U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office for Coastal Management
Silver Spring Metro Center, Building 4
1305 East-West Highway
Silver Spring, Maryland 20910

September 29, 2017

Ms. Kimberly B. Cole, Administrator
Delaware Coastal Management Program
Department of Natural Resources and Environmental Control
100 W. Water St., Suite 7B
Dover, DE 19904

Re: Request to Review Incidental Harassment Authorizations for Geological and Geophysical Surveys in Federal Waters in the South and Mid-Atlantic

Dear Ms. Cole:

This letter responds to your July 6, 2017, request for approval to review the proposed issuance of Incidental Harassment Authorizations (IHAs) by the National Oceanic and Atmospheric Administration's (NOAA's) National Marine Fisheries Service (NMFS) associated with proposed seismic surveys in federal waters of the Atlantic Ocean for consistency with the enforceable policies of the Delaware Coastal Management Program.

For the reasons stated below, the Office for Coastal Management denies Delaware's request. The Office for Coastal Management finds that the state has not met its burden of showing that the proposed issuance of the IHAs would have reasonably foreseeable effects on coastal uses or resources of Delaware's coastal zone.

CZMA UNLISTED ACTIVITY REVIEW REQUESTS

The Coastal Zone Management Act (CZMA) authorizes states to review federal actions that may have reasonably foreseeable effects on the uses or resources of the coastal zone of the state for consistency with the enforceable policies of the state coastal management program.[1]

Federal license or permit activities (activities) that are listed in a state's federally-approved coastal management program and that would occur within a state's coastal zone are subject to federal consistency review.[2] Listed activities are presumed to have coastal effects and provide notice to applicants and federal agencies that the activity is subject to state review pursuant to the CZMA federal consistency requirements.

If an activity is unlisted, or is listed but would occur outside of the coastal zone of the state and the state has not had prior approval by the Office for Coastal Management to review such

[1] *See* 16 U.S.C. § 1456.
[2] 15 C.F.R. § 930.53.

activities outside of the coastal zone, a state must request approval from the Office for Coastal Management to review the activity.[3] The state must request approval within 30 days of receiving notice of an application for a federal permit or license it wishes to review. The state must also notify the permit or license applicant and the authorizing federal agency of the request. The request must include an analysis supporting the state's assertion that the activity would have reasonably foreseeable effects on the coastal uses or resources of the state. If these requirements are not met, a state waives its right to review the unlisted activity.[4]

ACTIVITY DESCRIPTION

The activity that is the subject of this request for approval to conduct a CZMA federal consistency review is the proposed issuance of Incidental Harassment Authorizations (IHA) under the Marine Mammal Protection Act[5] (MMPA) by NMFS to two companies to conduct geological and geophysical (G&G) seismic surveys. These seismic surveys are proposed to be conducted on the outer continental shelf (OCS) in support of hydrocarbon exploration in the Atlantic Ocean. These surveys must be separately authorized by the Department of the Interior's Bureau of Ocean Energy Management (BOEM), and are the subject of a Programmatic Environmental Impact Statement completed in 2014.[6]

With limited exceptions, the MMPA prohibits the "take" (harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill) of marine mammals. Under sections 101(a)(5)(A) and (D) of the MMPA,[7] NMFS is authorized to allow the incidental, as opposed to intentional, take of marine mammals upon making certain findings specified in the MMPA. NMFS shall authorize incidental takings if NMFS finds that the taking will have a negligible impact on the species or stock(s) and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. NMFS defines "negligible impact" at 50 C.F.R. § 216.103 as "an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival."[8]

The applicants are seeking issuance of Incidental Harassment Authorizations (IHAs), which may authorize taking only by harassment for periods of not more than one year.[9] The MMPA defines "harassment" as:

> Any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing

[3] 15 C.F.R. §§ 930.53 and 930.54.
[4] *Id.*
[5] *See* 16 U.S.C. § 1361 *et seq*.
[6] Available at www.boem.gov/Atlantic-G-G-PEIS/ (last visited Aug. 18, 2017)
[7] 16 U.S.C. § 1371(a)(5)(A) and (D).
[8] 82 Fed. Reg. 26244 (June 6, 2017).
[9] 16 U.S.C. § 1371(a)(5)(D).

disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).[10]

An IHA must prescribe permissible methods of taking by harassment and other means of effecting the least practicable impacts on marine mammals (i.e., mitigation measures).[11] Because mitigation is a required component of an IHA, these mitigation requirements are part of the proposed activity for the purposes of this CZMA review.

