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Plaintiffs Native Village of Point Hope, *et al.*, hereby move for a preliminary injunction to prevent proposed seismic surveying activity in the Arctic Ocean pursuant to permits issued by Defendants pending final judgment in this case. A proposed order is attached. The purpose of this motion is to prevent the noise from these surveys from harassing and seriously injuring large numbers of marine mammals until this Court can resolve this case on the merits.

INTRODUCTION

Seismic surveys are used by the oil and gas industry to generate a picture of the offshore subsurface geology. The sounds they make are literally deafening. A single seismic airgun blast is many times louder than a rocket launching, comparable to a volcano erupting beneath the ocean. However, unlike a rocket launch or a volcanic eruption, these guns do not blast just once. They sound repeatedly over vast expanses of the Arctic Ocean for days, weeks, and even months at a time, and can be heard underwater from hundreds of miles away.

The noise from seismic surveys can disrupt important behaviors such as feeding, breathing, communication and social bonding of marine mammals within several miles of an active survey. A single survey may harm tens of thousands of marine mammals. In addition, these surveys can cause permanent hearing loss in marine mammals that have the misfortune to come too close to the source vessel as it travels through the ocean.

The National Marine Fisheries Service (NMFS) violated the Marine Mammal Protection Act (MMPA) by authorizing the harassment of tens of thousands of marine mammals, constituting substantial portions of several populations, notwithstanding the Act's limitation of these effects to only "small numbers" of mammals. 16 U.S.C. § 1371(a)(5)(D)(i). The agency further violated its own regulations by authorizing seismic surveys that have the potential to cause "serious injury" to marine mammals. 50 C.F.R. § 216.107(a). Both NMFS and the Minerals Management Service (MMS) violated the National Environmental Policy Act (NEPA), 42 U.S.C. § 4332(2)(C), by authorizing seismic surveys before completing the programmatic environmental impact statement currently underway to evaluate the impacts of, and alternatives to, the entire seismic survey program for the Beaufort and Chukchi Seas. 40 C.F.R. § 1506.1.

The Court should preserve the status quo and prevent substantial irreparable harm by halting seismic surveys proposed for 2008 until the Court is able to rule on the merits of these claims.

BACKGROUND

I. MARINE LIFE OF THE BEAUFORT AND CHUKCHI SEAS.

The Beaufort and Chukchi Seas, located north of the Bering Strait off the northern and northwest coast of Alaska, together encompass the entire Alaskan portion of the Arctic Ocean. These seas are inhabited by numerous species of marine mammals and over 100 fish species. The seas are lined with coastal communities whose traditional subsistence lifestyle has for millennia been intertwined with these marine resources.

Bowhead whales were decimated by commercial whaling and are now listed as endangered under the Endangered Species Act. 50 C.F.R. § 17.11. Of the five recognized stocks of bowhead whales, the Western Arctic stock, which is estimated to number 10,545 individuals, Ex. 27 at 55,¹ “is the most robust and viable of surviving bowhead populations and, thus, its viability is critical to the long-term future of the biological species as a whole.” Ex. 24 at 19.

Each year, this stock undertakes two migrations. During the spring, whales travel northward through the Bering Strait into the Chukchi Sea, through the Alaskan Beaufort to summer feeding grounds in the Canadian Beaufort. Ex. 27 at 57. Most calves are likely born in the Chukchi Sea during the spring migration. *Id.* Recent information suggests that some whales may remain in the Chukchi Sea during the summer. *Id.* In the fall, the whales migrate back along the same route. Bowhead whales commonly feed in both the Chukchi and Beaufort Seas during these migrations. *Id.* at 62; *see also id.* at 64 (the entire Alaskan Beaufort Sea “should be considered an integral part of the summer-autumn feeding range of bowhead whales.”).

Two stocks of beluga whales inhabit the Beaufort and Chukchi Seas during the summer, the eastern Chukchi Sea stock and the Beaufort Sea stock. Beluga whales from the eastern Chukchi Sea stock, which is estimated to number 3,710 individuals, move into coastal areas from Kotzebue Sound to Kasegaluk Lagoon in late June and remain there until mid to late July. *Id.* at 93-94. These whales then move northeastward and are thought to spend the remainder of the summer in the northern Chukchi and western Beaufort Seas. Ex. 27 at 93. Belugas feed over the continental shelf, and females remain near the edge of the continental shelf throughout the summer and early fall. *Id.* at 94.

¹ The agencies have yet to compile the administrative record for this case. Plaintiffs have attached as Exhibits 1-43 documents that were created by or for the agencies or were otherwise before the agencies when evaluating the permits at issue.

Gray whales arrive on their summer feeding grounds in the Bering and Chukchi Seas in May following migration from their breeding and calving grounds off the west coast of Mexico. *Id.* at 96. In the Chukchi Sea, gray whales feed in coastal waters and offshore shoals. *Id.* They can acquire nearly enough food for the entire year over a period of six months. *Id.* Gray whale calves are weaned during the summer feeding season. *Id.*

Though previously considered to be largely absent from the Chukchi and Beaufort Seas, endangered humpback and fin whales have recently been observed in the Chukchi and Beaufort Seas. At least six humpback whales were observed from vessels in the Chukchi Sea in 2006 and 2007. Ex. 34 at 7-8; Ex. 12 at 43. Additional humpback whales have been observed in the western Beaufort Sea. Ex. 35 at 15. It is “most likely” that humpback whales in the Chukchi Sea belong to the Western North Pacific stock, Ex. 27 at 66, which is estimated to include only 394 whales. Ex. 17 at 4.

Four species of ice-dependent seals inhabit the Chukchi and Beaufort Seas—the ringed seal, ribbon seal, spotted seal and bearded seal. Each of these species spends substantial time dispersed throughout the open water in the Chukchi Sea and portions of the Beaufort Sea during the summer and early fall. *See* Ex. 24 at 26-28. The Chukchi Sea is particularly important habitat to ribbon seals and bearded seals at this time of year. *See id.* at 27 & 28. In response to a petition seeking to have the ribbon seal listed as endangered under the Endangered Species Act, 16 U.S.C. § 1531 *et seq.*, due to threats posed by global warming and oil and gas development in its habitat, NMFS recently issued a finding that a listing may be warranted and further initiated a status review to determine whether it may also be warranted to list the three other ice-dependent seal species as threatened or endangered. 73 Fed. Reg. 16,617, 16,618 (March 28, 2008).

Pacific walruses, ringed, bearded and spotted seals, and beluga and bowhead whales are all important resources for Alaska Native residents of coastal villages along the Beaufort and Chukchi Seas. *See, e.g.*, Ex. 27 at 94, 109.

“There is general consensus that, in the darkness of the ocean, marine mammals and perhaps other species have come to rely on hearing as their primary sense.” Ex. 20 at 10. “Virtually every [underwater] activity of biological significance to marine mammals . . . depends on their ability to hear.” *Id.*

The Chukchi and Beaufort Seas are relatively undisturbed acoustic environments. “During much of the year, in many marine areas in [the Arctic Subregion], there are few near-

field marine-noise sources of human origin and limited, but increasing, land-based sources of noise that affect the OCS in the Arctic Subregion.” Ex. 24 at 10. No open water 3D seismic surveys, which require “considerably” more acoustic energy to map a given area compared to the earlier 2D surveys, Ex. 27 at 23, had ever been conducted in the Beaufort Sea before 1996 or in the Chukchi Sea before 2006. *Id.* at 51A.

