will be dramatically
20 different within provinces that stretch for thousands of miles.

21 Plaintiffs assert that because the Final Rule contains no limitation on how many provinces
22 may be involved in any given deployment of the LFA system, the Final Rule in fact imposes no
23 specific geographical limitation on LFA’s deployment at all. NMFS has conceded that “no world-
24 wide authorizations have previously been granted.” 66 Fed. Reg. 15378. NMFS acknowledges in
25 the Final Rule that “[t]he total area that would be available for SURTASS LFA sonar to operate
26 includes about 70-75 percent of the world’s oceans.” 67 Fed. Reg. 46761. NMFS noted, however,
27 that “this in no way equates to affecting 70-75 percent of the world’s ocean area. The current
28 authorization is for only two SURTASS LFA sonar vessels – normally one if the Atlantic

1 Ocean/Mediterranean Sea and the other in the Pacific/Indian ocean.” *Id.* The Navy is “required to
2 notify NMFS annually as to which provinces or subprovinces it intends to operate SURTASS LFA
3 sonar system in the upcoming year, and the extent of the take (by harassment) it expects to encounter
4 during the mission.” 67 Fed. Reg. 46769. *See also id.* at 46788 (50 C.F.R. § 216.187). Thus, each
5 year, the Navy will be limited to operating in certain specified geographical regions.

6 Given the enormous scope of the SURFASS LFA system, the geographic areas need to be
7 quite large. It is troublesome that NMFS has chosen large areas that undisputedly do not have
8 homogeneous ecological or biogeographical characteristics. Plaintiffs have established serious
9 issues with respect to whether NMFS violated the MMPA by choosing such undifferentiated
10 geographical areas, particularly in light of the failure to carve out sufficient areas of special
11 biological importance for feeding, breeding, and the like that lie within these large areas and make
12 them less homogenous. See Section II.B.5 below. Plaintiffs have not presented any evidence,
13 however, disputing NMFS’ conclusion that no alternative biogeographical scheme currently exists
14 for marine mammals that can readily be applied here. Thus, plaintiffs have not shown a likelihood
15 of success on their claim that NMFS acted in an arbitrary and capricious manner in choosing the
16 specified geographical regions identified in the Final Rule. Although the NFMS’ choices may be
17 flawed, on this record they do not appear to be so flawed that the Court will likely invalidate them as
18 arbitrary and capricious. At most, plaintiffs have raised a serious question on the merits.

19 **2. Small Numbers**

20 Plaintiffs also argue that NMFS is violating the MMPA by using an erroneous definition of
21 “small numbers” that conflicts with the plain language of the MMPA. Under the MMPA, the
22 Secretary can authorize the incidental taking of small numbers of marine mammals if the Secretary
23 finds that the total amount of such taking will have a negligible impact on those species or stock of
24 marine mammals. 16 U.S.C. § 1371(a)(5)(A). The MMPA does not define “small numbers,” but
25 NMFS has promulgated a regulation which provides that “[s]mall numbers means a portion of a
26 marine mammal species or stock whose taking would have a negligible impact on that species or
27 stock.” 50 C.F.R. § 216.103. Plaintiffs contend that this definition dilutes the stringent protections
28 for marine mammals imposed by Congress by improperly merging two separate statutory

1 requirements. Under the MMPA, the Secretary can only authorize the taking of “small numbers” of
2 marine mammals and must ensure that the total amount of the taking has only a “negligible impact”
3 on any species or stock of marine mammals. In other words, plaintiffs argue that even if a particular
4 species has a large population and thus it would require a fairly large number of takes to have a
5 greater than negligible impact on that species, the Secretary is still limited to authorizing incidental
6 takes of only a small number of such marine mammals.

7 **a. Statute of Limitations**

8 Defendants’ first argument is that plaintiffs’ challenge to the regulation is time-barred.
9 Civil actions against the United States are subject to a six-year statute of limitations, except in
10 certain circumstances not relevant here. 28 U.S.C. § 2401(a). The regulation at issue, 50 C.F.R.
11 § 216.103, was promulgated in final form on May 18, 1982, more than twenty years ago. 47 Fed.
12 Reg. 21255 (1982).