WesternGeco submitted a request for authorization to NMFS on March 3, 2015, followed by a revised version on February 17, 2016.[12] CGG submitted a request for authorization on December 21, 2015, followed by revised versions on February 18, 2016, April 6, 2016, and May 26, 2016.[13] On June 6, 2017, NMFS published in the Federal Register a proposal to issue IHAs for five proposed G&G surveys in the Atlantic Ocean (proposed IHAs).[14]

Both applicants are proposing to conduct two-dimensional (2D) seismic surveys in the South and Mid-Atlantic Ocean. The surveys would be conducted entirely within federal waters. Within the OCS State Administrative Boundaries established by BOEM, the area for both surveys extends from northern Florida to Virginia with the northern limit being 38° North latitude and the southern limit being 30° North latitude.[15] The closest point of the CGG survey to the Delaware coast would be 134 kilometers (km) (84 miles).[16] The closest point of the WesternGeco survey to the Delaware coast is not provided in the record; however, WesternGeco will not conduct surveys any closer than 30 km (18.6 miles) from shore and the northernmost extent for the WesternGeco survey will not extend beyond the northern OCS Administrative Boundary for Virginia. [17]

WesternGeco's survey plan consists of a grid with differently spaced lines (*see* Figures 1-1 to 1-4 of Western's application). Lines are spaced 25 km (15.5 miles) apart in approximately the southwestern third of the project area and approximately 6 km (3.7 miles) apart in the remainder of the survey area. The survey plan includes a total of 26,641 km (16,553 miles) of data acquisition line plus an additional 689 km (428 miles) of lines expected for run-in/run-out, for a total of 27,330 km (16,982 miles). Water depths range from 20-4,700 meters (m). There would

[10] *Id.*

[11] 16 U.S.C. § 1371(a)(5)(A)(i)

[12] 82 Fed. Reg. 26244, 26245 (June 6, 2017).

[13] *Id.*

[14] 82 Fed. Reg. 26244.

[15] *See* Request by WesternGeco, LLC. for an Incidental Harassment Authorization for the Incidental Take of Marine Mammals in Conjunction with a Proposed 2D Seismic Program Mid- and South Atlantic Outer Continental Shelf, 2016-2017, February 17, 2016, Figure 1-1 at p. 2; and CGG, Request for an Incidental Harassment Authorization under the Marine Mammal Protection Act, CGG Atlantic 2D Seismic Program, December 2015, Figure 3 at p. 17. Both applications can be found at <http://www.nmfs.noaa.gov/pr/permits/incidental/oilgas.htm>.

[16] Letter from Amber Stooksbury, CGG, to Jeffrey Payne, NOAA (July21, 2017, at p. 2.

[17] Request by WesternGeco, LLC. for an Incidental Harassment Authorization for the Incidental Take of Marine Mammals in Conjunction with a Proposed 2D Seismic Program Mid- and South Atlantic Outer Continental Shelf, 2016-2017, February 17, 2016, at p. 2

be limited additional operations associated with equipment testing, startup, and repeat coverage of any areas where initial data quality is sub-standard.[18]

WesternGeco plans to deploy a seismic source with a 24-airgun array configured as three identical subarrays of eight airguns each with 8 m spacing between strings. The three airgun strings would be towed at 10 m depth. The airgun array would fire every 37.5 m (approximately every 16 seconds, depending on vessel speed), at an expected transit speed of 4-5 knots. The source vessel would tow a single 10.5 km (6.5 miles) hydrophone streamer.[19]

WesternGeco plans a full-year data acquisition program with an estimated 208 days of seismic operations.[20]