II. EXCEPTIONALLY LOUD NOISE, SUCH AS THAT GENERATED BY SEISMIC SURVEYS, POSES A SERIOUS THREAT TO MARINE LIFE.

“One of the greatest concerns associated with the impacts of oil and gas exploration to marine mammals has to do with the potential impacts of noise.” Ex. 16 at 3. NMFS explains:

Aside from explosions, the loudest human noise in the oceans is from airgun arrays used in oil and gas exploration. . . . With source levels of up to 255 dB,² and capable of shooting every 10 seconds around the clock, any one of these surveys can put more acoustic energy into the ocean annually than [Navy Low Frequency Active] sonar.

67 Fed. Reg. 46,712, 46,718 (July 16, 2002) (footnote added).

Several types of seismic surveys are used in offshore oil and gas exploration, all of which involve the use of airguns to fire loud pulses of low frequency sound at the seabed in order to obtain an image of the subsurface geology to depths exceeding 10 km. Ex. 18 at 12. Marine-streamer 3D seismic survey “vessels operate day and night,” firing airgun pulses every 10-15 seconds regardless of weather, sea state or visibility, and a survey may continue for months, covering areas of “thousands of square miles” Ex. 24 at 5-7. The source volume of the full airgun arrays used during recent 3D seismic surveys in the Arctic Ocean range from 253 to 260 dB re μPa (rms).³ *See* Ex. 12 at 8-9, 11, Tbl. 4.3; Ex. 34 at 3, Fig. 3.20 (Best fit line equation).

² The letters dB are an abbreviation of decibel, which is a measure of the intensity of sound. Decibels are measured on a logarithmic scale. Each increase of 3 dB represents a doubling of the intensity of sound, and each increase of 10 dB represents a ten-fold increase in the intensity of sound. Thus, an increase of 20 dB represents a one hundred-fold increase in sound intensity, and an increase of 60 dB indicates a one million-fold increase.

³ The expression dB re μPa (rms) stands for decibels relative to a reference of one microPascal root mean squared. It is the unit that NMFS and MMS use to measure the intensity of underwater sound for purposes of determining potentially injurious exposure to noise. *See, e.g.*, Ex. 24 at 8, 12-13. According to the Navy, to account for differences in pressure and impedance, 61.5 dB must be subtracted from a sound level in water to produce the equivalent sound intensity in air. *See* Ex. 44 at 1-3. Thus, the in-air equivalent source level would be between 191 and 198 dB, or between ten and fifty times as loud as a rocket launch. *See* Ex. 45 at 4. The volume of a seismic airgun blast is comparable to a seafloor volcanic eruption. Ex. 44 at 1.

Ocean-Bottom-Cable (“OBC”) seismic surveys have noise output comparable to that of 3D seismic surveys, but generally emit noise for extended durations over a more limited area where receivers have been placed on the seabed. *See* Ex. 24 at 7; *see also* Ex. 37 at 7 (reporting an estimated source level of ~250 dB re μ Pa). Finally, during high-resolution seismic surveys used to detect shallow hazards (“shallow hazard surveys”), which must be conducted prior to exploratory drilling or development, 30 C.F.R. §§ 250.214(e) & 250.244(e), airguns typically fire every 7-8 seconds with typical source volumes of 229-233 dB re μ Pa (rms) one meter from the airgun array. Ex. 24 at 7. A shallow hazard survey covers a more limited area than an OBC survey and may require 5-7 days to complete. Ex. 27 at 19.

“[H]igh-intensity low-frequency sound travels well enough underwater that animals can detect signals at ranges of tens to hundreds of kilometers from the source. . . . [A] few sources may affect a large fraction of a population.” Ex. 19 at 15. According to acoustic monitoring studies conducted during a single active seismic survey, “ambient noise levels flooded throughout almost the entire 100,000 [square nautical mile] region, increased by two orders of magnitude, and persisted so as to be nearly continuous for days at a time.” Ex. 22 at 4. Because marine mammals are sensitive to underwater noise, the noise generated by seismic surveys can disrupt important behaviors by marine mammals many kilometers distant from the sound source. Oil companies have estimated that seismic surveys conducted by just two companies in a single season may disrupt the behavior of over 100,000 marine mammals. *See* 71 Fed. Reg. 27,685, 27,687 tbl. (May 12, 2006) (over 80,000 seals subject to harassment); 71 Fed. Reg. 26,055, 26,061-62 (May 3, 2006) (over 49,000 seals and whales subject to harassment).

The noise generated by seismic airguns can “substantially harass and injure” marine mammals in numerous ways. Ex. 27 at 103.

Increased noise levels could interfere with communication among whales, mask important natural sound, cause physiological damage, or alter normal behavior, such as causing avoidance behavior that keeps animals from an important area or displace a migration route farther from shore. Noise from various sources has been shown to affect many marine mammals in ways ranging from subtle behavioral and physiological impacts to serious injury and death.

Id. at 70 (citations omitted). NMFS and MMS recognize that the noise generated by seismic airguns can “mask” or obscure natural sounds or communications that facilitate social bonding and predator avoidance. *See, e.g., id.* at 72, 103 (“Since it is likely that being able to detect

biologically significant signals is important to marine mammals' viability, it is reasonable to assume that any reduction in this ability could have deleterious effects on marine mammals over very substantial distances"). "For animals such as cetaceans that exhibit enduring, individually specific social relationships, disruption of social bonds through displacement of sensitive individuals may have far-reaching repercussions" *Id.* at 105. Loud or persistent noise "may impact health by bringing about changes in immune function" *Id.* at 72.

In addition, seismic pulses of sufficient volume have the potential to cause temporary and permanent hearing loss in marine mammals. *See* Ex. 27 at 103 ("possible effects from seismic activities include . . . permanent threshold shifts" (*i.e.*, permanent hearing loss)). Seismic surveys have also been associated with fatal whale strandings. In 2004, the Scientific Committee of the International Whaling Commission received papers demonstrating impacts including humpback whale mortalities. Ex. 21 at 5; *see also* Ex. 27 at 83 ("During the 2002 breeding season, during the same time that seismic surveys were being conducted on breeding grounds in Brazilian waters, eight strandings of adult humpback whales were reported, a frequency nearly 27% of the total stranding of adults reported in Brazilian waters between 1975 and 2003."); *see also* Ex. 23 at 3 (describing an incident where two beaked whales fatally stranded near an active seismic survey in the Gulf of California).

Recognizing that seismic airgun pulses pose a considerable risk to marine mammals, in 1997 MMS convened a panel of experts, which reached a consensus "that exposures to [seismic pulses at] levels greater than 180 dB re 1 micropascal rms are likely to have the potential to cause serious behavioral, physiological and hearing effects." Ex. 28 at 5. According to NMFS and MMS, "two expert panels" determined there is potential that cetaceans exposed to noise at received sound pressure level (SPL) above 180-dB re μ Pa (rms), and pinnipeds above 190-dB re μ Pa (rms), "could incur permanent hearing impairment (Level A harassment)." Ex. 27 at 32; Ex. 24 at 8. Both NMFS and MMS have since employed 180-dB re μ Pa (rms) and 190-dB re μ Pa (rms) as the received sound pressure level thresholds above which sound potentially injures cetaceans and pinnipeds, respectively. *Id.*; Ex. 27 at 32. Accordingly, when issuing incidental harassment authorizations (IHAs) for seismic surveys, NMFS has imposed 180-dB and 190-dB "exclusion zones" for cetaceans and pinnipeds, requiring that airguns be shut down or powered down when marine mammals are observed entering this zone. *See, e.g.*, 65 Fed. Reg. 16,374,

16,377 (Mar. 28, 2000). NMFS imposed these exclusion zones as mandatory conditions of IHAs for 3D seismic surveys conducted during 2006. *See* Ex. 12 at 31; Ex. 10 at 11.

