



UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

NATURAL RESOURCES DEFENSE)
COUNCIL, INC., *et al.*,

8:07-cv-00335-FMC-FMOx

Plaintiffs,

vs.

**ORDER ISSUING PRELIMINARY
INJUNCTION**

DONALD C. WINTER, Secretary of
the Navy, *et al.*,

Defendants.

This matter is before the Court on remand from the Ninth Circuit Court of Appeals (docket no. 60). The Court has read and considered the simultaneous briefs and reply documents submitted by the parties in connection with the remand order. In addition, on December 27, 2007, the Court toured the *USS Milius* at the naval base in San Diego, California, to improve its understanding of the Navy's sonar training procedures and the feasibility of the parties' proposed mitigation measures. Counsel for both Plaintiffs and Defendants were present. For the reasons and in the manner set forth below, the Court hereby issues the following preliminary injunction.

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FACTUAL BACKGROUND AND PROCEDURAL HISTORY

This litigation arises out of the United States Navy's use of mid-frequency active (MFA) sonar, a tool that has proven far more effective at detecting modern quiet-running diesel electric submarines than passive sonar. (Decl. of Capt. Martin May (May Decl.) ¶¶ 8-10.¹) MFA sonar, which generates underwater sound at extreme pressure levels, has the unfortunate side effect of harming marine life, up to and including causing death. (*See, e.g.*, Decl. of Thomas Jefferson (Jefferson Decl.) ¶ 4 and sources cited therein.) The Navy plans to use, or has used, MFA sonar during fourteen large-scale training exercises (involving various ships, submarines, amphibious vehicles, rotary and fixed-wing aircraft, and live ordnance) off the coast of southern California between February 2007 and January 2009. (Decl. of Luther Hajek (Hajek Decl.), Ex. 1 at 2-1 to 2-24.)

The Navy's own Environmental Assessment (EA) reports that these activities, comprised of Composite Training Unit Exercises (COMPTUEX) and Joint Task Force Exercises (JTFEX), will result in approximately 170,000 "takes"² of marine mammals. (*Id.* at 4-46 to 4-47.) These takes are predominantly "Level B harassment exposures," in which marine mammals would be subjected to sound levels of between 170 and 195 decibels,³ but also include approximately

¹ Except where indicated, citations to the record refer to evidence submitted in connection with Plaintiff's original motion seeking injunctive relief (docket no. 14), filed June 22, 2007, and not to the supplemental declarations the parties submitted in support of their briefing in response to the Ninth Circuit's remand order.

² The term "take," as defined in the Endangered Species Act, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19).

³ Decibels are a logarithmic measurement, such that an increase of 10 dB is equivalent to a tenfold increase in acoustic energy. To put these sound levels in perspective, OSHA requires hearing protection to be used where workers are

1 8,000 exposures powerful enough to cause a temporary threshold shift in the
2 affected mammals' sense of hearing and an additional 466 instances of
3 permanent injury to beaked and ziphiid whales. (*Id.*)

4 Despite these findings, the Navy concluded that its JTFEX and
5 COMPTUEX exercises in the Southern California Operating Area (SOCAL)
6 would not cause a significant impact on the environment and on that basis
7 decided that the National Environmental Policy Act (NEPA) did not require it to
8 prepare an Environmental Impact Statement (EIS). In addition, the Navy
9 determined that the use of MFA sonar would not affect natural resources in
10 California's coastal zone and therefore submitted a "consistency determination"
11 (CD) to the California Coastal Commission (CCC) for the exercises that did not
12 take the planned use of MFA sonar into account. It also refused to adopt the
13 mitigation measures the CCC subsequently determined were necessary for the
14 Navy's actions to comply with the California Coastal Management Program
15 (CCMP). (*See Decl. of Cara Horowitz (Horowitz Decl.), Ex. 67 at 9.*)

16 On March 22, 2007, Plaintiffs, five environmental protection groups and
17 Jean-Michel Cousteau, filed this action against Defendants, which include the
18 United States Department of the Navy and the National Marine Fisheries Service
19 (NMFS), seeking declaratory and injunctive relief for Defendants' violations of
20 NEPA, the Endangered Species Act (ESA), the Administrative Procedures Act
21 (APA), and the Coastal Zone Management Act (CZMA). On June 22, 2007,
22 Plaintiffs moved for a preliminary injunction enjoining the Navy's use of MFA
23 sonar during the SOCAL exercises "until the Navy adopts mitigation measures
24 that would substantially lessen the likelihood of serious injury and death to
25 marine life." On August 7, 2007, this Court issued an order enjoining the
26 Navy's use of MFA sonar during training exercises off the coast of California

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28 exposed to a sound level of 90 dB for eight hours or 110 dB for as little as thirty
minutes. 29 C.F.R. § 1910.95(a).

