



ITP Goldstein - NOAA Service Account <itp.goldstein@noaa.gov>

Don't let Exxon kill whales or otters!

Audrey Shepard <sierra@sierraclub.org>
Reply-To: Audrey Shepard <shepard.audrey@gmail.com>
To: ITP.Goldstein@noaa.gov

Fri, Jul 25, 2014 at 9:31 PM

Jul 25, 2014

Supervisor Jolie Harrison
1315 East-West Highway,
Silver Spring, MD 20910

Dear Supervisor Harrison,

I am writing to request that NMFS reject ExxonMobil's application for an Incidental Harassment Authorization (IHA) to take marine mammals as part of installing new conductor pipes at the Harmony Platform, Santa Ynez Production Unit, in the Santa Barbara Channel.

As a supporter of SierraRise and the Sierra Club's Los Padres Chapter, I call on my government to stop destructive actions in the Santa Barbara Channel that lead to the impairment, injury, and death of marine mammals. ExxonMobil's application for a federally approved IHA to harm and harass these beautiful creatures during underwater construction could lead to the death of many whales, otters, and more. Many of these animals are already threatened by toxic fracking fluids that have been dumped into their water -- enough is enough!

Our precious marine mammals deserve a safe, health ocean environment to live in -- a healthy ocean is more important than more climate-killing offshore drilling. Please reject ExxonMobil's IHA request.

Sincerely,

Ms. Audrey Shepard
1064 F St
Springfield, OR 97477-4151



MARINE MAMMAL COMMISSION

28 July 2014

Ms. Jolie Harrison, Chief
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Dear Ms. Harrison:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application submitted by ExxonMobil Production Corporation (ExxonMobil), seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA) to take small numbers of marine mammals by harassment. The taking would be incidental to conductor pipe installation activities to be conducted from August through November off the coast of California. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 30 June 2014 notice (79 Fed. Reg. 36743) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions. The Commission provides the following recommendations and rationale.

BACKGROUND

ExxonMobil proposes to install six conductor pipes at the Harmony Platform, Santa Ynez Production Unit, located in the Santa Barbara Channel, 10 km off the coast of California between Point Conception and the City of Santa Barbara. Each conductor pipe would consist of multiple sections of 66-cm diameter steel pipes totaling 505 m in length, with the final five to seven of those sections installed using a hydraulic hammer. Each pile-driven section would require 2.5 to 3.3 hours of pile driving and another 3.5 to 7.3 hours of hammer "downtime" for setup and welding of the next section. This sequence would be repeated on a continuous 24-hour basis for the pile-driven portion of each pipe until the entire conductor pipe has been installed.

NMFS preliminarily has determined that the proposed activities could result in a temporary modification in the behavior of small numbers of up to 30 species of marine mammals, but that any impact on the affected species would be negligible. It does not anticipate any take of marine mammals by death or serious injury. NMFS believes that the potential for temporary or permanent hearing impairment will be at the least practicable level because of the proposed mitigation and monitoring measures. Those measures include—

- (1) conducting in-situ sound source and sound propagation measurements during all in-water and in-air pile driving;
- (2) adjusting the exclusion zone (Level A harassment thresholds of 190 dB re 1 μ Pa for pinnipeds and 180 dB re 1 μ Pa for cetaceans) and the disturbance zone (Level B harassment threshold of 160 dB re 1 μ Pa for all marine mammals) for in-water pile driving, as necessary;

- (3) using a team of three platform-based protected species observers to monitor marine mammals within the in-water exclusion and disturbance zones and also the in-air disturbance zone (Level B harassment threshold of 90 dB re 20 μ Pa for harbor seals and 100 dB re 20 μ Pa for all other pinnipeds);
- (4) using lights, night-vision devices, and other appropriate equipment to monitor the disturbance zone at night or in periods of poor visibility;
- (5) using ramp-up, delay, and shut-down procedures;
- (6) reporting injured and dead marine mammals to the NMFS Office of Protected Resources and the West Coast Regional Stranding Coordinators using NMFS's phased reporting approach and suspending activities, if appropriate; and
- (7) submitting a final report to NMFS.

RATIONALE AND RECOMMENDATIONS

Density estimates

The densities used to estimate the numbers of takes were derived using two different methods. For humpback, blue, and fin whales, ExxonMobil and NMFS stated that they used densities from Redfern et al. (2013) because those data were derived in the same project area—the Santa Barbara Channel. However, the estimated densities for blue and fin whales in the *Federal Register* notice do not match the upper boundary of the density contours from Redfern et al. (2013), which are shown in Tables 6-3 and 6-4 of ExxonMobil's application. Those figures indicate that the density should be 0.006 whales/km² (not 0.008) for blue whales and 0.0065 whales/km² (not 0.004) for fin whales.

For the other species/stocks, ExxonMobil and NMFS derived density estimates by dividing each species/stock's abundance estimate by the area of the Santa Barbara channel (12,593 km²). The abundance estimates used by NMFS (in Table 5 of the *Federal Register* notice) were different from those used by ExxonMobil (in Table 3-1 of its application). Although the reason for this discrepancy is not provided, it appears to the Commission that the abundance estimates in Table 5 of the *Federal Register* notice were taken from the NMFS 2013 draft Pacific Stock Assessment Report (Carretta et al. 2013). However, NMFS's derived density estimates were incorrect for four of the species identified. Table 1 lists the four species in question, NMFS's density estimates, and the Commission's corrected densities, based on the abundance estimates provided by NMFS in Table 5 of the *Federal Register* notice.

Table 1. Proposed and corrected density estimates, in animals/km², for four of the species/stocks proposed to be taken incidental to pile driving.

	Density estimates from Table 5 of <i>Federal Register</i> notice	Corrected density estimates, derived from abundance estimates in Table 5 of <i>Federal Register</i> notice
Gray whale	0.5067	1.519
Cuvier's beaked whale	0.17	0.523
<i>Mesoplodon</i> spp.	0.08	0.055
Common bottlenose dolphin	0.11	0.080

Therefore, the Commission recommends that NMFS revise the density estimates for blue and fin whales to reflect the density information from Redfern et al. (2013) and for gray whales, Cuvier's beaked whales, *Mesoplodon* spp., and common bottlenose dolphins to reflect the best available abundance estimates from Carretta et al. (2013); the corrected density estimates should then be used in NMFS's revised take estimates.

Estimation of takes based on activity duration and group size

ExxonMobil estimated the numbers of marine mammal takes by multiplying the species-specific densities by the area of the Level B harassment zone (0.3188 km²) and the duration of the proposed pile-driving activities. ExxonMobil calculated the latter as a total of 4.125 days for all six conductor pipes, apparently by summing each period of proposed pile driving and then dividing that cumulative exposure time by 24 hours to determine number of days of exposure. Because pile-driving sessions are interspersed between periods of no pile driving, summing across only pile-driving periods underestimates the number of days of actual exposure. Instead, ExxonMobil should have summed across the entire pile-driving timeframe, which includes periods of no pile driving, to determine the number of days animals would be exposed, because each day of pile driving has the potential to expose either the same animals repeatedly or different animals. Take estimates should account for multiple days of exposure rather than aggregated hours of exposure. In this instance, ExxonMobil should have added 3.3 hours of estimated pile driving per section to 7.3 hours of downtime per section for a total of 10.6 hours per section of pipe. Multiplying that by the projected seven sections to be driven for each conductor pipe would result in a total of 74.2 hours, which when divided by 24 hours per day equates to 3.1 days of potential exposure per pipe. Using that method would yield a total of 18.6 days of potential exposure (3.1 days per conductor pipe multiplied by 6 pipes), which more accurately represents the total duration of proposed pile-driving activities for all six conductor pipes. Accordingly, the Commission recommends that NMFS revise its take estimates for all species/stocks to account for the total number of days of potential exposure (i.e., 18.6 days), ensuring a more accurate estimate of potential takes.