13 The Ninth Circuit has held that a challenge to a mere procedural violation in the adoption
14 of a regulation or other agency action must be brought within six years of the decision. Wind River
15 Mining Corp. v. United States, 946 F.2d 710, 715 (9th Cir. 1991). Similarly, policy-based facial
16 challenges to the government’s decision must also be brought within six years of the decision. Id.

17 If, however, a challenger contests the substance of an agency decision as
18 exceeding constitutional or statutory authority, the challenger may do so later than
19 six years follow the decision by filing a complaint for review of the adverse
20 application of the decision to the particular challenger. . . . The government
21 should not be permitted to avoid all challenges to its actions, even if *ultra vires*,
22 simply because the agency took the action long before anyone discovered the true
23 state of affairs. . . . [Thus,] a substantive challenge to an agency decision alleging
24 lack of agency authority may be brought within six years of the agency’s
25 application of that decision to the specific challenger.

26 Id. at 715-16 (emphasis in original).

27 Here, plaintiffs challenge the definition of “small numbers” that is contained in 50 C.F.R.
28 § 216.103 on the ground that it is ultra vires because it flatly contradicts the statutory language of the
29 MMPA. Under Wind River, plaintiffs are time-barred from challenging the regulation itself, but are
30 not time-barred from challenging the application of that regulation to them, unless it was first
31 applied to them more than six years ago. Wind River, 946 F.2d at 715-16 (noting in particular the
32 discussion of Oppenheim v. Coleman, 571 F.2d 660 (D.C. Cir. 1978)). Defendants argue that at

1 Section 1371(a)(5)(A) of the MMPA permits the Secretary to authorize the incidental take
2 of “small numbers of marine mammals of a species or population” if the Secretary finds “that the
3 total of such taking during each five-year (or less) period concerned will have a negligible impact on
4 such species or stock” 16 U.S.C. § 1371(a)(5)(A). The plain language indicates that “small
5 numbers” is a separate requirement from “negligible impact.” To treat them as identical would
6 appear to render the reference to “small numbers” mere surplusage.

7 Furthermore, Congress made its intent clear when it added this section to the MMPA in
8 1981. The legislative history demonstrates that Congress intended that “small numbers” and
9 “negligible impact” serve as two separate standards. The legislative history provides:

10
11 The taking authorized under these new provisions is the taking of small numbers
12 of marine mammals. The Committee recognizes the imprecision of the term
13 'small numbers', but was unable to offer a more precise formulation because the
14 concept is not capable of being expressed in absolute numerical limits. The
15 Committee intends that these provisions be available for persons whose taking of
16 marine mammals is infrequent, unavoidable, or accidental.

17
18 It should also be noted that these new provisions of the Act provide an additional
19 and separate safeguard in that the Secretary must determine that the incidental
20 takings of small numbers of marine mammals have a 'negligible' impact upon the
21 species from which such takings occur. This additional test is meant to serve as a
22 separate standard restricting the authority of the Secretary. The term 'negligible' is
23 intended to mean an impact which is able to be disregarded. In this regard, the
24 Committee notes that Webster's dictionary defines the term 'negligible' to mean 'so
25 small or unimportant or of so little consequence as to warrant little or no
26 attention.' Unless a particular activity takes only small numbers of marine
27 mammals, and that taking has a negligible impact on the species, the new
28 provisions of sections 101(a)(4) and (5) are not applicable to that activity.

29 H.R. Rep. No. 97-228 (1981), reprinted in 1981 U.S.C.C.A.N. 1458, 1981 WL 21352 at **1469
30 (emphases added).

31 By defining “small numbers” to mean “a portion of a marine mammal species or stock
32 whose taking would have a negligible impact on that species or stock,” NMFS has improperly
33 collapsed two standards, which Congress expressly intended to be separate, into a single one. In so
34 doing, NMFS eliminated the possibility that the two standards will serve as separate safeguards
35 restricting the extent of takes.