1 (docket no. 50). The Navy appealed the order and obtained a stay of the
2 injunction pending the appeal. (*Natural Res. Def. Council v. Winter*, 502 F.3d
3 859 (9th Cir. Aug. 31, 2007).) On November 13, 2007, a panel of the Ninth
4 Circuit Court of Appeals vacated the stay and remanded the matter to this Court,
5 with instructions to issue a narrower injunction “to provide mitigation conditions
6 under which the Navy may conduct its training exercise.” (*Natural Res. Def.
7 Council v. Winter*, __ F.3d __, 2007 WL 3377229 at * 1 (9th Cir. 2007).)

8 9 DISCUSSION

10 I. August 2007 Findings

11 Plaintiffs’ initial motion asked the Court to issue a preliminary injunction
12 prohibiting the Navy from using MFA sonar during the remaining eleven
13 SOCAL exercises.⁴ In its August 2007 Order, the Court found that Plaintiffs had
14 demonstrated a probability of success on the merits of their first four causes of
15 action, for violations of National Environmental Policy Act (NEPA), the
16 Administrative Policy Act (APA), and the Coastal Zone Management Act

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19 ⁴“A preliminary injunction may issue when the moving party demonstrates
20 either ‘(1) a combination of probable success on the merits and the possibility of
21 irreparable harm; or (2) that serious questions are raised and the balance of
22 hardships tips in its favor.’” *Faith Ctr. Church Evangelistic Ministries v. Glover*,
23 480 F.3d 891, 906 (9th Cir. 2007) (quoting *A&M Records v. Napster, Inc.*, 239
24 F.3d 1004, 1013 (9th Cir. 2001)); *see also Cmty. House, Inc. v. City of Boise*, 468
25 F.3d 1118, 1123 (9th Cir. 2006). “These two options represent extremes on a
26 single continuum: ‘the less certain the district court is of the likelihood of success
27 on the merits, the more plaintiffs must convince the district court that the public
28 interest and balance of hardships tip in their favor.’” *Lands Council v. Martin*, 479
F.3d 636, 639 (9th Cir. 2007) (quoting *Sw. Voter Registration Educ. Project v.
Shelley*, 344 F.3d 914, 918 (9th Cir. 2003) (en banc) (per curiam); *see also A&M
Records*, 109 F.3d at 1013 (criteria form a “sliding scale” whereby the required
degree of harm increases as the likelihood of success decreases); *United States v.
Nutri-Cology, Inc.*, 982 F.2d 394, 398 (9th Cir. 1992) (same).

1 (CZMA), but not their fifth cause of action, for violation of the Endangered
2 Species Act (ESA). These findings were not disturbed by the Ninth Circuit's
3 November 2007 decision. Specifically, the Court made the following findings:

4 A. Probability of Success

5 1. The National Environmental Policy Act (NEPA)

6 In their initial motion, Plaintiffs contended that Defendants violated NEPA
7 by (a) failing to prepare an EIS despite the potential for the challenged exercises
8 to have a significant impact on the environment and (b) by failing to prepare an
9 adequate EA that considered the cumulative impacts of, and all reasonable
10 alternatives to, the proposed actions.

11 NEPA mandates the preparation of an EIS for all proposed "major Federal
12 actions significantly affecting the quality of the human environment." 42 U.S.C.
13 § 4332(2)(C). The Ninth Circuit has interpreted this provision as requiring
14 agencies to prepare an EIS "where there are substantial questions about whether a
15 project *may* cause significant degradation of the human environment." *Native*
16 *Ecosystems Council v. United States Forest Serv.*, 428 F.3d 1233, 1239 (9th Cir.
17 2005) (emphasis in original). As the preparation of an EIS can be a costly and
18 time-consuming process, agencies first complete an EA. 40 C.F.R. § 1508.9. If,
19 based on this assessment, the agency concludes that the proposed actions will not
20 significantly affect the environment, it may issue a "Finding of No Significant
21 Impact" (FONSI) and forego completion of an EIS. *Bob Marshall Alliance v.*
22 *Hodel*, 852 F.2d 1223, 1225 (9th Cir. 1988); 40 C.F.R. § 1508.13. Agencies must
23 complete an EA and, as necessary, an EIS before reaching a final decision or
24 making an "irreversible and irretrievable commitment of the availability of
25 resources." *Envtl. Def. Fund, Inc. v. Andrus*, 596 F.2d 848, 852 (9th Cir. 1979).