In addition, ExxonMobil adjusted its take estimates by a factor of at least 10 for a number of species to account for group size. NMFS based its proposed take estimates on ExxonMobil's requested takes for all species except two—sperm whales and short-beaked common dolphins. Instead NMFS proposed takes of a single sperm whale and 45 common dolphins, derived directly from density estimates with no adjustment for group size. Those two species typically occur in groups that may exceed the requested numbers of takes. Sperm whales typically occur in groups of 2 to 10 whales (Barlow et al. 2005), and common dolphins occur in groups of hundreds to thousands of animals (Reeves et al. 2002). If those species were to be observed in the vicinity of the project area, they likely would occur in numbers that exceed the requested numbers of takes. That could result in actual takes exceeding the authorized numbers of takes and/or a premature shutdown of the proposed activities. In other similar situations, NMFS has increased the requested number of takes of a particular species to reflect the mean group size of that species (e.g., Table 4 in 78 Fed. Reg. 33811). Therefore, to ensure that the requested numbers of takes reflect numbers of individuals of each species that may be observed in the project area, the Commission recommends that NMFS increase its estimated numbers of takes for sperm whales and short-beaked common dolphins to reflect the minimum typical group size for each species (i.e., at least 2 and 450 animals, respectively).

Mitigation and monitoring measures

Accurate characterization of the sizes of the exclusion and disturbance zones is critical for implementing mitigation measures and estimating the numbers of animals taken. In the past, the Commission has recommended a rapid turnaround of the in-situ sound source verification analysis to ensure that exclusion zones are the appropriate size. However, in at least one instance, rapid turnaround has resulted in errors, as occurred with ION's measurements of source levels during its 2012 Arctic in-ice survey. In that case, the size of the exclusion zone was decreased from that modeled based on erroneous field-report results. The error was not discovered until the end of the field season, when it was determined that the in-season adjustments resulted in unauthorized Level A harassment takes of bowhead whales. Since the purpose of verification is to ensure protection of marine mammals, one way to reduce risk to marine mammals would be to allow only for expansion, but not contraction, of the exclusion and/or disturbance zones after in-situ measurements are made. Therefore, the Commission recommends that NMFS only authorize an in-season adjustment in the size of the exclusion and/or disturbance zones if the size(s) of the estimated zones are determined to be too small.

I trust these comments will be helpful. Please let me know if you or your staff have questions with regard to this letter.

Sincerely,



Rebecca J. Lent, Ph.D.
Executive Director

References

- Barlow, J., B. Taylor. 2005. Estimates of sperm whale abundance in the northeastern temperate Pacific from a combined acoustic and visual survey. *Marine Mammal Science* 21(3):429-445.
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July 30, 2014

Howard Goldstein & Jolie Harrison
Incidental Take Program, Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910
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RE: Comment on Takes of Marine Mammals for Pile Driving at Platform Harmony [RIN 0648-XD188]

The National Marine Fisheries Service must protect marine mammals and other wildlife from the harmful impacts of pile driving at Platform Harmony in the Santa Barbara Channel. On behalf of the Center for Biological Diversity, these comments describe the inadequacies of the proposed Incidental Harassment Authorization (IHA) and urge NMFS to deny the permit or, at minimum, require additional mitigation measures.

Pile driving produces some of the loudest anthropogenic high-intensity sounds in the marine environment.¹ The proposed activity is planned to occur from mid-August to mid-November, which coincides with presence of endangered blue whales in the project area. The pile driving threatens blue whales by displacing them from key foraging habitat, causing hearing loss, masking communications, and interfering with natural behaviors. Additionally, offshore oil and gas development threatens wildlife and key habitat not only from high-intensity noise, but also from pollution, spills, traffic, and artificial lighting.

NMFS's proposed authorization must be denied or revised to address several concerns: (1) the project threatens endangered whales; (2) the Level A and B thresholds are inadequate; (3) additional mitigation measures are necessary; and (4) NMFS must ensure full compliance with other environmental laws. These concerns are described more fully below.

1. Threats to endangered whales are not negligible

NMFS cannot make a negligible impact finding because it has not shown that impacts to threatened and endangered whales are negligible. The MMPA places a "moratorium on the taking" of marine mammals.² Under the MMPA, the term "take" is broadly defined to mean "to

¹ Gedamke, Jason and Amy R. Scholik-Schlomer, Overview and summary of Recent Research into the Potential Effects of Pile Driving on Cetaceans (2011).

² 16 U.S.C. § 1371(a).

harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.”³ “Harassment” is further defined to include acts of “torment” or “annoyance” that have the “potential” to injure a marine mammal or marine mammal stock in the wild or have the potential to “disturb” them “by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering.”⁴

Any authorization to take marine mammals must result in the incidental take of only “small numbers of marine mammals of a species or population stock,” and can have no more than a “negligible impact” on species and stocks.⁵ Furthermore, NMFS must provide for the monitoring and reporting of such takings and must prescribe methods and means of achieving the “least practicable adverse impact” on the species or stock and their habitat.⁶

NMFS underestimates the harmful impact of the proposed pile driving on endangered blue whales and other whales. The Santa Barbara Channel is important blue whale habitat. The blue whale is the largest animal known to have ever lived on earth. Once numbering over 300,000, the global blue whale population has been reduced by commercial whaling to likely fewer than 10,000 individuals. Blue whales off California are part of a population comprised of about 1,647 animals; scientists estimate that even three human-caused deaths each year will impede the recovery of the California population.⁷ Nine blue whales have died from collisions with ships from 2007 to 2011.⁸ This means that human-caused mortality of blue whales already exceeds the sustainable amount.

Blue whales congregate throughout the Santa Barbara Channel, and Platform Harmony is in the region that is the most important area for blue whales. A recent tagging study determined the areas of highest use by blue whales off the West Coast.⁹ Researchers tagged 171 blue whales between 1993 and 2008, and the area of highest use was the western area in the Santa Barbara Channel.¹⁰ See Figure 1. The study showed that blue whales use the entire area of waters in Southern California, but that the Santa Barbara Channel is the most heavily used.¹¹

Between June and November, high densities of endangered blue whales spend time feeding on the abundant planktonic krill in the area of this project. See Figure 2. In fact, blue whales have developed a particular affinity for the area such that the Santa Barbara Channel hosts the world’s densest summer seasonal congregation of blues.

³ *Id.* § 1362(13).