Monitoring records from those surveys establish that, despite best efforts to implement the exclusion zones, scores of marine mammals were exposed to seismic pulses loud enough to potentially cause permanent hearing loss. *See* Ex 10 at 5-6 (identifying 42 instances where a total of 50 marine mammals, including an endangered bowhead whale, gray whales, and multiple seal species, were seen within the exclusion zone and “likely” or “very likely” exposed to potentially injurious airgun pulses before the array was powered down); Ex. 12 at 28-30 (identifying 24 such instances involving various seal species).

Even if these “exclusion zones” proved completely effective at preventing exposure to noise levels that could cause immediate, permanent hearing loss, they would not protect marine mammals from other types of harm attributable to exposure to lower levels of noise. NMFS and MMS acknowledge that exposure to noise over extended durations which leads to subtle behavioral changes may adversely affect the health and reproductive fitness of significant portions of marine mammal populations, even in the absence of immediate physiological injury:

There are indications that repeated short-term avoidance tactics can lead to long-term impacts at the population level, either through displacement from important habitats, which can reduce the fitness of targeted populations, or via physiological constraints at the individual level, which may lead to decreased reproductive output. For a food-limited population, energetics may provide the causal link between demonstrable short-term behavioral responses and difficult-to-detect population level impacts. Therefore, the relationship between an animal’s response to disturbance and their underlying sensitivity is not straightforward. Equating lack of response with indifference may be incorrect; those animals least likely to exhibit avoidance responses may simply be those that can least afford to demonstrate their sensitivity, namely those in poorest body condition.

Ex. 27 at 104 (citations omitted).

In addition to its potential to cause immediate and long-term harm to marine mammals—which in turn may have an indirect adverse effect on the villages that rely on these animals as a subsistence resource—the noise from seismic surveys have the potential to interfere directly with the subsistence harvest of bowhead whales. Received levels as low as 120 dB re μ Pa (rms) have been shown to displace nearly all migrating bowheads. Ex. 27 at 30.

[Bowhead whales] tend to avoid areas of high noise and disturbance and, thus, could become unavailable to a particular community or become more difficult to harvest. Short-term effects, such as flight behavior or increased wariness, also

may make animals difficult to harvest. Noise and traffic from seismic survey vessels ... in or near the bowhead whaling area could cause bowhead whales to move into the broken-ice zone and offshore leads inaccessible to the Inupiat hunters or under the pack ice and become unavailable to hunters.

Id. at 110.

III. THE LEVEL OF SEISMIC SURVEYING IN THE ALASKAN ARCTIC OCEAN HAS INCREASED SUBSTANTIALLY IN RECENT YEARS.

Between the mid-1990s and 2005, no more than one seismic survey occurred in the Alaskan Arctic Ocean annually and all of these took place in the Beaufort Sea. Ex. 30 at 1-2. In 2005, MMS did not issue any permits for seismic surveys in either the Chukchi or Beaufort Seas. *See* Ex. 24 at 2. During the summer of 2006, three companies sought permission to conduct seismic surveys in the Arctic Ocean, *see* 71 Fed. Reg. at 26,055; 71 Fed. Reg. at 27,685; 71 Fed. Reg. 32,045 (June 2, 2006), which constituted the greatest number of concurrent seismic operations on the Alaskan OCS in a single season since the 1980's. Ex. 40 at 3.

In response to this surge in the number of seismic surveys, MMS, with NMFS as a cooperating agency, completed a programmatic Environmental Assessment ("PEA"). The express objective of the PEA was to evaluate the environmental impacts of "seismic-survey activity in 2006 in Federal waters of the Beaufort and Chukchi Seas" in order to determine whether those impacts rise to a level of significance that would require the agencies to prepare an environmental impact statement (EIS). Ex. 24 at 3. Only by imposing a variety of protective measures to prevent harm to feeding bowhead whales and gray whales and bowhead whale cow-calf pairs from seismic noise did the agencies conclude that the three concurrent seismic surveys proposed for 2006 did not have the potential to cause significant environmental impacts that would require preparation of an EIS. Specifically, as a mandatory condition of their Findings of No Significant Impact (FONSI), both agencies required that each company monitor a 160 dB safety zone for feeding or resting whales, and a 120 dB safety zone for cow-calf pairs, and reduce noise output when certain numbers of whales were spotted within those areas. *See* 71 Fed. Reg. 43,112, 43,123-24 (July 31, 2006) ("Due to the scientific uncertainty surrounding potential responses of bowheads to multiple seismic vessels in the Chukchi Sea and the lack of knowledge regarding their behavioral patterns and needs in the Chukchi Sea, NMFS determined that the 120-dB safety zone (and the 160 dB safety zone) was necessary in order to make a

FONSI.”); Ex. 25 at 4-5; Ex. 26 at 10; Ex. 40 at 15 (“Without the 120-dB requirements, NMFS would have prepared a full EIS, and no IHA could issue to allow seismic exploration in 2006.”).

ConocoPhillips Alaska, Inc., subsequently brought a lawsuit challenging the requirement that it monitor a 120 dB safety zone for cow-calf pairs while conducting seismic surveys in the Chukchi Sea during the fall of 2006. *See, e.g.*, Ex. 40. NMFS argued that full implementation of this condition was requisite to its FONSI and that without this measure NEPA would have required the agency to prepare a full EIS. *Id.* at 14-16. The court issued a temporary injunction against enforcement of the measure, but the case was dismissed as moot before it was decided on the merits. Ex. 41.⁴

In the fall of 2006, NMFS and MMS determined they had to prepare a single EIS to assess the entire program of seismic surveys throughout the Beaufort and Chukchi Seas, and they published notice of their intent to prepare a programmatic EIS (PEIS) for this purpose. 71 Fed. Reg. 66,912, 66,913 (Nov. 17, 2006). The agencies identified three needs for the PEIS: 1) to evaluate impacts from “a higher level of potential seismic activity” than was evaluated in the PEA; 2) to evaluate impacts from seismic surveying activity “over a longer time frame” than was evaluated in the PEA; and 3) “to reanalyze the range of practical mitigation measures for protecting marine mammals in more detail” *Id.*

NMFS and MMS then prepared a draft PEIS which recognized that over time, oil and gas seismic surveys in the Alaskan Arctic Ocean have “potential significant impacts on marine mammals, other Arctic marine life, and native subsistence lifestyles” 72 Fed. Reg. 17,117 (Apr. 6, 2007). According to the draft PEIS, both NMFS and MMS decided to prepare an EIS, rather than a less rigorous Environmental Assessment (EA), because they anticipated an “increase in seismic survey applications beyond 2006 levels” and believed that “a longer timeframe needed to be analyzed in order to most effectively and fully evaluate the potential for cumulative impacts.” Ex. 27 at 17. In addition, given concerns over the adequacy of mitigation to protect sensitive portions of the bowhead population and “the overall level of uncertainty surrounding the environmental effects of seismic surveys on bowhead whale populations in

⁴ The agencies did not impose the 120 dB safety zone for operations in the Chukchi Sea as a requirement of the permits issued to Shell for 2007-2008. Ex. 1; Ex. 3 at 3-6; Ex. 4 at 3-6. Shell was the only company to conduct seismic surveys in the Arctic in 2007, and it represented that it would not be operating in the Chukchi Sea after September 25, the date after which this condition applied in 2006. *See, e.g.*, 72 Fed. Reg. 31,553, 31,562 (June 7, 2007).

Arctic waters, NMFS believes it is necessary to address these issues in the context of an EIS, as opposed to an EA.” *Id.* A major issue that the draft PEIS grapples with is the adequacy of the 120 dB and 160 dB safety zones to address potentially significant impacts to vulnerable portions of the bowhead whale population. *Id.* at 111B-111D.