26 Defendants insisted that they were not required to prepare an EIS, and that
27 their issuance of a FONSI was proper, because the SOCAL exercises will not
28 cause a significant impact on marine life. In the Ninth Circuit, courts reviewing

1 an agency's decision not to prepare an EIS under NEPA "employ an arbitrary and
2 capricious standard that requires [them] to determine whether the agency has
3 taken a 'hard look' at the consequences of its actions, based its decision on a
4 consideration of the relevant factors, and provided a convincing statement of
5 reasons to explain why a project's impacts are insignificant." *Native Ecosystems*
6 *Council*, 428 F.3d at 1239 (internal quotations and citations omitted). To prevail
7 on a claim that an agency "violated its statutory duty to prepare an EIS, a plaintiff
8 need not show that significant effects will in fact occur. It is enough for the
9 plaintiff to raise substantial questions whether a project may have a significant
10 effect on the environment." *Blue Mts. Biodiversity Project v. Blackwood*, 161
11 F.3d 1208, 1212 (9th Cir. 1998) (internal quotations and citations omitted).

12 Addressing these arguments in its August 2007 Order, the Court found that
13 Plaintiffs had raised substantial questions as to whether the SOCAL exercises
14 would have a significant impact on the environment. Mass strandings of several
15 species of whales following naval exercises have been documented in the
16 Bahamas, the Canary Islands, Hawaii, North Carolina, Japan, Greece, Spain,
17 Taiwan, the Madeira archipelago, and the U.S. Virgin Islands. *See generally*,
18 Horowitz Decl. Exs. 1-16. Following comprehensive studies of these events, the
19 International Whaling Commission's Scientific Committee concluded that "[t]he
20 weight of accumulated evidence now associates mid-frequency, military sonar
21 with atypical beaked whale mass strandings. This evidence is very convincing
22 and appears overwhelming." *Id.*, Ex. 1, Annex K at 9.) A study sponsored by the
23 Navy's own Office of Naval Research similarly concluded, "the evidence of
24 sonar causation is, in our opinion, completely convincing and that therefore there
25 is a serious issue of how best to avoid / minimize future beaching events." *Id.*,
26 Ex. 17 at 1 (concluding that a lack of understanding regarding the damage
27 mechanism precluded modifications to the sonar waveform as a mitigation
28 strategy and proposing alternative mitigation measures).

1 Based on the studies establishing a scientific consensus on the correlation
2 between the use of MFA sonar and mass whale strandings, the evidence
3 indicating that MFA sonar disrupts activities critical to marine mammals'
4 survival, such as food foraging and mating, and the conclusions of the Navy's
5 own scientific study that the SOCAL exercises will cause 170,000 Level B
6 harassment exposures and 466 permanent injuries to marine mammals, including
7 five endangered species, the Court concluded that Plaintiffs had raised
8 substantial questions as to whether the SOCAL exercises would have a
9 significant impact on the environment. Plaintiffs therefore demonstrated a
10 probability of success on their claim that the Navy's failure to prepare and
11 environmental impact statement was arbitrary and capricious and in violation of
12 NEPA and the APA.

13 The Court further found that Plaintiffs had demonstrated a probability of
14 success on their claims that Defendants' proposed mitigation measures were
15 inadequate. An agency may avoid the requirement to prepare an EIS by adopting
16 mitigation measures sufficient to eliminate any substantial questions over the
17 potential for significant impact on the environment. *Nat'l Parks & Conservation*
18 *Ass'n v. Babbitt*, 241 F.3d 722, 733-34 (9th Cir. 2001) ("In evaluating the
19 sufficiency of mitigation measures, we consider whether they constitute an
20 adequate buffer against the negative impacts that may result from the authorized
21 activity. Specifically, we examine whether the mitigation measures will render
22 such impacts so minor as to not warrant an EIS."). The Court found that the
23 mitigation measures proposed by Defendants were far from sufficient to obviate
24 the need for an EIS. Ironically, Defendants actually reduced their mitigation
25 efforts and adopted measures even less protective than those the Court had
26 previously found insufficient. *See* CV 06-4131 FMC (FMOx), July 3, 2006,
27 Temporary Restraining Order and July 5, 2006, Order Denying Defendants' *Ex*
28 *Parte* Applications. The Navy has eliminated (1) its provisions requiring power-

1 downs during surface ducting conditions (when sound travels greater distances),
2 at night and in other low-visibility conditions (when whales that would be
3 affected are more difficult to see); (2) the twelve-nautical-mile coastal buffer
4 zone, and (3) additional protection measures during “chokepoint” exercises.