CGG's survey plan consists of 53 survey tracklines in a 20 km (12.4 miles) by 20 km orthogonal grid (*see* Figure 3 of CGG's application). The tracklines would be 300 to 750 km (186-466 miles) in length. The survey plan includes a total of 28,670 km (17,814 miles) of data acquisition line, in water depths ranging from 100-5,000 m. The survey would involve one source vessel, as well as two support vessels. There would be limited additional operations associated with equipment testing, startup, and repeat coverage of any areas where initial data quality is sub-standard.[21]

CGG plans to deploy a 36-airgun array configured as four subarrays of nine airguns each (*see* Figure 2 in CGG's application), with total dimensions of 24 m width by 16.5 m length and 8 m separation between strings. The four airgun strings would be towed at 7 m depth and the airgun array would fire every 25 m (approximately every 16 seconds, depending on vessel speed), at an expected transit speed of 4.5 knots. The source vessel would tow a single 10-12 km (7.4 miles) hydrophone streamer.[22]

CGG plans a six-month data acquisition program, with an estimated 155 days of seismic operations. Seismic operations typically occur 24 hours per day.[23]

In addition to the seismic survey vessel, there is usually at least one support vessel, which supports the seismic vessel by, among other things, acting as a lookout to ensure safe marine operations through monitoring and maintaining lines of communication with any incoming or surrounding traffic. These operations are usually also accompanied by at least one supply vessel.

In its proposed IHA, NMFS authorizes harassments for North Atlantic right whale, Humpback whale, Minke whale, Sei whale, and Fin whales, which are species identified by the state. [24] NMFS concludes that these takes are small numbers in the context of species densities.[25] To

[18] *Id.*
[19] *Id.*
[20] 82 Fed. Reg. at 26,246 (June 6, 2017).
[21] Id., at 26249.
[22] *Id.*
[23] 82 Fed. Reg. at 26246.
[24] Table 11, 82 Fed. Reg. at 26,295-26,296.
[25] 82 Fed. Reg. at 26,285.

conduct the proposed negligible impact finding, NMFS considered the estimates of the number of marine mammals that may be taken in the context of the intensity or duration of the responses, context of any responses (e.g., critical reproductive time or location, migration), as well as effects on habitat. NMFS also assessed the number, intensity and context of estimated takes by evaluating this information relative to population status, and derived a magnitude and impact rating for the authorization of take for each species.[26] NMFS concluded that the issuance of take would have a negligible impact on the above listed whale species after finding a magnitude and impact rating of "*de minimis*" for each of the identified species populations, with the exception of finding a "moderate" impact for Fin whales for WesternGeco.[27]

Both surveys incorporate mitigation measures and protocols to reduce impacts to marine mammals. The suite of mitigation measures and protocols proposed by NMFS differs and are more restrictive than those required by BOEM or the applicants.[28] The mitigation measures that NMFS proposes to require include: trained, dedicated marine mammal observers; a passive acoustic monitoring; buffer, exclusion, and shutdown zones; ramp-up; closure areas.[29]

The proposed mitigation measures also establish closure areas where no seismic survey effort may occur. No seismic surveys can occur within 30 km of the coast in order to protect the coastal stocks of bottlenose dolphin. [30] No surveys may be conducted within 47 km (29.2 miles) of the coast between November and April in order to protect North Atlantic right whales from ship strike during migration.[31]

NMFS has determined that the mitigation measures are reasonably likely to accomplish or contribute to the accomplishment of:

- Increasing the probability of detecting marine mammals;
- Avoidance or minimization of injury of death to marine mammals;
- Reduction of the number of takes;
- Reduction of the number of exposures to an individual;
- Reduction in the intensity of exposures; and
- Avoidance or minimization of impacts in habitat areas with particular attention to prey base, the potential for blockage or limitation of passage to or from biologically important areas, habitat disturbances during time periods that biologically important.[32]

[26] 82 Fed. Reg. at 26,296.
[27] 82 Fed. Reg. at 26,304-06, Table 17 (WesternGeco), Table 18 (CGG).
[28] 82 Fed. Reg. at 26,250-26,274.
[29] 82 Fed. Reg. at 26,250-26,274.
[30] *Id*. at 26,256. Note that the closest points to shore proposed the applicants are 30 km (18.6 miles) for WesternGeco, and 80 km (49.7 miles) for CGG.
[31] *Id*. at 26259.
[32] *Id*.