36 Plaintiffs’ argument that these two standards have been conflated was raised by others at
37 the time the definition was proposed in 1981, and again in the comments to the Final Rule. In

1 response, NMFS stated:

2 NMFS does not believe that the term can be expressed as an absolute number or
3 percentage or be defined in any absolute terms. However, NMFS feels that by
4 defining “small numbers” to mean a portion of a marine mammal species or stock
whose taking would have a negligible impact, an upper limit is placed on the term,
and the phrase effectively implements the Congressional intent

5 67 Fed. Reg. 46764. By conflating the two terms, however, NMFS has eliminated the ability of the
6 two terms to act, as intended, as separate checks on the Secretary’s authority. For example, where
7 populations of marine mammals are large, the number of mammals taken before there is a greater
8 than negligible impact on the population may also be large. The statute, however, expressly requires
9 that the number of marine mammals that may be taken incidentally must be small. NMFS’
10 contention that the “greater than negligible impact” threshold is an upper limit fails to recognize that
11 by defining “small numbers” that way, the regulation permits the Secretary to allow incidental takes
12 that are quite large in number.

13 For example, in the Final Rule, one comment expressed concern that the takings permitted
14 are not “small” and that more than 16 percent of the blue whales in the eastern North Atlantic, more
15 than 10 percent of the beaked whales in the Mediterranean Sea, and more than 12 percent of the
16 elephant seals in the eastern North Pacific will be affected. 67 Fed. Reg. 46764. In response, NMFS
17 did not deny this possibility. *Id.* Instead, it noted that this was the worst case scenario, not the
18 situation that will most likely take place, due to the Navy’s likely voluntary avoidance of certain
19 areas in certain seasons where marine mammals are likely to be particularly abundant. *Id.* NMFS
20 noted that 12.4 percent of the elephant seals will be affected only if SURTASS LFA sonar operated
21 in both offshore central California for one mission and offshore Washington on another mission. *Id.*
22 In fact, under another scenario, NMFS acknowledged that as many as 18.6 percent of elephant seals
23 could be affected. *Id.* NMFS also stated that a more realistic estimate is that 1 to 2 percent of stocks
24 would be affected during a single 20-day mission. *Id.* at 46765.

25 Later in the Final Rule, NMFS states:

26 Short-term incidental harassment levels between 1 and 12 percent and below are
27 considered by NMFS to comply with the MMPA as Level B harassment at this
28 level is unlikely to result in significant effects on any species’ or stock’s
reproduction or survival. Therefore, in order for incidental takings by SURTASS
LFA sonar under this regulation to be negligible, takings by SURTASS LFA sonar
operations during the effective time period (1 year) of any LOA issued for such

1 Navy operations must not exceed 12 percent of any marine mammal stock.
2 67 Fed. Reg. 46780. NMFS then went on to say that “this 12 percent level should not be interpreted
3 to mean that the Navy will take up to 12 percent of all affected marine mammal stocks.” *Id.* “In
4 most cases, with carefully planned SURTASS LFA sonar missions (e.g., to avoid certain
5 biogeographic provinces during seasons of increased marine mammal abundance), the total annual
6 Level B takes are expected to be significantly less than this level.” *Id.* Nothing in the Final Rule,
7 however, requires the Navy to ensure that takes of marine mammals are at the low end of this wide
8 range of up to 12 percent.

9 In order to obtain a Letter of Authorization, the Navy must provide an estimate of the
10 “percentage of marine mammal species/stocks potentially affected in each specified geographic
11 region for the 12-month period of effectiveness of the Letter of Authorization.” 67 Fed. Reg. 46788
12 (50 C.F.R. § 216.187(c)(4)). The Final Rule provides that issuance of each Letter of Authorization
13 will be based on a determination that the number of marine mammals taken by the activity will be
14 small, and will have no more than a negligible impact on the species of stock of affected marine
15 mammals. 67 Fed. Reg. 46788 (50 C.F.R. § 216.188(c)). Since these two requirements are
16 improperly defined to mean the same thing, however, there is no independent requirement that the
17 take be small, as required by Congress.