5 What few mitigation measures remain continue to be ineffective. A “safety
6 zone” of 1,000 yards, for example, does little to mitigate the impact of MFA
7 sonar’s effect on beaked whales where sound levels may not dissipate to sub-
8 lethal levels for 5,000 meters. *See* Horowitz Decl., Ex. 59 (acoustic energy map);
9 Decl. of Linda Weilgart (noting mortality may occur at levels between 170-184
10 dB and as low as 150-155 dB); Decl. of Edward Parsons (Parsons Decl.) ¶ 17
11 (noting that sound can travel hundreds of miles under water). The presence of
12 visual monitors looking for whales is likewise of little value where beaked
13 whales, which are the most susceptible to injury from MFA sonar, are regularly
14 submerged in deep dives that last as long as sixty minutes. Parsons Decl. ¶ 10;
15 Horowitz Decl., Ex. 44 (study finding a 5 percent chance under ideal conditions
16 of observing the presence of beaked whales close to a vessel, and a 0 percent
17 chance of detecting a beaked whale at 1 kilometer using 7x binoculars).

18 The Court also found that Plaintiffs have demonstrated a probability of
19 success on their claims that Defendants violated NEPA because their EA failed to
20 consider reasonable alternatives or cumulative impacts. The Ninth Circuit has
21 concluded, in furtherance of NEPA’s goal “that federal agencies infuse in project
22 planning a thorough consideration of environmental values,” federal agencies
23 must sufficiently study, develop, and describe alternatives as part of the
24 “environmental decisionmaking process.” *Bob Marshall Alliance v. Hodel*, 852
25 F.2d 1223, 1228 (9th Cir. 1988) (internal quotations and citations omitted). The
26 environmental decisionmaking planning process requires the Navy to give “full
27 and meaningful consideration” to reasonable alternatives. *Natural Res. Def.*
28 *Council v. Evans*, 279 F. Supp. 2d 1129, 1165-66 (N.D. Cal. 2003); *see also*

1 *Nat'l Parks & Conservation Ass'n*, 241 F.3d at 733 (“... repeated generic
2 statement that the effects are unknown does not constitute the requisite ‘hard
3 look’ mandated by the statute if preparation of an EIS is to be avoided”).

4 As the Ninth Circuit has explained:

5 consideration of alternatives is critical to the goals of NEPA even
6 where a proposed action does not trigger the EIS process. This is
7 reflected in the structure of the statute: while an EIS must also
8 include alternatives to the proposed action, 42 U.S.C. §
9 4332(2)(C)(iii) (1982), the consideration of alternatives requirement
10 is contained in a separate subsection of the statute and therefore
11 constitutes an independent requirement. *See id.* § 4332(2)(E). The
12 language and effect of the two subsections also indicate that the
13 consideration of alternatives requirement is of wider scope than the
14 EIS requirement.

15 *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228-29 (9th Cir. 1988).

16 In addition, the Court found that it did not appear that Defendants
17 adequately considered reasonable alternative mitigation measures, such as those
18 proposed by the CCC, used by allies such as Australia during exercises
19 employing MFA sonar, or even those the Navy itself employed during RIMPAC
20 2006. *See* Hajek Decl., Ex. 1 at 5-5 to 5-8 (succinctly dismissing ten proposals
21 with little analysis and failing to discuss other alternatives). Defendants also
22 failed to consider any geographical alternatives, and their conclusory single
23 sentence argument that the SOCAL range is “uniquely situated to support these
24 exercises” is insufficient to show that any alternatives would have been
25 unreasonable, making consideration unnecessary. *Ilio’Ulaokalani Coal. v.*
26 *Rumsfeld*, 464 F.3d 1083, 1100-01 (9th Cir. 2006) (holding that Army violated
27 NEPA by failing to consider a location other than Hawaii for transformation of
28 an army brigade despite stated strategic importance of area and evidence that
action was “critical for the training of soldiers in conditions that would arise in
expected combat situations.”).