The draft PEIS recognizes that displacement of bowhead whales from “feeding, resting or migratory areas” and exposure to seismic airgun pulses “during critical behaviors” may result in significant impacts and identifies mitigation measures to reduce the potential for such effects. *Id.* at 89; *see also id.* at 36 (potential for impacts to marine mammals and their availability for subsistence use “is largely dependent on the specified exclusion/safety zone”), 85 (“Where analyses identified areas where effects to bowheads potentially could be significant, we have identified monitoring and mitigation measures to reduce the potential for such impacts”). The draft PEIS does not, however, conclude that any particular suite of mitigation measures would eliminate the potential for such significant impacts. NMFS and MMS have not yet published a final version of the PEIS, nor has either agency issued a record of decision.

IV. SEISMIC SURVEY ACTIVITIES PLANNED AND AUTHORIZED FOR 2008.

In yet another surge in the level of seismic surveying activity, at least five companies have announced their intention to conduct seismic surveys related to oil and gas exploration in the Chukchi and/or Beaufort Seas during the 2008 season. All told, these seismic surveys would involve the use of ten source vessels, with as many as four operating concurrently in the Chukchi and seven concurrently in the Beaufort.⁵ *See* Exs. 36-39 & 46.

After NMFS had received applications from just three of these five companies, the fishery biologist who supervises the issuance of IHAs, which allow oil companies to harass marine mammals during seismic surveys, described the yet-to-be-completed Final PEIS as “a joint-agency document *that is needed this year* to issue IHAs under the MMPA and OCS permits under the OCSLA in offshore Alaska.” Ex. 32 (emphasis added). At that time, this supervisor proposed a schedule for completing the EIS by May 1, 2008 “[i]n order not to delay offshore seismic” surveys in 2008. *Id.* Internally, the agency flagged as problems the “[e]xtremely tight timeline for clearance and publication,” the controversial nature of the impacts of seismic surveys, and the potential cost to industry that would result from a delay in issuing the final

⁵ Shell plans to use the same source vessel for its 3D seismic operations in both seas.

PEIS. Ex. 31 at 1. NMFS personnel soon protested that this schedule may not allow sufficient time for internal review of the PEIS. *See* Ex. 11.

Due to difficulties responding to comments on the measures identified in the draft PEIS aimed at reducing the potentially significant impacts to bowhead whales, however, by early February this supervisor had come to “foresee a serious delay in NMFS’ completing the Final EIS.” Ex. 33. Consequently, the supervisor explained, “it is likely that NMFS will not be issuing IHAs to the oil industry for seismic until very late in 2008” *Id.* Nonetheless, and despite having since received applications from two additional companies to harass marine mammals during seismic surveys this summer, NMFS recently indicated that it intends to proceed to issue IHAs for oil and gas seismic surveys this summer without first completing the PEIS. *See* 73 Fed. Reg. 22,922, 22,930-31 (April 28, 2008).

Between February 15 and March 13, 2008, MMS issued three permits under the Outer Continental Shelf Lands Act (OCSLA), 43 U.S.C. §§ 1331 *et seq.*, to authorize 3D seismic surveys in the Chukchi and Beaufort Seas during the summer and fall of 2008 (“the OCSLA Permits”). *See* Exs. 6, 7, 8. Rather than complete the programmatic EIS, MMS instead prepared an EA and issued a FONSI in connection with each of these permits. *See* Exs. 3, 4, 5. None of these permits or FONSIs mandate any of the conditions to protect feeding gray and bowhead whales or bowhead cow-calf pairs that were required in the FONSI that MMS issued for seismic surveys in 2006. Nor do the EAs discuss the need for or effectiveness of these conditions.

NMFS has issued an IHA that allows Shell to conduct both 3D seismic and shallow hazard surveys until August 1, 2008. The agency issued this IHA after completing only an EA. Ex. 2. Shell requested authorization to take upwards of 40,000 marine mammals during its seismic surveying program, *see, e.g.*, 72 Fed. Reg. at 31,559 tbls. 1-3, a request which NMFS granted by issuing the IHA. Though the IHA expressly forbids Shell from taking any marine mammal by serious injury or death, Ex. 1 at 2, to achieve this it only imposes a requirement that vessel-based observers monitor an “exclusion zone” around the airguns and reduce the noise output of the airguns when marine mammals approach “close to or within” the exclusion zone. Ex. 1 at 6. Prior to NMFS’ issuance of the IHA, the Native Village of Point Hope and conservation groups submitted comments pointing out that NMFS must complete the final PEIS before issuing an IHA and may not lawfully issue an IHA for seismic surveys that will harass

anything more than small numbers of marine mammals or that have the potential to cause serious injury or mortality of marine mammals. Ex. 14 at 2-3, 6-9, 14; Ex.13 at 4; *see also* Ex. 15.

ARGUMENT

I. STANDARD OF REVIEW.

A district court may issue a preliminary injunction based on two related tests:

Under the traditional criteria, a plaintiff must show (1) a strong likelihood of success on the merits, (2) the possibility of irreparable injury to plaintiff if preliminary relief is not granted, (3) a balance of hardships favoring the plaintiff, and (4) advancement of the public interest (in certain cases). Alternatively, a court may grant the injunction if the plaintiff demonstrates *either* a combination of probable success on the merits and the possibility of irreparable injury *or* that serious questions are raised and the balance of hardships tips sharply in his favor. These two alternatives represent extremes of a single continuum, rather than two separate tests.

Earth Island Inst. v. U.S. Forest Serv., 351 F.3d 1291, 1297-98 (9th Cir. 2003) (citations and quotation marks omitted); *see also Natural Res. Def. Council v. Winter*, 518 F.3d 658, 677 (9th Cir. 2008).

Judicial review of administrative actions involving NEPA and the MMPA are governed by Section 706 of the Administrative Procedure Act (APA), 5 U.S.C. § 706. Under the APA, a reviewing court may set aside agency action that is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law,” or “without observance of procedure required by law . . .” 5 U.S.C. § 706(2)(A). An agency’s action is arbitrary and capricious, *inter alia*, “if the agency offers an explanation for the decision that is contrary to the evidence, if the agency’s decision is so implausible that it could not be ascribed to a difference in view or be the product of agency expertise . . . or if the agency’s decision is contrary to the governing law.” *Lands Council v. Powell*, 395 F.3d 1019, 1026 (9th Cir. 2005).

II. PLAINTIFFS ARE LIKELY TO SUCCEED ON THE MERITS.

A. NMFS Issued an Unlawful IHA in Violation of the MMPA.

In the MMPA, Congress generally banned the taking and importation of marine mammals. 16 U.S.C. § 1371(a). However, the Act includes a limited exception for “the incidental, but not intentional, taking by harassment of small numbers of marine mammals” from a particular population stock. 16 U.S.C. § 1371(a)(5)(D)(i). In order to authorize an applicant to

take small numbers of marine mammals, NMFS must first determine that the taking will have only a “negligible impact” on the stock and “will not have an unmitigable adverse impact on the availability” of the stock for subsistence uses. *Id.* § 1371(a)(5)(D)(i)(I) & (II).

NMFS issued an IHA that violates the MMPA in two important respects. First, the MMPA allows NMFS to authorize permittees to take only “small numbers” of marine mammals. 16 U.S.C. § 1371(a)(5)(D)(i). Nevertheless, the IHA authorizes Shell to take tens of thousands of marine mammals. Second, pursuant to the its own regulations, NMFS may not issue an IHA for an activity that has the “potential to result in serious injury or mortality” of a marine mammal. 50 C.F.R. § 216.107(a). Such activities may not proceed unless and until NMFS issues 5-year incidental take regulations and subsequent letters of authorization pursuant to 16 U.S.C. § 1371(a)(5)(A)(i). *Id.* As demonstrated by the results of monitoring during seismic surveys conducted in recent years, the conditions in the Shell IHA fail to prevent marine mammals from suffering exposure to seismic pulses that are so loud as to potentially cause serious injury in the form of hearing loss.