⁴ *Id.* § 1362(18); *see also* 50 C.F.R. § 216.3 (defining “Level A” and “Level B” harassment).

⁵ *See* 16 U.S.C. § 1371(a)(5)(D)(i).

⁶ 16 U.S.C. § 1371(a)(5)(A) & (D).

⁷ Carretta, James V., et al. US Pacific Marine Mammal Stock Assessments (Draft): 2013 (2013).

⁸ *Id.*

⁹ Irvine, Ladd M., et al. Spatial and Temporal Occurrence of Blue Whales off the U.S. West Coast, with Implications for Management, *PLoS One* 9: e102959 (2014).

¹⁰ *Id.*

¹¹ *Id.*

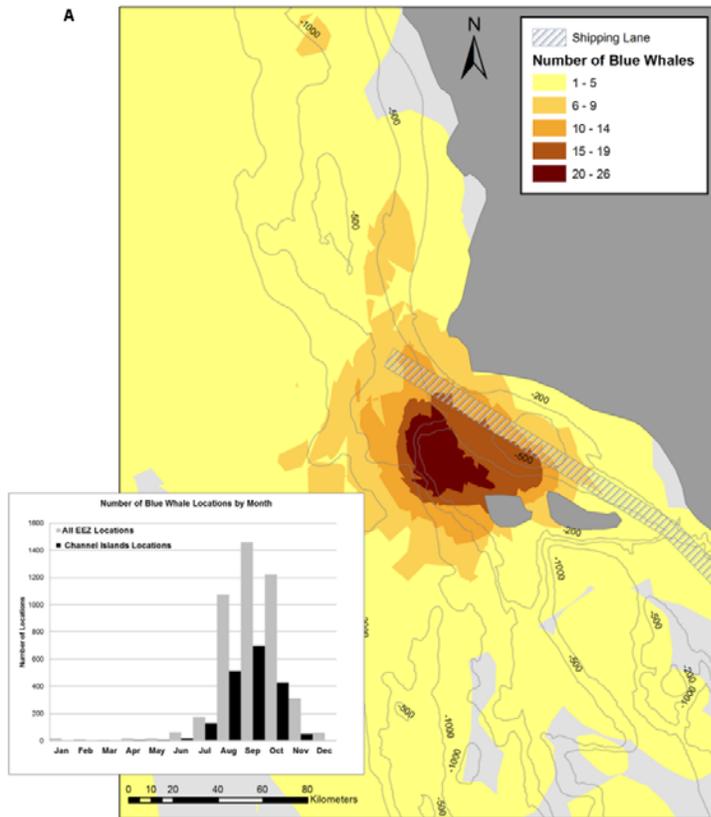


Figure 1. Number of overlapping blue whale Core Areas of Use near commercial shipping lanes. The Core Areas of Use were created from blue whale satellite tracks with ≈ 30 daily locations inside the U.S. Exclusive Economic Zone. The region shown is the Channel Islands. Tags were deployed off California from 1998–2008. Hashed polygons represent the commercial shipping lanes transiting the area. Inset histograms show the overall number of blue whale locations recorded in the U.S. Exclusive Economic Zone (gray), and the number of locations recorded in the area shown (black). Source: Irvine 2014

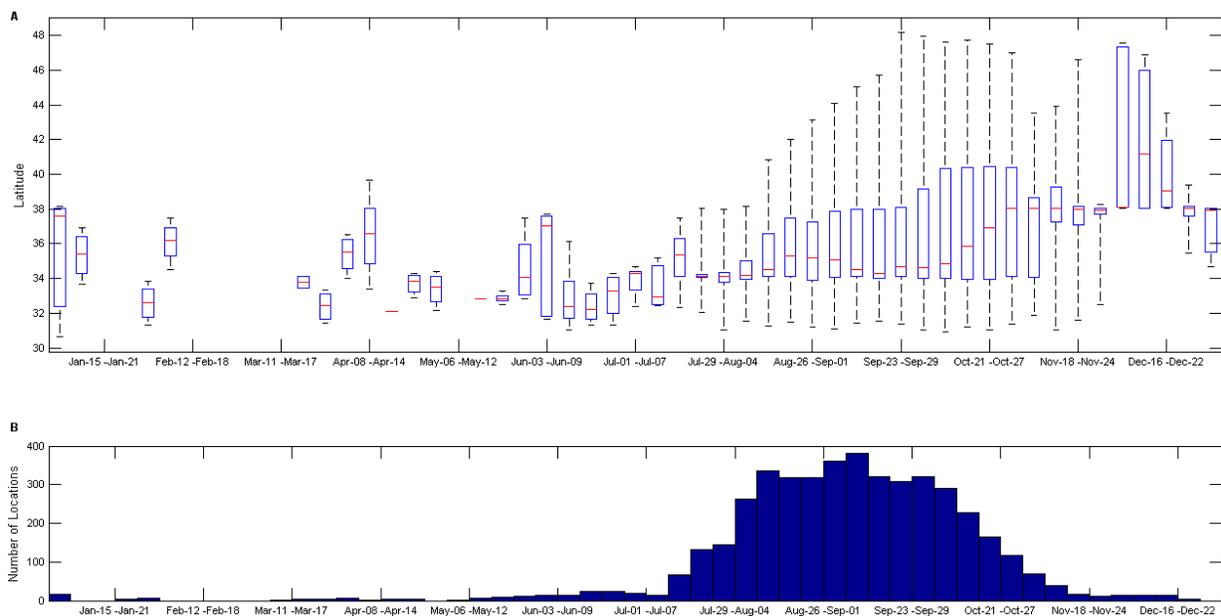


Figure 2: Latitude (Top) and number (Bottom) of blue whale satellite locations plotted by week. Locations used in the figure were from portions of blue whale satellite tracks that occurred within the U.S. Exclusive Economic Zone waters. The red line indicates the median value. Source: Irvine 2014

The blue whales use the project area for foraging, and the pile driving and other construction activities associated with the project will interfere with this important life function. Not only will blue whales be exposed to sounds that could threaten auditory damage, but the displacement from these important foraging grounds is harmful to essential life functions of these endangered whales.

New science that shows that blue whales, and possible other baleen whales, are highly susceptible to behavioral disturbance from noise pollution.¹² The Goldbogen et al. study raises substantial concern because it demonstrates the potential impacts of high intensity noise on the essential life functions of blue whales. The study found that mid-frequency sonar can disrupt feeding and displace blue whales from high-quality prey patches, significantly impacting their foraging ecology, individual fitness, and population health.¹³ Even fairly low-received levels can have an adverse impact.¹⁴

Another endangered whale, the humpback whale, congregates in the area from May to September. Little is known about the elusive endangered fin whales; however, congregations have been observed near feeding aggregations of blue and humpback whales. Although rare, endangered sperm, right, and killer whales occasionally occur in the area. Gray whales migrate through the region in the late fall on their way south to breeding grounds and again in the late winter and early spring on their way north to feeding areas, and minke whales are known to occupy the region year-round.