Finally, Defendants failed to adequately consider the cumulative impacts
of the SOCAL exercises. Despite the EA’s conclusion that the SOCAL exercises

1 will cause 8,000 TTS exposures and 466 instances of permanent injury, and
2 evidence that the Navy regularly conducts unit level exercises using MFA sonar
3 in the region, in one paragraph the EA dismissed the potential for cumulative
4 impacts and concluded that the SOCAL exercises “would not have any
5 significant contribution to the cumulative effects on marine mammals” based on
6 the use of mitigation measures the Court has already found ineffectual. Although
7 it is possible that the EA’s findings could have been supported by further study
8 and modeling incorporating the proposed mitigation measures, the EA’s
9 conclusion is unsupported by the assessment’s current findings and model, and
10 the failure to study and analyze the potential for such cumulative impacts in light
11 of those findings renders the EA fatally inadequate. *See Klamath-Siskiyou*
12 *Wildlands Ctr. v. BLM*, 387 F.3d 989, 994 (9th Cir. 2004) (“A proper
13 consideration of the cumulative impacts of a project requires some quantified or
14 detailed information; general statements about possible effects and some risk do
15 not constitute a hard look absent a justification regarding why more definitive
16 information could not be provided. The analysis must be more than perfunctory;
17 it must provide a useful analysis of the cumulative impacts of past, present, and
18 future projects.” (internal quotations and citations omitted)).

19 2. The Coastal Zone Management Act (CZMA)

20 In their initial motion, Plaintiffs contended that Secretary of the Navy
21 Donald Winter and the United States Department of the Navy (Navy Defendants)
22 violated the CZMA by submitting a CD to the CCC for the SOCAL exercises
23 that did not take the planned use of MFA sonar into account and by failing to
24 adopt the mitigation measures the CCC subsequently determined were necessary
25 for the Navy’s actions to comply with the CCMP. The CZMA requires that
26 “[e]ach federal agency activity within or outside the coastal zone that affects any
27 land or water use or natural resource of the coastal zone shall be carried out in a
28 manner which is consistent to the maximum extent practicable with the

1 enforceable policies of approved state management programs.” 16 U.S.C. §
2 1456(c)(1). Under the CZMA, agencies must comply with “the enforceable
3 policies of management programs unless full consistency is prohibited by
4 existing law applicable to the Federal agency.” 15 C.F.R. § 930.32(a)(1).
5 Agencies must also submit a CD “for all Federal agency activities affecting any
6 coastal use or resource” to the applicable state agency. 15 C.F.R. § 930.34.
7 Although the CZMA lacks a citizen suit provision, judicial review of agency
8 compliance is available pursuant to the APA. *See, e.g., Friends of Earth v.*
9 *United States Navy*, 841 F.2d 927, 936 (9th Cir. 1988); 5 U.S.C. §§ 701-06. The
10 burden of demonstrating maximum consistency practicable with the CCMP rests
11 with the Navy. *California Coastal Comm’n v. United States*, 5 F. Supp. 2d 1106,
12 1112 (S.D. Cal. 1998).

13 The Navy Defendants argued that they were not required to analyze or
14 discuss the proposed use of MFA sonar in the CD they submitted to the CCC
15 because the MFA sonar use would not affect any coastal resources. For the
16 reasons that Defendants’ determination that the SOCAL exercises would not
17 have a significant impact on the environment was arbitrary and capricious, as
18 discussed above, the Court concluded that the Navy Defendants’ determination
19 that the use of MFA sonar in the SOCAL range would not affect any of
20 California’s coastal resources was similarly arbitrary and capricious and in
21 violation of the APA.⁵ The Court also concluded that the mitigation measures
22 developed by the Navy and the NMFS were “woefully inadequate and ineffectual
23 . . . and Defendants have failed to establish that the CCC’s proposed mitigation
24 measures are either unnecessary or not required under the CCMP.” Accordingly,
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27 ⁵ The Navy Defendants raised a number of additional arguments in support
28 of their decision under the CZMA, none of which the Court found persuasive. *See*
August 2007 Order at 15-17.

1 the Court found that Plaintiffs have demonstrated a probability of succeeding on
2 the merits of their claims under the CZMA.