18 The default provision of the MMPA is that “no permit may be issued for the taking of any
19 marine mammal.” 16 U.S.C. § 1371(a) (emphases added). The intent of Congress is that the taking
20 of even a single marine mammal is to be avoided. Incidental takes permitted under section
21 1371(a)(5)(A) must be small and have a negligible impact on the affected species or stock of marine
22 mammals. 16 U.S.C. § 1371(a)(5)(A). A definition of “small number” that permits the potential
23 taking of as much as 12 percent of the population of a species is plainly against Congress’ intent.
24 Accordingly, plaintiffs are likely to prevail on their contention that NMFS acted outside the scope of
25 its authority in applying the definition of “small numbers” that appears in 50 C.F.R. § 216.103 to the
26 Final Rule.

27 **3. The Final Rule’s Definition of “Harassment”**

28 Plaintiffs argue that the Final Rule also uses an illegal definition of “harassment.” The

1 MMPA generally prohibits the taking of marine mammals, with certain statutory exceptions. 16
2 U.S.C. § 1371(a)(3). The MMPA and the regulations promulgated thereunder define “take” as “to
3 harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect or kill, any marine
4 mammal.” 50 C.F.R. § 216.3;16 U.S.C. § 1362(13). The definition of “take” includes any negligent
5 or intentional act which results in disturbing or molesting a marine mammal. 50 C.F.R. § 216.3.
6 The MMPA defines “harassment” as “any act of pursuit, torment or annoyance” that:

7 (i) has the potential to injure a marine mammal or marine mammal stock in the wild; or

8 (ii) has the potential to disturb a marine mammal or marine mammal stock in the
9 wild by causing disruption of behavioral patterns, including but not limited to,
10 migration, breathing, nursing, breeding, feeding, or sheltering.

11 16 U.S.C. § 1362 (18)(A). Harassment as defined in subsection (i) is referred to as Level A
12 harassment. 16 U.S.C. § 1362(18)(B). Harassment as defined in subsection (ii) is referred to as
13 Level B harassment. 16 U.S.C. § 1362(18)(C).

14 Plaintiffs complain that the Final Rule uses a different definition for Level B harassment.
15 The Final Rule provides that “[f]or Level B incidental harassment takings, NMFS will determine
16 whether takings by harassment are occurring based on whether there is a significant behavioral
17 change in a biologically important activity, such as feeding, breeding, migration or sheltering.” 67
18 Fed. Reg. 46721-22. The Final Rule also provides that “for small take authorizations (as opposed to
19 intentional takings), a Level B harassment taking occurs if the marine mammal has a significant
20 behavioral response in a biologically important behavior or activity.” 67 Fed. Reg. 46740.³

21 Plaintiffs argue that this definition changes the statutory definition in two important respects. First,
22 it requires that there be an actual disruption of behavioral patterns, rather than merely a potential for
23 disruption, as required by the statute. Second, it requires that the disruption be significant, although
24 the statute contains no such limitation. Plaintiffs also complain that defendants have applied this
25 erroneous definition in a way that excludes harassment to individual members of a marine mammal

26 _____
27 ³ Plaintiffs’ motion cites to a summary of this definition in one of the comments to the Final
28 Rule. 67 Fed. Reg. 46762. In their opposition brief, defendants disingenuously claim that plaintiffs have
seized upon a comment and have erroneously attributed the comment to NMFS. In fact, as pointed out
above, the comment accurately summarizes NMFS’ position as set forth in other places in the Final
Rule.

1 population, in violation of the MMPA’s definition of “harassment” to include potential effects on
2 individuals.

3 **a. Potential to Disturb**

4 Plaintiffs argue that, whereas the MMPA defines Level B harassment as any act that has
5 “the potential to disturb” a marine mammal “by causing disruption of behavioral patterns,” the Final
6 Rule defines Level B harassment as an action that actually causes a significant biological change in a
7 biologically important behavior or activity. See 67 Fed. Reg. 46721-22, 46740. Thus plaintiffs
8 argue that NMFS has re-written the definition of “harassment” from an activity that has the potential
9 to disturb to an activity that actually causes such a disturbance.