The best available science indicates western North Pacific gray whales may be present in the survey area. Recently, a tagged western North Pacific gray whale traveled all the way from Sakhalin Island, Russia, to the west coast of North America,¹⁵ indicating that the population may merge with the eastern North Pacific population during migration and may therefore be taken by activity. There are currently an estimated 155 western North Pacific gray whales left in the world.¹⁶ With such low population numbers, the take of even one of these whales would have greater than negligible impacts on the species or stock.

The North Pacific right whale is another possibly impacted species for which no take may be authorized. There are an estimated 25 to 30 individuals in the eastern stock of North Pacific right whales, making it the most highly endangered large whale in the world.¹⁷ Although NMFS notes that North Pacific right whales may be present in the project area, it assumes, without support, that no North Pacific right whales will be taken.

¹² Goldbogen, Jeremy et al. Blue Whale Respond to Simulated Mid-frequency Military Sonar, *Proceedings of the Royal Society B* 280: 20130657 (2013).

¹³ *Id.* at 6.

¹⁴ *Id.* at 1, 6.

¹⁵ See <http://mmi.oregonstate.edu/Sakhalin2010>.

¹⁶ 79 Fed. Reg. at 36762.

¹⁷ Wade, P., A. Kennedy, R. LeDuc, *et al.* The world's smallest whale population? *Biology Letters* 7:83–85 (2011).

Sperm whales reach peak abundance in California from April through mid-June and from the end of August through mid-November,¹⁸ which is during the time of the proposed pile driving. Any take of a sperm whale would have greater than negligible impacts on the stock because NMFS must take into account the cumulative take of sperm whales from other activities, including incidental catch by fisheries. The California drift gillnet fishery, which operates primarily in southern California from August through January, took an estimated sixteen endangered sperm whales in the 2010-2011 fishing season.¹⁹ Including both fishery and ship-strike mortality, the average annual rate of kill and serious injury is four endangered sperm whales, exceeding the potential biological removal level of 1.5.²⁰ With an estimated 971 sperm whales in the population, this level of anthropogenic take cannot be considered a negligible impact.

Because the proposed activity threatens whales that are already experiencing human-caused mortality in excess of sustainable levels, and the proposed activity displaces these whales from foraging grounds that are essential for their conservation and recovery, NMFS' negligible impact finding must be reversed.

2. Level A and B thresholds are inadequate

NMFS's proposed IHA does not take into account the best available science for using a single 160-dB threshold and has not complied with all take requirements of the MMPA.

First, the thresholds used to determine take are not based on the best available science. The proposed IHA uses the single sound pressure level of 160 dB re 1 μ Pa (RMS) as a threshold for behavioral, sublethal take in all marine mammal species affected by the proposed survey.²¹ This approach does not reflect the best available science, and the choice of threshold is not sufficiently conservative in several important respects. In fact, experts characterize the 160-dB threshold as "overly simplified, scientifically outdated, and artificially rigid."²² NMFS is obviously aware of the existence better science, which is demonstrated and analyzed by the agency's own draft acoustic guidance which is currently pending finalization.²³ The best available science indicates that NMFS must use a more conservative threshold.

Using a single sound pressure level of 160-dB for harassment represents a major step backward from recent authorizations. For Navy sonar activity, NMFS has incorporated into its analysis linear risk functions that endeavor to account for risk and individual variability and to reflect the potential for take at relatively low levels.²⁴

¹⁸ Caretta et al. U.S. Pacific Marine Mammal Stock Assessments (2012)(citing Rice, D.W. 1974. Whales and whale research in the eastern North Pacific. pp. 170-195 In: W.E. Schevill (ed.). The Whale Problem: A Status Report. Harvard Press, Cambridge, MA.) available at <http://www.nmfs.noaa.gov/pr/sars/>.

¹⁹ Caretta, J.V. and L. Enriquez. 2012. Marine Mammal and seabird bycatch in California gillnet fisheries in 2010. Administrative report LJ-12-01, available at http://swfsc.noaa.gov/uploadedFiles/Divisions/PRD/Programs/Coastal_Marine_Mammal/2010_Bycatch_Estimates_Caretta_Enriquez%20LJ-12-01.pdf.

²⁰ Caretta et al. 2012 U.S. Pacific Marine Mammal Stock Assessments at 167.

²¹ 77 Fed. Reg. at 58260.

²² Clark, C., Mann, D., Miller, P., Nowacek, D., and Southall, B., Comments on Arctic Ocean Draft Environmental Impact Statement at 2 (Feb. 28, 2012); *see* 40 C.F.R. § 1502.22.

²³ 78 Fed. Reg. 78822 (Dec. 2013).

²⁴ *See, e.g.*, 74 Fed. Reg. 4844, 4844-4885 (Jan. 27, 2009).

Furthermore, current scientific literature establishes that behavioral disruption can occur at substantially lower received levels for some species, including many species that will be impacted by the proposed survey here. For example, a single seismic survey has been shown to cause endangered fin and humpback whales to stop vocalizing – a behavior essential to breeding and foraging – and cause other baleen whales to abandon habitat over an area at least 100,000 square nautical miles.²⁵ Similarly, a low-frequency, high-amplitude fish mapping device was recently found to silence humpback whales at a distance of 200 kilometers, where received levels ranged from 88 dB to 110 dB.²⁶ Bowhead whales migrating through the Beaufort Sea have shown almost complete avoidance of seismic airgun received levels at 120 dB to 130 dB and below.²⁷ Modeling showed that pile driving could mask strong bottlenose dolphin vocalizations 10-15 km from the source.²⁸

As discussed above, the agency must taken into account new science that shows that at least some baleen whales are susceptible to sound at low-received levels with adverse behavioral impacts that interfere with essential life functions.²⁹

Some odontocetes are highly sensitive to a range of low-frequency and low-frequency-dominant anthropogenic sounds. In 2011, a study found that beaked whales stopped foraging and communicating instead fleeing sonar at levels below what regulators consider disturbance.³⁰ Cuvier's beaked whales exhibited alarming behavioral impacts when exposed to sonar at low received levels 89-120db.³¹ The proposal anticipates Level B take of 168 Cuvier's beaked whales, which far underestimates actual take. Harbor porpoises, which are mostly inshore, but occasionally occur in the project area, have been observed to engage in avoidance responses 50 miles from a seismic airgun array, a result that is consistent with both captive and wild animal studies showing porpoises abandoning habitat in response to pulsed sounds at very low received levels, well below 120 dB.³²

Although NMFS is clearly aware of these studies showing sound can have significant behavioral impacts to marine mammals well below 160 dB, NMFS irrationally sets the Level B harassment

²⁵ Clark, C.W., and Gagnon, G.C., Considering the temporal and spatial scales of noise exposures from seismic surveys on baleen whales (2006) (IWC Sci. Comm. Doc. IWC/SC/58/E9); *see also* MacLeod, K., Simmonds, M.P., and Murray, E., Abundance of fin (*Balaenoptera physalus*) and sei whales (*B. Borealis*) amid oil exploration and development off northwest Scotland, *Journal of Cetacean Research and Management* 8: 247-254 (2006).

²⁶ Risch, D., Corkeron, P.J., Ellison, W.T., and van Parijs, S.M., Changes in humpback whale song occurrence in response to an acoustic source 200 km away, *PLoS ONE* 7(1): e29741. doi:10.1371/journal.pone.0029741 (2012).