3 B. Possibility of Irreparable Harm

4 The Court found that Plaintiffs have demonstrated that MFA sonar can
5 injure and kill marine mammals, and cause population-affecting levels of
6 disruption. Defendants' own study concludes that the SOCAL exercises in
7 particular will cause widespread harm to nearly thirty species of marine
8 mammals, including five species of endangered whales, and may cause
9 permanent injury and death. Where, as here, plaintiffs demonstrate a strong
10 likelihood of prevailing on the merits of their claims and there is a "possibility of
11 irreparable harm," injunctive relief is appropriate. *Faith Ctr. Church*
12 *Evangelistic Ministries v. Glover*, 480 F.3d 891, 906 (9th Cir. 2007); *Earth*
13 *Island Inst. v. United States Forest Serv.*, 442 F.3d 1147, 1159 (9th Cir. 2006);
14 *Cnty. House, Inc. v. City of Boise*, 468 F.3d 1118, 1123 (9th Cir. 2006). The
15 Supreme Court has held that, "[e]nvironmental injury, by its nature, can seldom
16 be adequately remedied by money damages and is often permanent or at least of
17 long duration, *i.e.*, irreparable. If such injury is sufficiently likely, therefore, the
18 balance of harms will usually favor the issuance of an injunction to protect the
19 environment." *Amoco Prod. Co. v. Vill. of Gambell*, 480 U.S. 531, 545, 107 S.
20 Ct. 1396, 94 L. Ed. 2d 542 (1987); *see also Save Our Sonoran, Inc. v. Flowers*,
21 408 F.3d 1113, 1125 (9th Cir. 2005).

22 From the numerous scientific studies, declarations, reports, and other
23 evidence submitted to the Court, the Court continues to conclude that Plaintiffs
24 have established to a near certainty that use of MFA sonar during the planned
25 SOCAL exercises will cause irreparable harm to the environment and Plaintiffs'
26 standing declarants. The Court is also satisfied that the balance of hardships tips
27 in favor of granting an injunction, as the harm to the environment, Plaintiffs, and
28 public interest outweighs the harm that Defendants would incur (or the public

1 interest would suffer) if Defendants were prevented from using MFA sonar,
2 absent the use of effective mitigation measures, during a subset of their regular
3 activities in one part of one state for a limited period.

4
5 II. Injunctive Relief

6 The Ninth Circuit panel agreed with the findings detailed above and with
7 the conclusion that injunctive relief was warranted, but remanded to this Court,
8 stating that after “having considered the effect that narrowly tailored mitigation
9 conditions might have on the parties’ interests, we conclude that such an
10 injunction would be appropriate.” *Natural Res. Def. Council*, 2007 WL 3377229
11 at * 1. Accordingly, based on the evidence presently before it, the Court orders
12 that the Navy immediately implement the following mitigation measures:⁶

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17 ⁶In response to the Ninth Circuit’s order, Plaintiffs proposed sweeping
18 geographic exclusions, including: (1) a 25 nautical mile coastal exclusion, (2)
19 exclusion of the Catalina Basin, (3) exclusion of the Westfall seamount, (4)
20 exclusion of Cortez and Tanner Banks, and (5) locating exercises to the maximum
21 extent possible in waters deeper than 1,500 meters. Defendants, by contrast,
22 proposed to continue employing the mitigation measures outlined in the 2007
23 National Defense Exemption (“NDE II”) as well as several additional measures,
24 including: (1) powering down MFA sonar by 6 dB at 1,000 meters; powering
25 down an additional 4 dB at 500 meters; and shutting off (“securing”) MFA sonar
26 at 200 meters; (2) employing two dedicated, and 3 non-dedicated, marine mammal
27 lookouts at all times when MFA sonar is being used, and providing such lookouts
28 with binoculars, night vision goggles, and infrared sensors; (3) staying outside the
Channel Islands National Marine Sanctuary, and remaining 5 nautical miles from
San Clemente Island’s western shore, and 3 nm from its other shores; (4) aerial
monitoring for at least 60 minutes before MFA sonar exercises along the Tanner
and Cortez Banks during blue whale migration (July to September 2008); and (5)
pre-exercise monitoring of gray whale off-shore migration patterns during March
7-21, 2008 and April 15-May 15, 2008.