RELATED UNLISTED ACTIVITY REVIEW REQUESTS

In 2014, Delaware requested approval to review eight G&G applications,[33] including those of CGG[34] and WesternGeco.[35] On November 18, 2014, the Office for Coastal Management approved the state's request to review the CGG G&G permit application as to the potential user conflict effects on commercial and recreational fisheries.[36] The request to review the G&G application of WesternGeco was denied upon the finding that the areas of the proposed survey, which did not extend northward of the northern OCS Administrative Boundary for Virginia, had not been shown to be within the interests of the state.

On February 20, 2015, the state notified CGG and NOAA that due to changes in the scope of CGG's proposed seismic activities that had eliminated areas offshore of Maryland, the Delaware Coastal Management Program had determined that the submission of a federal consistency certification pursuant to 15 C.F.R. § 930.57 was no longer necessary.[37]

Although the NMFS proposed IHAs are associated with the BOEM G&G permit review for the same activity, under the CZMA they are considered to be separate federal actions subject to the federal consistency regulations.[38]

THE CRITERIA FOR REVIEW OF STATE REQUESTS

Since the proposed IHAs are for activities that are entirely within federal waters, the state must request approval by the Office for Coastal Management to review the proposed action pursuant to the requirements of 15 C.F.R. § 930.54. Two criteria must be met in order to approve the state's request. First, the state must make the request within 30 days of being notified of the application to the approving federal agency (in this case NMFS).[39] Second, the state must show that the proposed action may have reasonably foreseeable effects on uses or resources of the coastal zone of the state.[40]

1. The Timeliness of the Request

NMFS published a Federal Register notice of the proposed IHAs on June 6, 2017. On June 8, 2017, the Office for Coastal Management notified states that states had 30 days from the date of the publication of the Federal Register notice (June 6, 2017) to request approval to conduct CZMA reviews of the IHAs.[41] The deadline for submitting requests to the Office for Coastal

[33] Letters from Sarah Cooksey, DNREC, MD DNR, to Paul M. Scholz, NOAA (Aug. 22, 2014 and September 4, 2014).

[34] E14-005.

[35] E14-004.

[36] Letter from Jeffrey L. Payne, Office for Coastal Management, to Sarah Cooksey, DNREC (Nov. 18, 2014).

[37] Email from Trica K. Arndt, DNREC, to Kerry Kehoe, NOAA (February 20, 2017).

[38] *See* 15 C.F.R. § 9351(a).

[39] *See* 15 C.F.R. § 930.54(a)(1).

[40] *See* 15 C.F.R. § 930.54(c).

[41] Email from Kerry Kehoe, Office for Coastal Management, to Robert Scarborough, DNREC, *et al.* (June

Management was July 6, 2017. Delaware submitted its request on July 6, 2017. The Office for Coastal Management finds that the state's request is timely.

Comments submitted by the International Association of Geophysical Contractors (IAGC) assert that constructive notice occurred in February 2016, when NMFS published the WesternGeco application on its website, and on June 1, 2017, when NMFS published the CGG application on its website. IAGC argues that the 30-day deadline to request review of both applications had passed by the date Delaware submitted its request to the Office for Coastal Management on July 6, 2017.[42]

The Office for Coastal Management finds that this argument is not persuasive. The federal consistency regulations specify that federal agencies or applicants should provide written notice of the submission of applications for federal licenses or permits for unlisted activities to the State agency.[43] A state does not waive its right to review an activity when the state does not receive notice of the permit or license application.[44] The regulations further state that notice to the state may be constructive "if notice is published in an official federal public notification document or through an official State clearinghouse (i.e., the Federal Register, draft or final NEPA EISs that are submitted to the State agency, or a State's intergovernmental review process)."[45] As stated above, NMFS published notice of the CGG and WesternGeco IHA applications in the Federal Register on June 6, 2017, providing constructive notice to the states at that time.