1. *The IHA unlawfully authorizes Shell to take large numbers of marine mammals.*

The “small numbers” finding in the Shell IHA is unlawful for three reasons: it is based on an unlawful regulation; it is unexplained; and it contradicts the evidence in the record. Each of these failures standing alone is sufficient reason to set aside the IHA.

First, NMFS has unlawfully defined “small numbers” in a way that renders the term inoperable. The agency’s regulations define “small numbers” as “a portion of a marine mammal species or stock whose taking would have a negligible impact on that species or stock.” 50 C.F.R. § 216.103. However, the MMPA separately requires that, in addition to the “small numbers” limitation, 16 U.S.C. § 1371(a)(5)(D)(i), any authorized incidental harassment have only a “negligible impact” on the species or stock. *Id.* § 1371(a)(5)(D)(i)(I). As another court has recognized, the agency’s “small numbers” definition unlawfully conflates that term with the “negligible impact” limitation in a manner that renders the former entirely superfluous. *See Natural Res. Def. Council v. Evans*, 279 F. Supp. 2d 1129, 1153 (N.D.Cal. 2003) (“defendants’ current definition, which completely eliminates the separate requirements that only a ‘small number’ of marine mammals be taken, is arbitrary, capricious, and manifestly contrary to the statute and cannot be upheld”); *see also Nevada v. Watkins*, 939 F.2d 710, 715 (9th Cir. 1991)

(“It is a fundamental rule of statutory construction that we should avoid an interpretation of a statute that renders any part of it superfluous and does not give effect to all of the words used by Congress.” (quotation omitted)); *Our Children’s Earth Found. v. U.S. EPA*, 506 F.3d 781, 792 (9th Cir. 2007).

This understanding of the Act is compelled not only by the plain language, but by the legislative history:

The taking authorized under these new provisions is the taking of small numbers of marine mammals. . . .

It should also be noted that these new provisions of the Act provide an additional and separate safeguard in that the Secretary must determine that the incidental takings of small numbers of marine mammals have a ‘negligible’ impact upon the species from which such takings occur. This additional test is meant to serve as a separate standard restricting the authority of the Secretary.

H.R. Rep. No. 97-228, at 19 (1981), *reprinted in* 1981 U.S.C.C.A.N. 1458, 1469.

Even though this definition was held unlawful five years ago, NMFS has not promulgated a new one. In such a circumstance, courts presume that the agency follows its existing regulation absent an explanation to the contrary. *See Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1071-72 (9th Cir. 2004). When it proposed to issue the Shell IHA, NMFS gave no indication that it was not relying on its unlawful definition of “small numbers.” *See* 72 Fed. Reg. at 31,553-68 (June 7, 2007). The IHA must be set aside because NMFS’ “small numbers” determination is “not in accordance with law.” 5 U.S.C. § 706(2)(A).

Second, NMFS arbitrarily failed to provide any explanation for its conclusory statement that Shell would take only small numbers of marine mammals. Rather than attempt to explain how upwards of 40,000 marine mammals represents a “small number,” the agency merely stated that “the number of potential harassment takings is estimated to be small.” 72 Fed. Reg. at 31,567. This lack of explanation renders the conclusion arbitrary. *See Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (an agency must “articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made.” (quotation omitted)); *Gifford Pinchot Task Force*, 378 F.3d at 1065.

Third, the unexplained finding was contrary to facts in the record, which show that the number of marine mammals potentially harmed is huge and represents substantial portions of several populations, including one endangered species. Shell requested authorization to take

34,832 ringed seals and 2,167 bowhead whales in the Beaufort and Chukchi Seas and up to 1,460 beluga whales in the Chukchi Sea, 72 Fed. Reg. at 31,559 (tbls. 1-3), and NMFS issued the IHA accordingly. Ex. 1.⁶ These numbers represent more than 39% of the eastern Chukchi stock of beluga whales, more than 13% of the affected ringed seal population, and more than 20% of the Western Arctic Stock of endangered bowhead whales. See Ex. 29 at 5 (eastern Chukchi stock of beluga whales estimated to number just 3,710 whales; ringed seal population estimated at 249,000 and bowhead population estimated at 10,545). In spite of these huge numbers, NMFS preliminarily concluded, without any explanation, that “the number of potential harassment takings is estimated to be small.” 72 Fed. Reg. at 31,567. “A definition of ‘small number’ that permits the potential taking of as much as 12% of the population of a species is plainly against Congress’ intent.” *Natural Res. Def. Council v. Evans*, 279 F. Supp. 2d at 1152. Here, NMFS authorized Shell to take significantly higher proportions of one seal population and two whale populations, one of which is an endangered species. Under the ordinary meaning of the term, these substantial numbers do not represent “small” numbers of marine mammals nor small proportions of affected stocks. NMFS’ conclusion to the contrary is arbitrary. See *Motor Vehicle Mfrs. Ass’n*, 463 U.S. at 43 (agency action is arbitrary if agency “offered an explanation for its action that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.”).

2. *NMFS unlawfully issued an IHA for seismic surveying activity that has the potential to seriously injure marine mammals.*

In violation of its own regulations, NMFS issued an IHA with a risk of causing “serious injury” to marine mammals. The agency attempted to evade this requirement by relying on an exclusion zone it knew to be ineffective.

⁶ Even these huge numbers may underestimate the number of marine mammals taken. These estimates were calculated using a circle with a radius of 8.4 km to represent the area ensonified by at least 160 dB re μ Pa (rms), see 72 Fed. Reg. at 31,558, but the actual circle subsequently measured at this level in the Beaufort Sea had a radius of 13.4 kilometers, see Ex. 34 at 5, Table 3.10, and thus encompassed more than twice the area estimated by NMFS. In addition, the estimated number of ringed seals was based on exposure to 170 dB re μ Pa (rms), 72 Fed. Reg. at 31,559 Tables 1-3, even though NMFS uses 160 dB re μ Pa (rms) as the onset of Level B harassment for all marine mammals, see 72 Fed. Reg. at 31,558 ; Ex. 24 at 14; Ex. 27 at 102. As with other species, use of the proper threshold for harassment would double the estimated number of ringed seals taken to upwards of 70,000. See 72 Fed. Reg. at 31,559 tbls. 1-3.

NMFS regulations preclude an IHA for any activity in Arctic waters that, like 3D seismic surveys, “has the potential to result in serious injury or mortality” to a marine mammal. 50 C.F.R. § 216.107(a). For takes of marine mammals that have the potential to cause serious injury or mortality, the MMPA requires a more demanding process: the agency must first promulgate five-year incidental take regulations and then issue subsequent letters of authorization. *Compare* 16 U.S.C. § 1371(a)(5)(D) (IHA process) *with* 16 U.S.C. § 1371(a)(5)(A)(i) (process for takes that may exceed mere harassment); *see also* 16 U.S.C. §§ 1362(13), (18)(A)-(C) (defining “take” and “harassment”).

NMFS has stated that permanent hearing loss qualifies as serious injury:

Serious injury for marine mammals, such as permanent hearing or eyesight loss, or severe trauma, could lead fairly quickly to the animal’s death. NMFS does not believe that Congress intended to allow “incidental harassment” takings to include injuries that are likely to result in mortality, even where such incidental harassment involves only small numbers of marine mammals.