10 One of the comments to the Final Rule made this same argument. 67 Fed. Reg. 46762. In
11 response, NMFS cited the actual text of the MMPA’s definition of Level B harassment, which it
12 acknowledged defined harassment as “potential to disturb,” but nonetheless stated that “NMFS
13 considers a Level B harassment to have occurred if the marine mammal has a significant behavioral
14 response in a biologically important activity.” 67 Fed. Reg. 46763. The Final Rule provides no
15 explanation as to why NMFS believes it appropriate to ignore Congress’ definition of Level B
16 harassment, which considers an act to be harassing if it “has the potential to disturb a marine
17 mammal or marine mammal stock in the wild by causing disruption of behavioral patterns” (16
18 U.S.C. § 1362 (18)(A)) (emphasis added), even if the disruption does not actually occur.

19 NMFS did consider potential harassment at length in the Final Rule, however. 67 Fed.
20 Reg. 46780. Thus, although NMFS used an erroneous definition of harassment, it does not appear
21 that this erroneous definition caused any particular harm. Accordingly, although plaintiffs may
22 prevail on their claim that NMFS acted arbitrarily and capriciously by ignoring Congress’ express
23 definition of harassment in the MMPA, they have not shown any irreparable injury from NMFS’ use
24 of the wrong definition in the Final Rule.

25 **b. Significance Requirement**

26 Plaintiffs also argue that NMFS has inappropriately inserted the requirement that the
27 disruption be significant, when the MMPA’s definition of “harassment” requires only that there be
28 “the potential to disturb a marine mammal or marine mammal stock in the wild by causing

1 disruption of behavioral patterns, including but not limited to, migration, breathing, nursing,
2 breeding, feeding, or sheltering.” 16 U.S.C. § 1362 (18)(A).

3 One of the comments to the Final Rule made this same argument. 67 Fed. Reg. 46762.
4 NMFS responded:

5 Under an interpretation of “harassment,” as broad as some have suggested the MMPA
6 requires, an incidental taking could be presumed to occur for even a single pinniped
7 lifting or turning its head to look at a passing pedestrian, offshore watercraft, aircraft
8 or dolphins riding a boat’s bow wave. For those takings that are clearly incidental to
an otherwise lawful activity, NMFS believes that such a strict interpretation was not
intended by Congress, when it amended the MMPA in 1994 and added a definition
for harassment.

9
10 . . . [T]o disrupt a behavioral pattern, the activity would need to disrupt an animal’s
normal pattern of biological traits or behavior, not just cause a momentary reaction on
11 the part of a marine mammal. Furthermore, if the only reaction to an activity on the
part of the marine mammal is within the normal repertoire of actions that are required
12 to carry out the behavioral pattern for that species of marine mammal, NMFS
considers the activity not to have caused an incidental disruption of the behavioral
13 pattern, provided the animal’s reaction is not otherwise significant enough to be
considered disruptive due to length or severity. For example, if there is a short-term
14 change in breathing rates or a somewhat shortened or lengthened diving sequence that
is within the animal’s normal range of breathing patterns and diving cycles but there
15 is not a disruption to the animal’s overall behavioral pattern (i.e., the changes are not
biologically significant), then these responses do not rise to a level requiring a small
16 take authorization or, if under a small take authorization, does not constitute an
incidental take.

17 67 Fed. Reg. 46763.

18 At oral argument, plaintiffs argued that the plain language of Congress’ definition of
19 harassment indicates that any potential disruption to behavioral patterns is significant. For example,
20 it appears to be undisputed that LFA can and does actually disrupt the singing of humpback whales.
21 See 67 Fed. Reg. 46732 (“Study results in TR1 indicate that 6 cases of humpback song cessation
22 were considered possible responses to SURTASS LFA sonar transmissions.”) Plaintiffs argued that
23 any disruption of humpback whale singing is a disruption of a behavioral pattern, and thus falls
24 within the MMPA’s definition of harassment.