The Office for Coastal Management, as it has done for other actions relating to the proposed seismic surveys as a courtesy due to the known interest of some states, informed the states that June 6, 2017, would be considered the start of the 30-day timeframe for submitting approval requests. The purpose of the communication was to remove any uncertainty and potential threshold issues as to when the time for submitting requests began and ended.

2. Whether the Proposed Activity Has Reasonably Foreseeable Effects on Uses or Resources of the State's Coastal Zone

States have the burden of showing that the proposed activity would have reasonably foreseeable effects on coastal uses or resources of the state.[46] State unlisted activity requests, and the Office for Coastal Management's review and decision, are a fact-specific, case-by-case evaluation based on the totality of specific circumstances and information provided.[47] In addition to the information provided by a state as part of its request, the Office for Coastal Management's decision record includes the IHA applications, the proposed IHA and any references therein, and any information provided by the applicant and federal agencies.

8, 2017).

[42] Letter from Nikki Martin, IAGC, to Jeffrey Payne, NOAA (July 21, 2017), at p. 2.
[43] 15 C.F.R. § 93.54(a)(2).
[44] 15 C.F.R. § 930.54(a)(1).
[45] 15 C.F.R. § 930.54(a)(2).
[46] *See* 15 C.F.R. § 930.54(b).
[47] 65 Fed. Reg. 77,124, 77,130 (December 8, 2000).

The proposed action is the authorization of the incidental take of marine mammals. As such, the state must demonstrate that impacts from the proposed action will have reasonably foreseeable effects on marine mammals of the coastal zone of the state. Effects include direct, indirect and cumulative effects.[48] The full range of reasonably foreseeable effects that may result from the seismic surveys is not the subject of the proposed action. The review by BOEM of the applications for the issuance of G&G permits covers the full range of effects of the seismic surveys. The state has already had the opportunity to review those applications.[49]

(a) Summary of State's Arguments

The State of Delaware asserts that marine mammals are a coastal resource, and wildlife watching of marine mammals is a coastal resource. Specifically, Delaware asserts that, because marine mammals not only inhabit Delaware state waters, but also the waters of the OCS, impacts to these species outside of Delaware waters in the OCS have the potential to directly impact the environment and economy of Delaware's coastal zone by affecting ecotourism opportunities.

Baleen Whales

The state identifies "numerous species of marine mammals" as state coastal resources, "including" baleen whales generally, and, specifically, the Blue whale, Bryde's whale, Fin whale, Humpback whale, Minke whale, North Atlantic right whale, and Sei whale.[50] To demonstrate the presence of these species in state waters, the state provided a table of data compiled by the Marine Education, Research & Rehabilitation Institute of marine mammal strandings in 2016-2017, and a table of additional sightings and strandings during the 2000-2012 timeframe. The state also provided maps depicting core abundance areas of species likely to be impacted by low frequency sound produced by the proposed seismic surveys, and of offshore areas used for wildlife watching.

The state argues that the authorization of marine mammal takes is *per se* a reasonably foreseeable effect.[51] The state further questions the accuracy of NMFS' take estimates, assessment of cumulative effects, and mitigation

Citing BOEM's Fact Sheet on Atlantic Geophysical and Geological Surveys, the state notes that the sound from a seismic survey can cover an area of over 300,000 km^2 raising background noise levels 100-fold continuously for weeks or months.[52] The state also cites a report from the International Whaling Commission's Scientific Committee, which concluded that seismic surveys can cause "repeated and persistent acoustic insults" over a large area and should be enough to "cause population level impacts."[53] In support of its effects claims, the state references

[48] 15 C.F.R. § 930.11(g).

[49] *Infra* at 5.

[50] Letter from Kimberly B. Cole, DNREC, to Jeffrey Payne, NOAA (July 21, 2017), at 4-5. Baleen whales were named for the long plates of baleen which hang in a row (like the teeth of a comb) from their upper jaws that are used to filter capture food, such as krill, other zooplankton, crustaceans, and small fish.