²⁷ Miller, G.W., Elliot, R.E., Koski, W.R., Moulton, V.D., and Richardson W.J., Whales, in Richardson, W.J. (ed.), *Marine Mammal and Acoustical Monitoring of Western Geophysical's Open-Water Seismic Program in the Alaskan Beaufort Sea, 1998* (1999); Richardson, W.J., Miller, G.W., and Greene Jr., C.R., Displacement of migrating bowhead whales by sounds from seismic surveys in shallow waters of the Beaufort Sea, *Journal of the Acoustical Society of America* 106:2281 (1999).

²⁸ David, J.A. Likely sensitivity of bottlenose dolphins to pile-driving noise, *Water and Environment Journal* 20:48-54 (2006).

²⁹ Goldbogen (2013).

³⁰ Tyack, P.L. et al., 2011. Beaked whales respond to simulated and actual navy sonar. *PLoS one*, 6(3), p.e17009.

³¹ DeRuiter, Stacy L. et al., First Direct Measurements of Behavioural Responses by Cuvier's Beaked Whales to Mid-Frequency Active Sonar, *Biology Letters*, 9: 20130223 1 (2013).

³² *See, e.g.*, Bain, D.E., and Williams, R., Long-range effects of airgun noise on marine mammals: responses as a function of received sound level and distance (2006) (IWC Sci. Comm. Doc. IWC/SC/58/E35).

threshold at 160 dB. If NMFS were to modify its threshold estimates, as it must based on the best available science, the estimated number of marine mammal takes incidental to the proposed pile driving would be significantly higher than NMFS's current estimates.

Second, NMFS's use of the 180/190-dB threshold for Level A take ignores the best available science and is not sufficiently conservative. A number of recent studies indicate that anthropogenic sound can induce PTS at lower levels than anticipated.³³ New data indicate that mid-frequency cetaceans have greater sensitivity to sounds within their best hearing range than was previously thought.³⁴ This recent research indicates it is possible marine mammals will experience injury, or potentially serious injury, at lower sound thresholds than NMFS assumes. For example, a recent study by Lucke et al. on the temporary threshold shift (TTS) thresholds for harbor porpoises using seismic sounds demonstrates that a harbor porpoise experienced TTS when exposed to airgun noise at 164 dB.³⁵ This demonstrates that different marine mammals can experience TTS or PTS at different sound exposure levels.

NMFS must also consider that even behavioral disturbance can amount to Level A take if it interferes with essential life functions. TTS can impair reproductive success and fitness that would constitute harm or Level A harassment. For example, beaked whales are sensitive to noise, and it is not necessarily the auditory damage that causes the injury. Sounds cause beaked whales to change their behavior, causing panic and rapid surfacing resulting in an injury like the bends. NMFS must take into account the best available science and set lower thresholds for Level A take, which would lead to larger exclusion zones around the survey. Thus, NMFS cannot assume that TTS and even PTS would be unlikely for marine mammals that enter the exclusion zone.

Third, NMFS' evaluation is lacking in other respects. For example, the notice states that the impacts from loss of prey on foraging are unknown,³⁶ therefore NMFS must get such data and analyze it to make its negligible impact determination. Also, NMFS' conclusion to exclude consideration of rarely sighted animals with ranges within the project area, such as Guadalupe fur seals, is concerning. Additionally, NMFS underestimates the harm from pile driving under the assumption that the activities will only involve intermittent pile driving, thus producing only 4.125 days or 99 hours of pile driving. Authorizing take based on this assumption, underestimates actual take which will occur over a much greater amount of time. For example, marine mammals have been noted to cease communications and echolocation activities for two to three days in an area after pile driving.³⁷

³³ Kastak, D., Mulsow, J., Ghoul, A., Reichmuth, C., Noise-induced permanent threshold shift in a harbor seal [abstract], *Journal of the Acoustical Society of America* 123: 2986 (2008); Kujawa, S.G., and Liberman, M.C., Adding insult to injury: cochlear nerve degeneration after "temporary" noise-induced hearing loss, *Journal of Neuroscience* 29:14077-14085 (2009).

³⁴ See discussion in Wood, J., Southall, B.L. and Tollit, D.J. (2012) PG&E offshore 3-D Seismic Survey Project EIR – Marine Mammal Technical Draft Report. SMRU Ltd.; Marine Mammal Commission, Marine Mammals and Noise: A Sound Approach to Research Management, Report to Congress, at 46 (March 2007).

³⁵ Lucke, Klaus, Siebert, U., Lepper, P. a, & Blanchet, M.-A. Temporary shift in masked hearing thresholds in a harbor porpoise (*Phocoena phocoena*) after exposure to seismic airgun stimuli. *The Journal of the Acoustical Society of America*, 125(6): 4060-70(2009).

³⁶ 79 Fed. Reg. at 36755.

³⁷ Gedamke & Scholik-Schlomer (2011).

Given NMFS's decidedly non-conservative approach to estimating impacts thresholds for injury to marine mammals from the proposed pile driving, it is likely that many more marine mammals will be harmed than NMFS estimates.

3. Mitigation measures are inadequate to ensure the least practicable adverse impact

The best way to mitigate the impacts of the proposed project is to deny the permit. If nonetheless, NMFS decides to approve the project it must require additional mitigation to implement the least practicable adverse impact on marine mammals. Accordingly, NMFS must fully analyze these additional mitigation measures:

Time-area restrictions: NMFS must not allow pile driving when blue whales aggregate in the Santa Barbara Channel during June through November. The western portion where Platform Harmony is located provides a core area for the blue whales, and pile driving should be restricted in this important habitat for blue whales. This closure should further be extended to avoid overlap with the presence of other whales.

Larger exclusion zones: The use of more accurate thresholds would lead to larger exclusion zones. Additionally, the modeled distances disagree with measured sound levels for other pile driving activities. The exclusion zone of 3.5 meters for cetaceans and 10 meters for pinnipeds is woefully inadequate to mitigate Level A take. Bailey et al. measured 205-dB of broadband sound at 100 meters from the pile-driving source.³⁸ While the source was louder at 226-dB in that study, it indicates that the exclusion zone should be much larger.

Air curtains or other noise reduction technologies: There are technologies available to reduce the noise from pile driving. For example, air bubble curtains can reduce sound by 20 to 30 dB depending on their design.³⁹ Pile caps, dewatered cofferdams, and other physical barrier mitigation should also be explored.

Cease pile driving during low visibility: The project is a 24-hour, continuous activity with pile driving potentially happening at night and during low visibility. The protected species observers are ineffective at night and during low visibility. This means that during those times the exclusion zones will not be effective in mitigating take. Furthermore, artificial lighting—while better for observers—brings hazards to migratory birds.⁴⁰ Accordingly, NMFS should restrict pile driving activities so that they do not occur during low visibility.

³⁸ Bailey, Helen, et al. Assessing underwater noise levels during pile-driving at an offshore windfarm and its potential effects on marine mammals, *Marine Pollution Bulletin* 60: 888 (2010). Note, however, that the thresholds used for TTS and PTS in this study are not stringent enough.