60 Fed. Reg. 28,379, 28,380 (May 31, 1995). It has explained, therefore, that “if the acoustic source at its maximum level had the potential to cause a permanent threshold shift in a marine mammal’s hearing ability, that activity would be considered capable of causing serious injury to a marine mammal and would therefore not be appropriate for an incidental harassment authorization.” *Id.* at 28,381.

NMFS has determined based on its own expert panels that cetaceans (whales) may suffer hearing loss if exposed to seismic airgun pulses at received levels above 180 dB re μ Pa (rms), and pinnipeds (seals) at received levels above 190 dB re μ Pa (rms). *See supra* pp. 6-7. The source level of the seismic airguns at issue here range from 229 - 260 dB. *See supra* pp. 4-5. Therefore, in order to authorize take pursuant to an IHA, NMFS has recognized that it must impose mitigation measures that completely eliminate the possibility of serious injury. *See* 60 Fed. Reg. at 28,380-31 (“[I]f the review of an application for incidental harassment indicates that there is a potential for serious injury or death, NMFS proposes that it would either (1) determine that the potential for serious injury can be *negated* through mitigation requirements that could be required under the authorization or (2) deny the incidental harassment authorization and require the applicant to petition for a regulated small take authorization under 50 CFR 228.5.” (emphasis added)).

In an effort to do so, the IHA requires Shell to implement marine mammal “exclusion zones” where received levels exceed 180 or 190 dB re μ Pa (rms), but these zones do not negate the possibility of serious injury. Specifically, the IHA provides that Shell or its operator must immediately power down the airgun array, and thereby reduce the volume of its pulses, whenever whales or seals “are sighted approaching close to or within” the applicable exclusion zone. Ex.1 at 6. Based on the presumed 100% effectiveness of these exclusion zones to prevent marine mammals from suffering exposure to pulses loud enough to cause permanent hearing loss or other serious injury, NMFS concluded that it may issue an IHA to Shell. *See* 72 Fed. Reg. at 31,567-68 (“[N]o take by death and/or serious injury is anticipated, and the potential for temporary or permanent hearing impairment *will be avoided* through the incorporation of the mitigation measures mentioned in this document and required by the authorization.” (emphasis added)). Contrary to this finding, however, NMFS has recognized the limited effectiveness of these “exclusion zones” due to the inability of ship-based visual observers to detect all of the marine mammals within the applicable zone. *See* Ex. 27 at 44 (“The ability of observers to effectively monitor the zone, and be able to call for a shut-down if marine mammals enter the zone is critical to the success of the protective measures . . . though it is often difficult to observe all marine mammals, especially pinnipeds, within the zone.”), 91 (“it is generally not possible to observe all bowheads within a zone, especially during foggy weather or at night”).

Subsequent experience during 2006 proved that these zones were insufficient. Seismic surveys still exposed scores of marine mammals to the risk of permanent hearing loss.⁷ *See supra* p. 7. Even when marine mammals were spotted and the airguns were powered down, the animals nonetheless “likely” or “very likely” suffered exposure to potentially injurious noise levels more than 70% of the time. *See* Ex. 12 at 28-30 & Ex. 10 at 5-7 (66 out of 93 total power-downs or shut downs failed to prevent potentially injurious exposure). One possible explanation for these failures of the exclusion zone is the fact that marine mammals likely enter the exclusion

⁷ For example, a seal that was initially seen “thrashing” a mere 25 meters ahead of the seismic vessel during conditions of poor visibility subsequently dove and resurfaced four minutes later, after being exposed to dozens of potentially injurious pulses, still well within the 190 dB exclusion zone. Ex. 10 at 6, 17. Two gray whales, which were apparently feeding at the time, breached 2.5 km ahead of the vessel, dove for 11 minutes, and again breached a mere 360 meters from the full firing airgun array, well within both the 180 dB and 190 dB zones (1,628 meters and 517 meters, respectively), suffering potentially injurious exposure to airgun pulses for perhaps a full ten minutes. *Id.*

zones while submerged and therefore not visible to ship-based observers. *See, e.g.*, Ex. 27 at 106 (“Most phocid seals spend >80% of their time submerged in water”).

NMFS has further recognized that the marine mammals known to have been exposed to potentially injurious seismic pulses represent only a fraction of all animals that were actually exposed to such noises. *See supra* p.17. Even though it allows industry to operate airguns during periods of darkness, NMFS does not require marine mammal observers to monitor the exclusion zones during nighttime operations except in limited circumstances. *See* Ex. 1 at 7 (nighttime observation required only when starting airguns at night or if the airgun was powered down due to marine mammal presence the preceding day); Ex. 12 at 33; Ex. 10 at 12. Even during the day, visually detecting marine mammals from the deck of a seismic vessel presents challenges and may be of limited effectiveness due to glare, fog, rough seas, the small size of animals such as seals, and the large proportion of time that animals spend submerged. *See, e.g.*, Ex. 27 at 44, 91, 106; Ex. 12 at 18, 23 (only half of the observer time considered “useable” for purposes of statistical analyses, due to extensive glare, high winds, but most often due to fog limiting visibility, which reduced detection rates by half).

Despite abundant evidence that the exclusion zones were normally ineffective at preventing marine mammals from suffering exposure to sounds that may cause permanent hearing loss, and despite a complete lack of any evidence to the contrary, NMFS nonetheless concluded that ship-based visual observation of the exclusion zone will eliminate *any possibility* that seismic surveys will cause serious injury. Only by making this finding could it issue an IHA to authorize Shell to take seals and whales by harassment. 50 C.F.R. § 216.107(a) (precluding IHAs that have “the potential” to cause serious injury); 60 Fed. Reg. 28,380-81. The monitoring data and scientific analyses show an irrefutable “potential” of seismic surveys to cause “serious injury.” 50 C.F.R. § 216.107. In reaching its finding, NMFS “offered an explanation for its decision that runs counter to the evidence before the agency.” *Motor Vehicle Mfrs. Ass’n*, 463 U.S. at 43. This finding is arbitrary. While NMFS might be able to authorize such a serious take of marine mammals after adopting regulations and issuing letters of authorization, *see* 16 U.S.C. § 1371(a)(5)(A)(i), the use of the IHA shortcut in these circumstances was unlawful.

B. MMS and NMFS violated NEPA by authorizing seismic surveys to proceed before the agencies completed the PEIS.

NEPA precludes MMS and NMFS from authorizing seismic surveys in the Beaufort and Chukchi Seas before completing the PEIS. The agencies have determined that the continuation of seismic surveys has the potential to cause significant impacts and that a programmatic EIS is required to evaluate these impacts over an extended timeframe. The agencies have not completed the final PEIS, and no EIS covers their approvals of seismic surveys. Nevertheless, they have issued permits to authorize seismic surveys. These actions violate NEPA.

NEPA requires federal agencies to prepare an EIS for all “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(C).

“An EIS must be prepared ‘if substantial questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor.’” *Blue Mountains Biodiversity Project v. Blackwell*, 161 F.3d 1208, 1212 (9th Cir. 1998) (quoting *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1149 (9th Cir. 1998)). Thus, a plaintiff need not show that significant effects on the environment will in fact occur; raising “substantial questions whether a project may have a significant effect” on the environment is enough. *Id.*; *Idaho Sporting*, 137 F.3d at 1150.

Natural Res. Def. Council v. Winter, 518 F.3d at 688. In order to fulfill the basic purpose of NEPA—fully informed decision making—the EIS must be used to assess the impacts of proposed agency action, rather than to “rationalize or justify decisions already made.” 40 C.F.R. § 1502.5; *see also id.* § 1502.2(g). Thus, agencies are precluded from proceeding with actions during the preparation of an EIS for the action. *Id.* §1506.1(a). More specifically, while in the process of preparing a programmatic EIS where one does not already exist, agencies “shall not undertake in the interim” any action under the program that “may significantly affect” the environment. *Id.* § 1506.1(c). The only exception is for an action that meets each of three specified conditions, one of which is that the action “[i]s itself accompanied by an adequate [EIS]” *Id.* § 1506.1(c)(2).