1 1. 12 Nautical Mile Coastal Exclusion Zone

2 The Navy shall maintain a 12 nautical mile exclusion zone from the
3 California coastline at all times. The great weight of scientific evidence points to
4 avoidance of marine mammal habitat as the most effective means of minimizing
5 sonar-related injury to marine mammals. *E.g.*, Supplemental Decl. Robin
6 William Baird (“Baird Supp’l Decl.”) ¶¶ 5, 7-8; Supplemental Decl. Edward
7 Parsons (“Parsons Supp’l Decl.”) ¶ 10; T. Agardy, *et al.*, *A Global Scientific*
8 *Workshop on Spacio-Temporal Management of Noise: Report of the Scientific*
9 *Workshop*, Pls.’ Ex. 24. From the evidence presented to the Court in connection
10 with the remand order, it appears to the Court that the exclusion of a 12 nautical
11 mile zone adjacent to the coastline is both practicable and reasonably effective.
12 The Navy adhered to a 25 nautical mile exclusion zone for its Rim of the Pacific
13 (RIMPAC) exercises off the coast of Hawaii. Decl. Rear Admiral John M. Bird ¶
14 46e (hereinafter “Bird Decl.”). In addition, the Navy operated under a 2006
15 National Defense Exemption (“NDE I”) that included a 12 nautical mile coastal
16 exclusion zone. *Id.* Although the Court is cognizant of the high density of rich
17 marine life within 25 nautical miles of the California coastline, it appears from
18 the evidence before the Court that a coastal exclusion of that size would unduly
19 hamper the Navy’s training efforts. Accordingly, the Court deems the 12
20 nautical mile exclusion zone appropriate, in that the Navy has previously
21 acknowledged its practicability and it would bar the use of MFA sonar in a
22 significant portion of important marine mammal habitat.⁷

23 _____
24 ⁷The Court is likewise convinced that the 25 nautical mile exclusion zone
25 proposed by Plaintiffs is impracticable, in that it would prevent the Navy from
26 training to detect submarines in the very bathymetry in which submarines are
27 likely to hide. Accordingly, the Court finds that the most practicable compromise
28 is to allow the Navy to approach nearer to the shore, but to expand the range in
which MFA sonar must be shut down to minimize the exposure of marine
mammals.

2. 2200 yard MFA Sonar Shutdown

The Navy shall cease use of MFA sonar (either vessel-based or aircraft-based sonobuoys or active dipping sonar) when marine mammals are spotted within 2200 yards (approximately 2000 meters). The Court is persuaded that the 1000 yard/500 yard/200 yard scheme proposed by the Navy is grossly inadequate to protect marine mammals from debilitating levels of sonar exposure. Bird Decl. ¶ 46f. A number of studies indicate that sonar injures marine mammals not only via acoustic harassment, but by panic-induced rapid diving or surfacing, which leads to decompression sickness (*i.e.*, “the bends”). Compare Bird Decl. ¶ 39 to Supplemental Decl. David E. Bain ¶ 7 (hereinafter “Bain Supp’l Decl.”); Pls.’ Supplemental Exs. 5, 6 (scientific articles detailing “acute embolic disease” and other bubble-induced sickness in marine mammals, caused by sound exposure); Parsons Decl. ¶ 5. Indeed, scientists have observed flight responses by marine mammals during naval exercises at distances as great as 22 kilometers (in the case of killer whales) or even 40 kilometers (Dall’s porpoises). Bain Supp’l Decl. ¶¶ 12-13. The Court therefore is persuaded that while the 2200 yard shutdown requirement may protect marine mammals from the harshest of sonar-related consequences, it represents a minimal imposition of the Navy’s training exercises.

3. Monitoring

a. Pre-Exercise Monitoring: Each day in which MFA sonar is to be used, the Navy shall monitor for the presence of marine mammals for 60 minutes before employing MFA sonar. If marine mammals are detected within 2200 yards, the Navy will wait until: (1) the marine mammals are seen to leave the vicinity, or (2) the MFA sonar-employing vessel has transited at least 2200 yards away from the marine mammals.

b. During Exercise Monitoring: The Navy will utilize two dedicated National Oceanic and Atmospheric Administration- and NMFS-trained lookouts