³⁹ Reyff, James A. Reducing Underwater Sounds with Air Bubble Curtains. *TR News* 262 (2009).

⁴⁰ Artificial light attracts seabirds at night, especially nocturnally active species such as auks, shearwaters, and storm-petrels, and disrupts their normal foraging and breeding activities in several ways. Montevicchi, W. (2005) Influences of artificial light on marine birds. In C. Rich and T. Longcore, editors. *Ecological Consequences of*

4. NMFS must comply fully with other applicable laws

a. National Environmental Policy Act (NEPA)

NEPA requires federal agencies to prepare an EIS for all “major Federal actions significantly affecting the quality of the human environment.”⁴¹ The scope of this requirement is “exceptionally broad,”⁴² and it is intended to “compel agencies . . . to take seriously the potential environmental consequences of a proposed action.”⁴³

NMFS notes that it will complete an EA prior to its decision on the IHA.⁴⁴ Based on multiple factors in NEPA’s regulations, that the proposed activities do constitute a significant impact, and NMFS should prepare a full EIS.⁴⁵ For example, the impacts on blue whales alone as described above should be enough to trigger a full EIS.

The purpose and need for the project is unclear and unnecessary. The application does not fully explain the need and purpose of the additional conductor pipes. The notice states that the conductors are “to maintain current production levels from the existing platform.” This indicates that there is no need for the proposed project because maintenance of the current production levels should be able to be attained through the status quo.

NMFS must consider the additional mitigation measures discussed previously as alternatives in its NEPA analysis. An environmental review must “inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.”⁴⁶ This requirement is “the heart of the environmental impact statement.”⁴⁷ NMFS must “[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the

Artificial Night Lighting. Washington, D.C: Island Press, 94-113. In a phenomenon called light entrapment, seabirds continually circle lights and flares on vessels and energy platforms, instead of foraging or visiting their nests, which can lead to exhaustion and mortality; Wiese, F. K., W. A. Montevecchi, G. K. Davoren, F. Huetmann, A. W. Diamond, and J. Linke (2001) Seabirds at risk around offshore oil platforms in the North-west Atlantic. *Marine Pollution Bulletin* 42:1285-1290. Seabirds also frequently collide with lights or structures around lights, causing injury or mortality, or strand on lighted platforms where they are vulnerable to injury, oiling or other feather contamination, and exhaustion. Wiese et al. (2001); Black, A. (2005) Light induced seabird mortality on vessels operating in the Southern Ocean: incidents and mitigation measures. *Antarctic Science* 17:67-68.; Le Corre, M., A. Ollivier, S. Ribes, and P. Jouventin (2002) Light-induced mortality of petrels: a 4-year study from Réunion Island (Indian Ocean). *Biological Conservation* 105:93-102. Additionally, the Migratory Bird Treaty Act provides that “it shall be unlawful at any time, by any means or in any manner,” to, among many other prohibited actions, “pursue, hunt, take, capture, [or] kill” any migratory bird included in the terms of the treaties. 16 U.S.C. § 703.

⁴¹ 42 U.S.C. § 4332(C).

⁴² Found. for N. Am. Wild Sheep v. United States Dep’t of Agric., 681 F.2d 1172, 1177 (9th Cir. 1982).

⁴³ Ocean Advocates v. United States Army Corps of Eng’rs, 402 F.3d 846, 864 (9th Cir. 2005).

⁴⁴ 79 Fed. Reg. at 36766.

⁴⁵ See 42 U.S.C. § 4332(2)(c); 40 C.F.R. § 1508.27; *Idaho Sporting Cong v. Thomas*, 137 F.3d 1146, 1149 (9th Cir. 1998) (“[A]n EIS must be prepared if ‘substantial questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor’”).

⁴⁶ 40 C.F.R. § 1502.1.

⁴⁷ *Id.* § 1502.14.

reasons for their having been eliminated.”⁴⁸ In addition, an agency must discuss measures designed to mitigate its action’s impact on the environment.⁴⁹ Accordingly, time-area closures, larger exclusion zones, low-visibility limitations, and noise reducing techniques should be considered in the range of alternatives.

NMFS has a duty to consider the indirect impacts of its action. Indirect effects “are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.”⁵⁰ Although the purpose of the conductor pipes is unclear, any changes in production, drilling, waste, techniques, or lifetime of the oil and gas operations at Platform Harmony must be fully disclosed and adequately evaluated. If, for example, the conductor pipes will be used for or enable hydraulic fracturing or other unconventional well stimulation techniques then the environmental effects must be evaluated. The environmental effects from these methods are dangerous and numerous—from birth defects and water contamination to wildlife mortality and earthquakes.⁵¹

NMFS must also look at the cumulative effects of the project. “NEPA always requires that an environmental analysis for a single project consider the cumulative impacts of that project together with ‘past, present and reasonably foreseeable future actions.’”⁵² For example, the Santa Barbara Channel is a busy shipping lane which means that the cumulative effects of noise pollution from ship traffic and ship strikes must be evaluated. Whales fleeing pile driving activities may be forced into shipping lanes to continue their foraging. Additionally, hydraulic fracturing activities from offshore oil and gas platforms in the area threaten endangered species and marine mammals in numerous ways—from oil spills and vessel strikes to air and water pollution. More than half of the platforms in federal waters discharge their wastewater, which can include toxic fracking chemicals, into the ocean. Platform Harmony alone is permitted to discharge over 33,000,000 bbls of wastewater into the ocean each year.⁵³

Finally, NMFS should consider the environmental impacts of the activity on nearby marine protected areas. In addition to the Channel Islands National Marine Sanctuary, there are also several marine protected areas and reserves in the vicinity.

In sum, the NEPA review must take a hard look at the environmental impacts of the action, and here a full EIS is required.

⁴⁸ *Id.* § 1502.14(a).

⁴⁹ See 42 C.F.R. § 1502.14(f).

⁵⁰ 40 C.F.R. § 1508.8.

⁵¹ See e.g., Letter from Shaye Wolf to California Coastal Commission, Re: Scientific evidence on the harms that fracking chemicals pose to California’s coastal marine life (July 8, 2014); Colborn, T. et al. Natural gas operations from a public health perspective. *Human and Ecological Risk Assessment* 17: 1039-1056 (2012); Papoulias, Diana M. and Velasco, Anthony L. Histopathological analysis of fish from Acorn Fork Creek, Kentucky, exposed to fracking fluid releases. *Southeastern Naturalist*, 12:92-111(2013); United States House of Representatives, Committee on Energy and Commerce Minority Staff *Chemicals used in hydraulic fracturing*(2011); McKenzie, Lisa et al. Human health risk assessment of air emissions from development of unconventional natural gas resources, *Sci Total Environ* (2012) ; McKenzie, Lisa et al. Birth Outcomes and Maternal Residential Proximity to Natural Gas Development in Rural Colorado, *Environmental Health Perspectives* (2014).

⁵² *Native Ecosystems Council v. Dombeck*, 304 F.3d 886, 895 (9th Cir. 2002) (quoting 40 C.F.R. § 1508.7).