25 This argument was also raised in response to the Final Rule. One commenter argued that
26 because the humpback whale singing is related to mating behavior, any change is likely to be
27 significant to the limited gene pool of the endangered humpback whale. 67 Fed. Reg. 46734. The
28 NMFS responded that many of the whales continued to sing and interact during the LFA

1 Examples of significantly disrupted behavior would be where pinnipeds flee a haulout
2 beach or rookery en masse due to a disturbance, or animals either leave an area of
3 habitation for a period of time, or diverge significantly from their migratory path to
4 avoid either an acoustic or a visual interference. Non-significant behavioral responses
5 would be when only a few pinnipeds leave the haulout or mill-about, but many
6 pinnipeds are alert to the disruption; or when marine mammals make minor course
7 corrections that are not discernable either to observers or directional plotting, and
8 which requires statistical manipulation in order to determine that a course correction
9 has taken place.

6 67 Fed. Reg. 46763. It is not an unreasonable reading of this paragraph to conclude that NMFS does
7 not consider significant disruptions to the behavioral patterns of a single marine mammal to
8 constitute harassment under the MMPA. If NMFS defines disruptions to behavioral patterns as
9 harassment only if they affect an entire stock of marine mammals, then that violates the MMPA.
10 The MMPA is expressly concerned with harassment to "a marine mammal" as well as harassment of
11 a "marine mammal stock." 16 U.S.C. § 1362 (18)(A).

12 Defendants state, however, that NMFS does not contend that a single marine mammal
13 cannot be harassed:

14 It is true that Level B harassment can occur with an individual marine mammal. The
15 example was only meant to illustrate that, in the context of the non-reaction of the
16 majority of the sea lions present, the one or few sea lions that leave the haulout beach
17 would not be deemed to have had a disturbance to their behavioral patterns, even if
18 they did so in response to the subject stimulus. This behavior would be considered
19 within the normal range of the animal's or species' behavioral pattern. However,
20 each situation must be analyzed on a case by case basis.

18 (Hollingshead Decl. ¶ 17.) Defendants put forward a somewhat different argument in their brief.
19 There, unlike in the Hollingshead declaration, they do not contend that there is no harassment if a
20 single animal flees a beach or rookery in response to the specified activity. Instead, defendants argue
21 that:

22 Rather, the point of the sea lion example is that when a few sea lions leave a beach or
23 rookery, this behavior is entirely consistent with the species' natural behavior pattern.
24 A single sea lion, or a few, may retreat to the water to cool off on a hot day, to scratch
25 an itch, to avoid jostling of other sea lions on the beach, or in response to a sea gull
26 alarm call. However, an en masse flight of all the sea lions from a haulout beach or
27 rookery is not consistent with the species' repertoire of behavioral responses and
28 would be considered a disruption of a behavioral pattern for that species.

26 (Opposition brief at 16.) This argument appears to go to how one would determine whether the
27 marine mammals were in fact responding to the specified activity. Defendants appear to be arguing
28 that if only a few marine mammals leave the beach or rookery, those animals are unlikely to be

1 responding to the specified activity.

2 Both the defendants and the Hollingshead declaration, however, appear to be viewing
3 disruptions to behavioral patterns on a species level, rather than on an individual level. In expressing
4 concern about harassment to “a marine mammal,” Congress was concerned about harassment to
5 individual animals. Thus, if an individual marine mammal in a rookery flees that rookery in
6 response to the specified activity, and does not return, or fails to return in the usual period of time,
7 that animal has been harassed within the meaning of the MMPA, even if other animals in the group
8 did not leave in response to the specified activity. It may well be, however, that when a marine
9 biologist sees a single marine mammal leave the beach, while others of its type remain undisturbed,
10 it is very difficult, if not impossible, to determine whether the animal is leaving of its own accord, or
11 whether it is a particularly sensitive animal that is fleeing in response to the specified activity. The
12 definition of harassment, however, encompasses potential harassment to single individuals, even if
13 other individuals of that species in the same location do not appear to be harassed by the same
14 activity. In fact, by focusing on potential harassment, the statute appears to consider all of the
15 animals in a population to be harassed if there is the potential for the act to disrupt the behavioral
16 patterns of the most sensitive individual in the group.