1 at all times when MFA sonar is being used. *See* Parsons Supp'1 Decl. ¶ 7
2 (describing dramatically greater mitigation measure compliance when specialist
3 marine mammal observers are present, as compared with ships' crew members).
4 To the maximum extent practicable, the Navy will employ passive acoustic
5 monitoring to supplement the visual detection of the presence of marine
6 mammals. For example, in the San Clemente instrumented range (SCIRC), the
7 Navy shall attempt to use its M3R acoustic monitoring system to monitor the
8 presence of marine mammals. As beaked whales are close to impossible to detect
9 visually, the employment of passive acoustic monitoring, *e.g.* by hydrophones, is
10 the best means of detection and real-time avoidance of beaked whales. Decl.
11 Robin William Baird ¶¶ 6-7 (explaining that detection of beaked whales
12 approaches 0 percent at distances of 1 kilometer or greater and that beaked
13 whales regularly dive for 50-60 minutes before surfacing); Baird Supp'1 Decl. ¶¶
14 5-6. Accordingly, the Navy shall employ such passive acoustic monitoring
15 before and during MFA sonar use in areas where beaked whales are more likely
16 to be present. *See* Jefferson Decl. ¶ 12 (noting that beaked whales are likely to
17 be present at depths between 1000 meters and 2000 meters around the
18 continental slope); Pls.' Ex. 11 (scientific study indicating that the area off the
19 California coast west to 125.0°W is a key area for beaked whale populations).

20 c. Aerial Monitoring: The Court understands that the Navy deploys
21 aircraft before and during its training exercises as part of its overall training
22 scheme. Accordingly, the Court orders that the Navy shall use such aircraft, as
23 well as at least one dedicated aircraft, to assist in the monitoring of the presence
24 of marine mammals. Pre-aerial monitoring shall be conducted within the 60
25 minutes before the start of use of MFA sonar. Aerial monitoring shall continue
26 for the duration of exercises involving the use of MFA sonar. Any spotting of
27 marine mammals will be communicated to vessels employing MFA sonar with all
28

1 possible speed, to allow for timely compliance with the safety zone requirement
2 detailed above.

3 4. Helicopter Dipping Sonar

4 In addition to aerial monitoring described above, helicopters shall monitor
5 for marine mammals for 10 minutes before deployment of active dipping sonar.
6 If marine mammals are spotted within the 2200 yard safety zone, all use of active
7 dipping sonar shall cease until the helicopter has transited at least 2200 yards
8 away from the marine mammals, or the mammals are seen to exit the safety zone.

9 5. Surface Ducting Conditions

10 Surface ducting, in which sound travels further than it otherwise would
11 due to temperature differences in adjacent layers of water, are difficult to predict.
12 Bird Decl. ¶ 52. In addition to making submarines difficult to detect, surface
13 ducting causes the received decibel level of sound to be higher at greater
14 distances than otherwise would be expected. *Id.* Although not predictable, when
15 surface ducting conditions are detected, the Navy shall power down sonar by 6
16 dB.

17 6. Choke Points and the Catalina Basin

18 The parties disagree as to whether the Catalina Basin between the Santa
19 Catalina and San Clemente Islands constitutes a “choke point.” The Navy insists
20 that it is not a choke point because it is not “a strategic strait or canal.” Defs.’
21 Mem. Regarding Tailored Preliminary Injunction at 11; Bird Decl. ¶ 54.
22 Plaintiffs argue that it is at least a “simulated choke point,” and that the Navy
23 previously has referred to the area as such. Pls.’ Opening Brief Regarding
24 Appropriate Mitigation Measures at 13 n.6.; *e.g.*, Pls.’ Ex. 4 at 93, 136, 204, 239
25 (Navy Overseas Environmental Assessments describing use of the area as a
26 “simulated strait.”). In any event, the Court is satisfied that ingress and egress to
27 the Catalina Basin is restricted, and that the area includes a high density of
28 marine mammals. Baird Supp’l Decl. ¶ 8. Accordingly, the Court orders the

1 Navy to refrain from employing MFA sonar in the Catalina Basin. The Court
2 notes that this requirement is not intended to restrict activities within the San
3 Clemente Island Range Complex (SCIRC), so long as MFA sonar is not
4 employed closer than 5 nautical miles from the western shore of San Clemente
5 Island, as represented in Defendants' papers. Defs.' Mem. at 10-11; Bird Decl.
6 ¶¶ 59, 62.

7 7. Continue NDE II Mitigation Measures

8 The Navy shall continue to employ the mitigation measures listed in NDE
9 II. To the extent that the requirements of this Order conflict with, or are stricter
10 than, the NDE II mitigation measures, this Order controls.

11
12 **CONCLUSION**

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14 IT IS SO ORDERED.

15 Dated: January 3, 2007

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19 _____
20 FLORENCE-MARIE COOPER, JUDGE
21 UNITED STATES DISTRICT COURT
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