⁵³ General Permit CAG 280000.

b. Magnuson Stevens Act

NMFS has a statutory obligation to consult on the impact of federal activities on essential fish habitat under the Magnuson-Stevens Fishery Conservation and Management Act (“Magnuson Act”).⁵⁴ The Magnuson Act requires consultation with NMFS when actions to be permitted, funded, or undertaken by a federal agency may adversely affect essential fish habitat. The statute defines adverse effect as “any impact that reduces quality and/or quantity of EFH [and] may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species’ fecundity), site-specific or habitat wide impacts, including individual, cumulative, or synergistic consequences of actions.”⁵⁵ The essential fish habitat consultation should include an evaluation of the effects of the action on essential fish habitat and proposed mitigation.⁵⁶ Upon receipt of an essential fish habitat assessment, NMFS is required to provide essential fish habitat conservation recommendations for federal actions that would adversely affect essential fish habitat. As required by Section 305(b)(4) of the Magnuson Act, the Federal agency must respond with a description of measures proposed for avoiding, mitigating, or offsetting the impact of the activities on essential fish habitat and explain its reasons for not following any essential fish habitat conservation recommendations.

The impacts of high intensity noise on fish are documented. Sound can impact fish habitat because it can alter the ability of fish to communicate, avoid predators, and locate prey.⁵⁷ Studies indicate auditory damage can result from noise.⁵⁸ High intensity noise can alter the habitat in ways that cause displacement and disturbance of fish and decreased catch, as well as mortality and injury to fish eggs and larvae.⁵⁹ Therefore, pile driving can impact essential fish habitat. The acoustic environment is a key element of habitat. Indeed, NMFS recently recognized that the best scientific data indicates that sound can be an essential characteristic of habitat.⁶⁰ Accordingly,

⁵⁴ 16 U.S.C. §§ 1801-1884.

⁵⁵ 50 C.F.R. § 600.910(a); *see also* National Marine Fisheries Service, Essential Fish Habitat: A marine fish habitat conservation mandate for federal agencies, Gulf of Mexico Region (2010) http://sero.nmfs.noaa.gov/hcd/pdfs/efhdocs/gom_guide_2010.pdf.

⁵⁶ 50 C.F.R. § 600.920(e).

⁵⁷ Popper, A.N., Effects of Anthropogenic Sounds on Fishes, *Fisheries* 28(10):26-27 (2003);

Weilgart, L. (2013). “A review of the impacts of seismic airgun surveys on marine life.” Submitted to the CBD Expert Workshop on Underwater Noise and its Impacts on Marine and Coastal Biodiversity, 25-27 February 2014, London, UK. Available at: <http://www.cbd.int/doc/?meeting=MCBEM-2014-01>.

⁵⁸ McCauley, R.D., et al., High Intensity Anthropogenic Sound Damages Fish Ears, *Journal of the Acoustical Society of America* 113(1): 638-642 (Jan. 2003) Scholik, A.R. and H.Y. Yan, Effects of Boat Engine Noise on the Auditory Sensitivity of the Fathead Minnow, *Pimephales promelas*, *Environmental Biology of Fishes*, 63:203-09 (2002); Scholik, A.R. and H.Y. Yan, The Effects of Noise on the Auditory Sensitivity of the Bluegill Sunfish, *Lepomis macrochirus*, *Comparative Biochemistry and Physiology* 133:Part A at 43-52 (2002); Smith, M.E., et al., Noise-Induced Stress Response and Hearing Loss in Goldfish (*Carassius auratus*), *Journal of Experimental Biology* 207:427-35 (2003); Popper, Effects of Anthropogenic Sounds at 28.

⁵⁹ *See, e.g.*, Aguilar de Soto, Natacha, et al. Anthropogenic noise causes body malformations and delays development in marine larvae, *Scientific Reports* 3: 2831 (2013).

⁶⁰ National Marine Fisheries Service, Designation of Critical Habitat for Cook Inlet Beluga Whale, 76 Fed. Reg. 20,180, 20,203 (Apr. 11, 2011) (listing “[w]aters with in-water noise below levels resulting in the abandonment of critical habitat areas” as a “physical or biological feature essential to the conservation” of Cook Inlet beluga whales, because “[a]nthropogenic noise above ambient levels may cause behavioral reactions in whales (harassment) or mask communication between these animals,” possibly resulting in “abandonment of habitat,” and “noise may result in temporary or permanent damage to the whales’ hearing”).

the agency identified noise as a primary constituent element of critical habitat for beluga whales.⁶¹

The proposed project area is essential fish habitat for groundfish. Therefore, NMFS must undertake consultation and recommend conservation recommendations.

c. Endangered Species Act

Section 7(a)(2) of the ESA requires federal agencies to “insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the adverse modification of habitat of such species . . . determined . . . to be critical”⁶² To accomplish this goal, agencies must consult with the delegated agency of the Secretary of Commerce or Interior whenever their actions “may affect” a listed species.⁶³ NMFS has the discretion to impose terms, conditions, and mitigation on any authorization. NMFS may not approve the project unless it first obtains authorization for take under the ESA.

NMFS’ decision to issue an IHA is an action triggering the duty to comply with section 7 of the ESA. The ESA’s consultation requirement applies to Federal agencies taking *any action*.⁶⁴ NMFS states that it is engaged in formal consultation on the proposed pile driving.⁶⁵

As described above, the project puts several ESA-listed species at risk. Listed species affected include blue, fin, humpback, North Pacific right, sei, and sperm whales, as well as southern sea otters and Guadalupe fur seals. The project may also affect endangered leatherback and loggerhead sea turtles.

The proposed pile driving and construction may have harmful impacts on listed marine mammals and sea turtles, which must be fully and accurately vetted through the consultation process. Accordingly, NMFS must complete consultation and obtain any take authorizations before authorizing the proposed activity here. Moreover, NMFS should adopt robust mitigation measures such as those described in the alternatives section above to avoid adverse impacts to listed species.

NMFS’ reliance on the 160-dB Level B and 180/190 Level A thresholds do not reflect the best available science. As described above, the best available science supports lower thresholds for many marine species. The ESA requires the use of the best available science.⁶⁶

In sum, NMFS must fully comply with the ESA and develop a robust biological opinion based on the best available science. We further urge NMFS to establish more stringent mitigation measures to protect ESA-listed species than are currently proposed by the IHA.

⁶¹ *Id.*

⁶² 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a).

⁶³ *Id.*

⁶⁴ 16 U.S.C. § 1536(a)(2).

⁶⁵ 79 Fed. Reg. at 35673.

⁶⁶ 16 U.S.C. § 1536(a)(2); *Intertribal Sinkyone Wilderness v. NMFS*, 970 F. Supp. 2d 988 (N.D. Cal. 2013) (rejecting the agency’s reliance on out-dated thresholds for impacts of Navy sonar activities).

d. Coastal Zone Management Act

The Coastal Zone Management Act requires that applicants for federal permits to conduct an activity affecting a natural resource of the coastal zone of a state “shall provide in the application to the licensing or permitting agency a certification that the proposed activity complies with the enforceable policies of the state’s approved program and that such activity will be conducted in a manner consistent with the program.”⁶⁷ The marine species that will be affected by the project are “natural resources” protected by California’s coastal management program. Accordingly, California must be given the opportunity to review the IHA for consistency with its coastal management plans.

e. Outer Continental Shelf Lands Act

Although the notice states that the proposed activities are covered in the existing Development and Production Plan, NMFS provides no support for this conclusion. Since this plan is not readily available from the agency there is a lack of public transparency. Absent further rationale, I believe that the requirements for a revised or supplemental plan have been triggered.⁶⁸ Accordingly, on information and belief, there is a concern that the applicant is not in full compliance with the Outer Continental Shelf Lands Act.