17 Defendants acknowledge that single animals can be harassed under the MMPA. Indeed, the
18 Final Rule was issued on the basis of projections of potential effects to marine mammals. 67 Fed.
19 Reg. 46780. Thus, plaintiffs have raised a serious question as to whether defendants may have
20 measured harassment in a way that excludes harassment of individual marine mammals, but it is not
21 clear whether, or to what extent, this affected the final determination.

22 **4. Negligible Impact**

23 The MMPA permits NMFS to issue a small take permit only if it can first find that the
24 taking authorized by the permit will have a “negligible impact” on marine mammals. 16 USC
25 §§ 1371(a)(5)(A), (D). Plaintiffs argue that the drafters of the MMPA’s “small take” provision cited
26 Webster’s dictionary to indicate what they intended by “negligible impact”: an impact that is “so
27 small or unimportant or of so little consequence as to warrant little or no attention.” H. Rept. No.
28 228, 97, Cong., 1st Sess. 19 (1981). Defendants counter that plaintiffs rely on an outdated

1 Congressional definition of “negligible impact,” because in 1986 Congress changed the definition to
2 “an impact resulting from an activity that cannot reasonably be expected to, and is not reasonably
3 likely to, adversely affect the species or stock through effects on annual rates of recruitment or
4 survival.” 54 Fed. Reg. 40340; 50 C.F.R. § 216.103.

5 In 1989, the U.S. Fish and Wildlife Service explained that,
6 while sympathetic with the concerns expressed by the commenters, [the Service]
7 believes that the clear congressional intent behind the 1986 Amendments was to alter
8 the standard for determining negligible impact. . . . To capture the intent of the
9 amendment, the Service has adopted, substantially without change, the definition of
10 negligible impact set out in the Senate’s ‘Section-by-Section Analysis.’
11 54 Fed. Reg. 40340 (citing 132 Cong. Rec. 16305 (Oct. 15, 1986)). The Senate explained in their
12 Section-by-Section Analysis that Section 411:

13 amends the [MMPA] and makes conforming amendments to the [ESA] to allow
14 incidental taking of depleted as well as non-depleted species of marine mammals
15 under certain conditions. . . . The term ‘negligible impact’ as applied to populations
16 means an impact that cannot reasonably be expected to, and is not reasonably likely to
17 affect adversely the overall population through effects on annual rates of recruitment
18 or survival.

19 132 Cong. Rec. 16305 (Oct. 15, 1986.) Thus, it seems that the Senate has amended other sections of
20 the MMPA and, in doing so, arguably clarified the definition of negligible impact without formally
21 amending it. In any case, plaintiffs have not shown that they are likely to establish that the agency’s
22 definition is arbitrary and capricious or contrary to law.

23 Plaintiffs argue that NMFS arbitrarily adopted 180 dB as the minimum exposure level
24 necessary to cause injury and downplayed the severity or extent of likely impacts. As discussed
25 above, plaintiffs are not likely to prevail on this record on their claim that NMFS’ adoption of 180
26 dB as the minimum exposure level necessary to cause injury was arbitrary or capricious. To the
27 extent that plaintiffs’ qualified experts disagree with defendants’ qualified experts in an area of
28 scientific uncertainty, where there is room for legitimate disagreement, the Court must defer to the
Agency’s reliance on its experts’ reasonable opinions. Marsh, 490 U.S. at 378.

Defendants contend that the following factors support a finding of negligible impact: (1)
findings from the SRP demonstrating little impact on marine mammals from exposure to sound
levels up to 155 dB; (2) the small number of SURTASS LFA sonar systems that would be operating

1 world-wide; (3) the relatively low duty-cycle, the short run of missions, and the location of
2 operations off-shore (where marine mammal abundance is lower than in coastal waters); (4) the fact
3 that typically, although not always, the sonar's path is deflected below a water depth inhabited by
4 marine mammals for approximately 75 percent of the distance between the source and the first
5 convergence zone (CZ) as well as between the first CZ and the second CZ, depending on ocean
6 conditions; (5) the fact that during CZ propagation, the narrow width of the ray path and the 1,000-
7 fold decrease in sound intensity immediately outside the ray path further limit potential for exposure;
8 (6) the fact that the vessel must be underway (continuously moving) while transmitting, limiting
9 exposure of marine mammals to those few minutes when the LFA sound is moving through the
10 portion of the water column where the animal is swimming; and (7) the implementation of highly
11 effective mitigation measures that make it unlikely that a marine mammal will enter the 180 dB
12 sound field during sonar transmission without being detected and the signal given to shut down the
13 system. Yet plaintiffs have raised some serious issues about the efficiency of the mitigation
14 measures adopted and whether harassment of as much as 12 percent of marine mammal stocks will
15 in fact be negligible.