In this case, MMS and NMFS determined that, over the course of several years, seismic surveys have the potential to cause significant impacts. The agencies therefore determined in the fall of 2006 that a programmatic EIS was necessary to evaluate the effects of heightened levels of seismic surveying activity “over a longer time frame” than just the single year of activity evaluated in the 2006 PEA. *See* 71 Fed. Reg. at 66,913. The Ninth Circuit has held that an agency’s decision to prepare an EIS to evaluate the effects of noise from underwater sonar on

marine mammals confirms that “at the very least . . . substantial questions have been raised [whether such noise] will have a significant impact on the environment,” and stated that such a decision could suffice to establish that completion of a mere EA is not adequate to comply with NEPA. *Natural Res. Def. Council v. Winter*, 518 F.3d at 689.

The agencies’ draft PEIS, issued in April 2007, provides further confirmation that seismic surveys may cause significant impacts. *See* 72 Fed. Reg. at 17,117 (“NMFS and MMS have jointly prepared the subject Draft PEIS in order to fully describe and analyze *potential significant impacts on marine mammals, other Arctic marine life, and native subsistence lifestyles* by reasonably foreseeable proposed offshore oil and gas seismic surveys off Alaska.” (emphasis added)); Ex. 27 at 89 (recognizing that “the potential for significant impacts [to endangered bowhead whales], as defined under the NEPA significance criteria (Section III.E), exists” in light of the “potential for repeated exposures during critical behaviors”). While the draft PEIS indicated that mitigation measures could “reduce the potential” for such significant impacts, it does not conclude that any particular suite of mitigation measures could eliminate the potential for significant effects to bowhead whales. *See* Ex. 27 at 85, 89. In the early months of 2008, before it became apparent that the agencies would be unable to issue the final PEIS by the time that oil companies wished to begin this year’s seismic surveying program, NMFS reaffirmed that the final PEIS “is needed” before issuing permits this year under the MMPA or OCSLA, Ex. 32; *see supra* pp. 10-11.

Despite these conclusions, and the knowledge that just one of these surveys will harass upwards of 40,000 marine mammals, the agencies issued permits to authorize seismic surveys in 2008 pursuant to inadequate EAs and arbitrary FONSI. Several of the EAs purport to rely on analysis in the draft PEIS. *See* Ex. 3 at 22; Ex. 4 at 23; Ex. 2 at 5-6. That analysis indicates the potential for significant impacts to bowhead whales and proposes the use of 120 dB and 160 dB safety zones to reduce that potential, which both agencies required as conditions of their 2006 FONSI. Ex. 27 at 111B-111D; *See supra* pp. 8-10. Yet, the MMS permits do not impose these requirements and the IHA fails to impose the 120 dB safety zone for operations in the Chukchi Sea. Ex. 3 at 3-6; Ex. 4 at 3-6; Ex. 5 at 3-7; Ex. 1. Several of the EAs do not even discuss these safety zones, nor do the FONSI explain how such significant effects will be avoided without them. Ex. 3 at 7-31; Ex. 4 at 7-32; *see also* Ex. 5 at 24, 32-36, 46. The FONSI rely only on the exclusion zones that fail to prevent direct injury to marine mammals. As a result, NMFS and

MMS have failed to provide the requisite hard look at impacts to bowhead whales and the requisite “convincing statement of reasons,” *Ocean Advocates v. U.S. Army Corps of Eng’rs*, 402 F.3d 846, 864 (9th Cir. 2005) (quotation omitted), why these seismic surveys will not have potentially significant effects.

Moreover, the EAs do not fully evaluate cumulative impacts. For example, NMFS’ EA for the Shell IHA and MMS’ EA for BP’s seismic surveys fail even to identify the other seismic surveying anticipated during 2008, let alone evaluate its cumulative impact. *See* Ex. 2 at 3-28; Ex. 5 at 8-45. This failure renders the EAs deficient. *See id.* at 868 (EA must provide “detailed information” about cumulative effects); *see also Kern v. Bureau of Land Mgmt.*, 284 F.3d 1062, 1075-79 (9th Cir. 2002) (failure to evaluate cumulative effects of other actions renders EA inadequate).

Because the agencies’ own analysis demonstrates that seismic surveys—which in this case will harass upwards of 40,000 marine mammals, including 20% of the Western Arctic Stock of endangered bowhead whales—may cause significant impacts, the agencies violated NEPA by issuing IHAs and permits before completing the programmatic EIS. 40 C.F.R. § 1506.1(c). These actions would be exempt from this requirement only if three specific conditions were present, one of which is that each action “[i]s itself accompanied by an adequate [EIS]” 40 C.F.R. § 1506.1(c)(2). In this case, there is no final EIS that considers all the direct and cumulative impacts of all the seismic surveys authorized or reasonably foreseeable in the program or all the various alternatives that could limit or mitigate these impacts. For these reasons, issuance of the permits and IHAs violated NEPA.

III. ABSENT A PRELIMINARY INJUNCTION, THE SEISMIC SURVEYS WILL CAUSE IRREPARABLE HARM TO THE ENVIRONMENT AND TO PLAINTIFFS.

MMS has authorized Shell and BP to conduct extensive 3D seismic surveys this summer in the Chukchi and Beaufort Seas. NMFS has also authorized Shell to conduct 3D seismic and shallow hazard surveys in the Alaskan Arctic Ocean during a portion of the summer. These proposed activities will result in excessive noise pollution in Arctic waters that have not been subjected to such levels of concurrent seismic noise pollution for at least 15 years, if ever. These activities may permanently injure individual marine mammals and fish, present a risk of lasting adverse affects on marine mammal populations, and may interfere with the subsistence activities

of Alaska Natives who reside in coastal communities. This harm to the environment is irreparable and warrants a preliminary injunction.

Plaintiffs' members use the Chukchi and Beaufort Seas and surrounding areas for recreational, scientific, spiritual, artistic and subsistence purposes. *See, e.g.*, Ex. 47 at 3; Ex. 50 at 2-4; Ex. 49 at 1-4; Ex. 51 at 2-4; Ex. 53 at 2-3; Ex. 59 at 9, 11. They experience, study photograph and listen to the marine life of the region and enjoy the solitude and natural landscape. *See, e.g.*, Ex. 49 at 2-3; Ex. 50 at 4-5; Ex. 51 at 4; Ex. 52 at 2-6; Ex. 54 at 13-15; Ex. 59 at 8-11. Some of them hunt the marine life of the region and rely on it as a primary food source. *See, e.g.*, Ex. 47 at 3; Ex. 50 at 3-4; Ex. 48 at 2-3. Many of these uses are dependent on a natural marine environment undisturbed by industrial activity and noise pollution. *See, e.g.*, Ex. 47 at 5; Ex. 49 at 5-6; Ex. 50 at 3-5; Ex. 52 at 2; Ex. 54 at 13; Ex. 59 at 11. Thus, activities that harm marine life in the Chukchi and Beaufort Seas would cause irreparable harm to Plaintiffs.