5. Conclusion

In summary, blue whales are imperiled by this project, and there are significant concerns about this IHA. The infirmities of the IHA include: the invalidity of the negligible impact determination, lack of mitigation, and compliance with other environmental laws. NMFS must use the best available science in making its decision. This IHA must either be denied or include additional mitigation measures.

Sincerely,

/s/ Miyoko Sakashita

Miyoko Sakashita

Oceans Director

miyoko@biologicaldiversity.org

⁶⁷ 16 U.S.C. § 1456(c)(3)(A).

⁶⁸ 30 CFR § 550.283; 30 CFR § 550.283(b)

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July 29, 2014

Jolie Harrison, Supervisor
Incidental Take Program, Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

**RE: Proposed Incidental Harassment Authorization, Conductor Pipe Installation
Activities at Platform Harmony, Santa Barbara Channel (RIN 0648–XD188)**

Dear Ms. Harrison:

The California Coastal Commission (“Commission”) staff has reviewed the National Marine Fisheries Service’s (NMFS’) 30 June 30, 2014, Federal Register notice (79 FR 36743) for the proposed issuance of an Incidental Harassment Authorization (IHA), under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA), to ExxonMobil Production Corporation (ExxonMobil) for the take of marine mammals by harassment incidental to the installation, through hydraulic hammering, of six conductor pipes at Platform Harmony, in the Santa Barbara Channel off the coast of Southern California.

As a general matter, the Commission staff supports the dual efforts of NMFS and Exxon to accurately assess, avoid and minimize potential project related adverse impacts to the marine environment, including the possible injury and disturbance to marine mammals resulting from elevated levels of underwater sound. To further this shared goal of impact avoidance and minimization, and to reduce uncertainties, the Commission staff believes that several additional measures should be considered, as discussed below. If feasible, and given some of the unique circumstances and aspects of the project described below, we recommend that NMFS incorporate these into the IHA.

Change in noise intensity; model uncertainties

It is our understanding that the project represents the first time in over 20 years that new conductor pipes have been hammered into the seafloor at this site. While typical operation of an oil and gas platform generates surface and sub-surface noise above the natural ambient levels, the proposed hammer-driving activities would result in a sudden change in the intensity and magnitude of noise disturbance in the this area. A second consequence of long interval since the last significant pile/hammer-driving activities at Platform Harmony is that no recent, site-specific data on sound propagation are available on which to base or “ground-truth” the models developed by ExxonMobil’s consultant and depended upon by NMFS in the proposed IHA. Moreover, it is Commission staff’s understanding that the nature of conductor pipe installation at

the water depth (~1200 ft) this site – involving episodic hammer-driving and welding of short pipe segments to form a complete conductor pipe – is likely to introduce complexities into the patterns of sound dispersal and attenuation that can only be approximated in a model. In other words, it remains unclear how accurately the modeled underwater 160 dB, 180 dB and 190 dB (re: 1 μ Pa (rms)) isopleths used to define the marine mammal “exclusion zones” in the proposed IHA can be relied upon to accurately depict the sound footprint. Further uncertainties may also arise depending on site specific and/or seasonal oceanographic conditions.

The Commission staff believes that the introduction of a high-intensity sound source (to which local marine mammals are not accustomed) to the project area after a long absence, combined with the uncertainties involved in modeling the noise generated by this complicated project, warrants a precautionary approach at this time to determining the “exclusion zones” for avoiding adverse effects on marine mammals. The Commission staff strongly supports an adaptive approach in which the exclusion and disturbance zones are adjusted based on in-situ data collected during actual project activities. However, we believe that the process of adjusting these zones should begin from a more protective baseline, and are concerned, for the reasons discussed above, that the approach taken by NMFS in the proposed IHA leaves open the possibility that marine mammals could be injured if the models underestimate the distances to which high intensity noise is propagated. A more conservative approach, which has been applied by the Commission when permitting pile-driving activities in state waters, would be to use the model-generated 160 dB re: 1 μ Pa threshold as the initial exclusion zone that would trigger the suspension of hammer-driving activities if any marine mammal is observed crossing into this area by one of the biological monitors. With this protective initial threshold in place, the extent of the exclusion zone could subsequently be reduced if in-situ measurements indicated that this was warranted. If use of the model-generated 160 dB threshold for this purpose was found to be infeasible, the Commission staff would recommend an alternate strategy of imposing an additional protective buffer to the model-generated 180 and 190 dB-based exclusion zones, as has been done under previous NMFS IHAs (e.g., Naval Base Kitsap wharfs/piers, 2011 & 2014).

Warm water conditions; unusual species occurrences

Sea surface temperatures off of Southern California and in the eastern North Pacific at large have been above normal for several months, and with an apparent El Nino event emerging in the equatorial Pacific later this year, are likely to remain elevated through the fall, winter, and into 2015. As a consequence of the unusually warm waters, some fish and marine mammal species more typical of subtropical latitudes have been sighted off of Southern California and in the Santa Barbara Channel. These species may continue to be present in numbers and locations beyond those that can be reflected accurately by density estimates derived from long term survey and abundance datasets. These include cetaceans such as Bryde’s whales (*Balaenoptera brydei*) false killer whales (*Pseudorca crassidens*), and short-finned pilot whales (*Globicephala macrorhynchus*), which have rarely been seen off the California coast in recent years. In addition, anomalous ocean temperatures in the eastern Pacific may also influence the populations of marine mammals species that are expected to occur in the project area; gray whales, for instance, occurred in record numbers in during their 2013-2014 migration along the California coast, potentially signaling a trend that may continue next year as well. In light of these unusual conditions, it may be necessary for NMFS to consider whether additional species (e.g., Bryde’s

CCC to NMFS

July 29, 2014

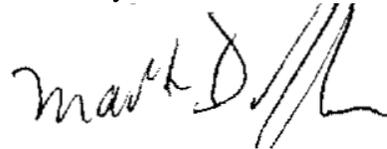
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whale, false killer whale) could be exposed to project activities, and to revisit the species abundance assumptions underlying its incidental take calculations for the species already evaluated in the proposed IHA.

Aside from consideration of these comments, due to the uncertainties discussed above, we would appreciate being separately provided copies of the monitoring reports described in the above-reference Federal Register notice for this activity. If monitoring indicates impacts greater than anticipated, we intend to continue to work with your office to assure the activity can be modified accordingly to minimize effects on marine mammals.

Thank you for the opportunity to comment. If you have any questions, please feel free to call me at (415) 904-5289.

Sincerely,

A handwritten signature in black ink that reads "mark D" followed by a stylized flourish.

MARK DELAPLAINE
Manager, Energy, Ocean Resources,
and Federal Consistency Division