[51] *Id.*

[52] *Id.*

[53] Weilgart, L., A review of the impacts of seismic airguns on marine life,"

the 2013 literature review conducted by Lindy Weilgart, "A Review of the Impacts of Seismic Airgun Surveys on Marine Life."[54] The review of nearly 50 studies of wildlife interactions with seismic surveys concludes that the noise from seismic surveys has ecosystem-wide impacts with at least 37 marine species, including marine mammals, having been shown to be affected by seismic airgun noise. The impacts range from behavioral changes such as decreased foraging, avoidance of the noise, changes in vocalization, stress, hearing impairment, massive injuries, and death by drowning or strandings. The state also cites studies that have shown that North Atlantic right whales and Humpback whales modify their migration paths to avoid the sounds emitted from air guns.[55]

The state also is concerned with the accuracy of take estimates asserting that the population estimates for many of these species are not well known, and the impact on the sustainability of those species may not be predictable or credibly determined.

The state argues that NMFS has not adequately addressed cumulative impacts to marine mammals. The state notes that a growing number of potential stressors including pollution, marine debris, entanglement in fishing gear, climate change, prey depletion, ship strikes and increased anthropogenic noise in the oceans can result in cumulative impacts to marine mammal populations.[56] Impacts to hearing and communication, reduced reproductive success, chronic stressors, developmental delays, and displacement can have broad scale negative effects on marine populations.[57] When combined with the noise of ship traffic and proposed sonar use by the Navy, the increase in anthropogenic noise could have serious detrimental effects on marine mammal species such as the North Atlantic right whale whose population level is at a critical threshold.[58]

The deficiencies that the state alleges with the MMPA IHA review process also include the failure to adequately consider that the five proposed surveys may overlap in area and time. With the G&G permit authorizations being available for only one year, and all surveys working within the same constraints in terms of closure restrictions and weather delays, cetacean stocks will be continuously buffeted by the acoustic and physical impacts of concurrent and overlapping surveys and vessel operations.[59] The state asserts that the NMFS proposed IHAdoes not include an analysis of the aggregate impact to marine mammal species and stocks from multiple seismic surveys occurring simultaneously.[60]

---

http://www.cbd.int/doc/?meeting=MCBEM-2014-01 (2013), citing IWC (International Whaling commission, Report of the Scientific Committee, Annex K: Report of the Standing Working Group on Environmental Concerns, Journal of Cetacean Res. Management, 9 (Supp.): 227-296 (2005).

[54] Weilgart, L., A review of the impacts of seismic airguns on marine life," http://www.cbd.int/doc/?meeting=MCBEM-2014-01 (2013).

[55] Letter from Kimberly B. Cole, DNREC, to Jeffrey Payne, NOAA (July 21, 2017), at p. 3, citing British Columbia Minstry of Energy and Mines, "Sonar versus Seismic" (2003). https://www.cagc.ca/resources/marine_seismic/seismic_vs_sonar.pdf.

[56] Letter from Kimberly B. Cole, DNREC, to Jeffrey Payne, NOAA (July 21, 2017), at p. 2-3.

[57] *Id*., at p. 3.

[58] *Id*., at p. 3-4.

[59] Letter from Kimberly B. Cole, DNREC, to Jeffrey Payne, NOAA (July 6, 2017), at p. 3.

[60] Letter from Kimberly B. Cole, DNREC, to Jeffrey Payne, NOAA (July 21, 2017), at p. 6.

The state asserts that BOEM has acknowledged the reasonably foreseeable effects in its discussion of the direct, secondary and cumulative impacts of the surveys, and that the requirement for mitigation measures to reduce the impacts of G&G activities on marine mammals is an acknowledgement of coastal effects as those measures are intended to reduce but not eliminate the impacts.[61]

Wildlife Watching

The state asserts that its coastal economy includes dolphin and whale watching tours. Included with its July 6, 2017, request is a map entitled "Delaware Offshore Wildlife Watching." The map was developed for the Mid-Atlantic Regional Council (MARCO) as a data tool showing coastal and offshore recreational uses.[62]