As discussed above, the noise from seismic surveys may harm marine mammals and other marine life in numerous ways. Exposure to the loudest noises may cause immediate and acute injury, such as temporary or permanent hearing loss, to marine mammals unfortunate enough to come sufficiently close to the airguns. *See supra* p. 6. Visual observation of the ocean's surface is woefully inadequate to prevent such injury. *See* Ex. 42 at 12 Fig. 3.9 (two observers working together have a 20% chance of detecting a seal at a distance of 200 meters); *see also* Ex. 34 at 6 (190 dB zone for underwater pinnipeds has a radius of 711 meters); *supra* p. 7. Similarly, noise at or above 180 dB re μPa (rms) has been documented to cause physiological damage and mortality in fish. *See* Ex. 27 at 52B. The agencies recognize that even at levels that do not cause immediate hearing loss, prolonged exposure to noise generated by seismic surveys might nonetheless cause hearing impairment. Ex. 27 at 88 ("future work is needed to determine potential effects on hearing due to long periods over many years of exposure to loud noise at distances tolerated in feeding areas."). Though not yet documented in the Arctic Ocean, it is possible that such noise may even cause the deaths of whales by causing strandings. *See supra* p. 6. At the very least, seismic surveys will likely harass—*i.e.*, interfere with important biological behaviors such as feeding, migration, nursing or breathing of—tens of thousands of marine mammals, including up to 20% of the Western Arctic stock of the endangered bowhead whale. *See supra* pp. 5, 11, 15; *see also* 16 U.S.C. § 1362(18)(A) (defining harassment). Such

harassment may displace marine mammals from important habitats and thus adversely affect marine mammal populations over the long term. *Supra* p. 7. In particular, seismic airgun noise may interfere with feeding, resting and migration and cause population-level effects to the Western Arctic Stock of the endangered bowhead whale. *See supra* pp. 8-10. The Ninth Circuit has recognized that similar harm to marine mammals from underwater noise constitutes a sufficient basis for issuing preliminary injunctive relief. *See Natural Res. Def. Council v. Winter*, 518 F.3d at 696-97; *see also Ocean Mammal Inst. v. Gates*, ___ F. Supp. 2d ___, 2008 WL 564664 at *19-20 (D. Hawai'i Feb. 29, 2008).

Nearly all migrating bowhead whales avoid seismic surveys at received noise levels of approximately 120 dB re μ Pa (rms). *See supra* p. 7. Such avoidance may result in displacement of the migration by 66 to 75 km (41- 46.5 miles). *See Ex. 34* at 5, 2. The OCS permits issued by MMS allow activities to continue during the fall bowhead migration. *Ex. 6* at 5; *Ex. 7* at 6. Displacement of migrating bowheads further poses a risk of interfering with the subsistence hunt, which would adversely affect the physical and cultural health of Inupiat communities along the coast of the Chukchi and Beaufort Seas. *See supra* pp. 7-8; *Ex. 27* at 52D.

MMS and NMFS have already authorized seismic surveys to commence on July 20 in the Chukchi Sea. *Ex. 1* at 4; *Ex. 4* at 1. Surveys could commence even sooner in the Beaufort Sea. *See, e.g., Ex. 5* at 5. Thus, harm to the environment and to Plaintiffs is irreparable and imminent.

The intrusion of excessive noise pollution into the Beaufort and Chukchi Seas, with its consequent deleterious effects on marine life will cause considerable and irreparable harm to Plaintiffs' members' use and enjoyment of these animals, the Chukchi and Beaufort Seas, and surrounding areas. *See, e.g., Ex. 48* at 4-5; *Ex. 49* at 6-8; *Ex. 51* at 5-7; *Ex. 54* at 16; *Ex. 59* at 11-13. Indeed, it threatens the very resources that provide needed sustenance and have unique cultural importance to members of the Native Village of Point Hope and REDOIL. *E.g., Ex. 47*.

IV. THE BALANCE OF HARDSHIPS TIPS SHARPLY IN FAVOR OF GRANTING A PRELIMINARY INJUNCTION.

To determine whether injunctive relief is appropriate, courts apply a "traditional balance of the harms analysis." *Nat'l Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 737 (9th Cir. 2001). "Environmental injury, by its nature, can seldom adequately be remedied by money damages and is often permanent or at least of long duration, *i.e.*, irreparable. If such injury is sufficiently likely, therefore, the balance of the harms will usually favor the issuance of an

injunction to protect the environment.” *Amoco Prod. Co. v. Vill. of Gambell*, 480 U.S. 531, 545 (1987). Accordingly, in the face of irreparable harm to the environment, courts will withhold or limit injunctive relief only in “unusual circumstances.” *Nat’l Parks & Conservation Ass’n*, 241 F.3d at 738 n.18 (citation omitted).

Here, the seismic surveys approved by the agencies pose a significant risk of irreparable harm to a variety of marine mammals, including endangered humpback, fin and bowhead whales. “Congress intended endangered species to be afforded the highest of priorities.” *TVA v. Hill*, 437 U.S. 153, 174 (1978). Since Plaintiffs’ members enjoy these endangered species and other marine mammals, their members may incur considerable irreparable harm.

There are no unusual circumstances that might excuse the need to preserve the status quo and prevent such harm. MMS and NMFS will suffer no harm if a preliminary injunction is granted and the oil companies could incur only economic harm. The potentially severe and long-lasting harm to individual marine mammals and marine mammal populations, several of which are endangered, outweighs any financial harm that may be suffered by industry. *See Nat’l Parks & Conservation Ass’n*, 241 F.3d at 738 (“loss of anticipated revenues, however, does not outweigh potential irreparable damage to the environment”); *American Tunaboat Ass’n v. Brown*, 67 F.3d 1404, 1411 (9th Cir. 1995) (irreparable injury to marine mammals generally outweighs “[i]njury of a strictly monetary nature”).

V. GRANTING A PRELIMINARY INJUNCTION WILL ADVANCE THE PUBLIC INTEREST.

NEPA aims to “promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man” 42 U.S.C. § 4321. “Congress’ overriding purpose in enacting the MMPA was the protection of marine mammals.” *Balelo v. Baldridge*, 724 F.2d 753, 756 (9th Cir. 1984). An injunction that prevents harmful activities approved pursuant to violations of NEPA or the MMPA furthers the purposes of these Acts and thereby protects the public interest. *See Nat’l Parks & Conservation Ass’n*, 241 F.3d at 737 (“Where an EIS is required, allowing a potentially environmentally damaging project to proceed prior to its preparation runs contrary to the very purpose of the statutory requirement.”); *see also Seattle Audubon Soc’y v. Evans*, 771 F. Supp. 1081, 1096 (W.D. Wash. 1991), *aff’d*, 952 F.2d 297 (9th Cir. 1991) (requiring federal agencies to act in accordance with the law is “a public interest of the highest order.”).

CONCLUSION

For the foregoing reasons, the Court should grant the preliminary injunction requested by Plaintiffs.

Respectfully submitted this 5th day of May, 2008,

s/ R. Clayton Jernigan

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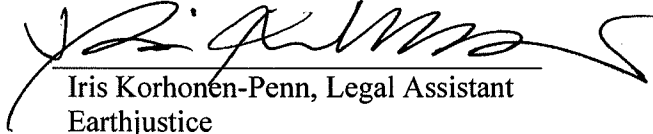
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CERTIFICATE OF SERVICE

I, Iris Korhonen-Penn, certify that on May 5, 2008, a true and correct copy of the foregoing PLAINTIFFS' MOTION FOR PRELIMINARY INJUNCTION, together with all attachments and the proposed order, was served by hand delivery on the following:

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TABLE OF EXHIBITS

Ex. No.	Description
1	National Marine Fisheries Service, Incidental Harassment Authorization issued to Shell Offshore, Inc. and WesternGeco, Inc. (August 20, 2007)
2	National Marine Fisheries Service, Supplemental Environmental Assessment of the 2007-Early Summer 2008 Open-Water Seismic Survey Season in the Chukchi and Beaufort Seas and Finding of No Significant Impact (August 20, 2007)
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