16 While "negligible impact" is a more qualitative and relative concept than the issue of
17 "small numbers," and involves harm to reproduction and survival, not merely harassment, some of
18 the same concerns are implicated. As discussed above, under the Final Rule, the Navy retains
19 discretion to operate in biologically rich zones of the ocean during sensitive time periods such as
20 mating and migration seasons. While defendants may exercise their discretion to avoid these areas
21 and time periods, nothing in the Final Rule requires them to do so. Furthermore, while the
22 mitigation measures adopted will help reduce harm to marine mammals and are very commendable
23 as far as they go, the evidence shows, as explained below, that the planned mitigation is not likely to
24 be as effective as defendants contend, especially for certain marine mammals. At this stage,
25 plaintiffs have at least raised a serious issue on the merits regarding "negligible impact."

26 5. Mitigation and Monitoring

27 In issuing a small take permit, the MMPA requires the Secretary to provide for the
28 monitoring and reporting of such takings, and prescribe methods and means of effecting the "least

1 practicable adverse impact” on species and stock in their habitat. 16 U.S.C. § 1371(a)(5)(A).
2 Plaintiffs argue that the Final Rule fails to set forth sufficient measures for mitigation, monitoring,
3 and reporting to ensure a negligible impact on species, and fails to adequately assess the actual
4 impact on marine mammals. The purpose of the monitoring requirement is to assure that the take
5 allowed under the permit is, in fact, small, and also has only a negligible impact on affected species.
6 H. Rpt. No. 228, 97th Cong., 1st Sess. 18-20 (1981).

7 The LFA mitigation zone is the area within the 180 dB isopleth⁵ of the SURTASS LFA
8 sonar source sound field. (Navaro Dec. Ex. 3 at 6.) The distance from the SURTASS LFA sonar
9 source, where signals are broadcast at 215 dB (Navaro Dec. Ex. 14 at 2-3), to the 180 dB isopleth is
10 approximately 1 km, which the Navy initially proposed as the mitigation zone. 67 Fed. Reg. 48147.
11 NMFS required an additional 1-kilometer buffer zone, within which sound levels are expected to
12 drop to about 173 dB. (Navaro Dec. Ex. 3 at 6.) NMFS required certain mitigation measures within
13 the resulting 2 km (about 1.2 mile) zone to try to avoid exposure of sea animals to levels of 173-180
14 dB. At 2 km, the Sound Pressure Level (“SPL”) from the SURTASS LFA sonar will be
15 approximately 173 dB. 67 Fed. Reg. 46781. Plaintiffs suggest that all mammals within 40 nautical
16 miles of the source will be exposed to levels of sound of 165 dB or more. Because the sound waves
17 do not radiate uniformly outward from the source, but usually travel in a zig-zag path, however, only
18 patches of sea within the 40 mile radius will have such high levels of sound. Defendants’ expert, Dr.
19 Ellison, explained:

20 “[T]here are two regions in which sound levels of 165 dB or higher can be found.
21 The first region can be described as a contiguous path from the source and extends
22 in a narrow beam a few hundred feet in width that extends down and out to a point
23 about 8 [nautical miles] from the source and at a depth of 3000m. The second
24 region consists of several small isolated patches at a range near 20 [nautical
25 miles]. To assert that LFA can create sound levels as high as 165 dB at ranges out
26 to 20 or 40 nmi, may on the face of it be correct, however it belies the obvious
27 discontinuous nature of the sound field in the region.”

28 ⁵ An isopleth is a line drawn on a map connecting points having the same numerical value of
some variable, here the area within the perimeter around the ship transmitting the LFA sonar at which
the received level is 180 dB.