(b) Analysis

The state has requested approval to review IHAs for potential impacts to highly migratory species of marine mammals from an activity that will occur no closer than the federal waters offshore of Virginia and extend over a vast range of the ocean extending south to offshore of northern Florida and out 350 nautical miles to the U.S. Extended Continental Shelf boundary. Few of the marine mammals in the proposed survey area can be shown to have had any presence or connection to the state. For dolphins and Atlantic right whales that are found in state waters, the state has failed to show that the species would be affected after consideration of proposed and required area closures. For the other species identified by the state, we have determined that the state has failed to demonstrate a reasonable likelihood of effects on state resources. As for wildlife viewing activities, we also find that the state has failed to demonstrate a reasonably foreseeable effect on a state use.

Baleen Whales

Under the CZMA regulations, a state coastal resource may include a biological resource that is found within a State's coastal zone "on a regular or cyclical basis."[63] Information submitted by the state shows that baleen whales including North Atlantic right whale, Minke, Humpback, Fin, and Sei whales, are occasionally found in state waters, but are not regularly or cyclically found therein.[64]

The table of 2016-2017 strandings shows two whale strandings in that time period.[65] For the

[61] Letter from Kimberly B. Cole, DNREC, to Jeffrey Payne, NOAA (July 6, 2017), at p. 2; and Letter from Kimberly B. Cole, DNREC, to Jeffrey Payne, NOAA (July 21, 2017), at p. 6, citing Final Programmatic Environmental Impact Statement (PEIS) for Atlantic OCS Proposed Geological and Geophysical Activities, Mid-Atlantic and South Atlantic Planning Areas (OCS EIS/EA BOEM 2014-001).

[62] Letter from Kimberly B. Cole, DNREC, to Jeffrey Payne, NOAA (July 6, 2017), at p. 3.

[63] 15 C.F.R. § 930.11(b).

[64] NMFS finds that the Sei whale is expected to be encountered only extremely rarely, if at all, outside of the feeding grounds in Gulf of Maine and Georges Bank, outside of the proposed survey areas. 82 Fed. Reg. at 26,293.

[65] Letter from Kimberly B. Cole, DNREC, to Jeffrey Payne, NOAA (July 21, 2017), Attachment 1 at p. 8.

table for the 12-year time period of 2000-2012, less than 60 sightings of whales in state waters are shown, an average of less than five annually.[66] Infrequent whale sightings are shown to occur in every month of the year except February with June and the summer months having the highest frequency of sightings.[67] The map of core abundance areas for whales with a sensitivity to low frequency sound shows little abundance of whales offshore of the state until near the edge of the continental shelf in the vicinity of submarine canyons which are far outside of state waters.[68] Furthermore, the map does not identify the individual species to determine whether the same species may be found both inside state waters and within the proposed survey area.[69] The state has not asserted that the state waters are of biological significance to the identified whales.[70] We find that the state's submission and the administrative record fails to demonstrate that whales are a state resource.

Even if we were to find that the identified whales are a state resource, the state has also failed to meet its burden to demonstrate that the proposed action would have a reasonably foreseeable effect on the resource. That marine mammals occur in state waters does not establish that these resources are within range of the proposed surveys. The closest point to shore for the WesternGeco and CGG surveys, more than 30 km (18.6 miles) and 134 km (84 miles) respectively from the Delaware coast with no part of the surveys being directly off the coast of either Delaware or even in the adjacent state of Maryland.

As noted above, the activity that the state has requested to review is the proposed issuance of IHA for the taking of marine mammals. The authorization is limited to harassments (primarily Level B, but some Level A), and may only be issued if NMFS determines that the activity for which the IHAs have been requested will have negligible impacts. The CZMA reasonably foreseeable effects standard is separate and distinct from that found in the MMPA standards. The Office for Coastal Management does not consider a take of a marine mammal, particularly in the form of a temporary behavioral disturbance outside of a state coastal zone, to be a *per se* coastal effect.[71] The burden is on the state to demonstrate how the issuance of the IHAs for harassments outside of the coastal zone arise to effects to uses or resources of the state's coastal zone.

---

[66] *Id*., Attachment 2 at p. 9. Although not shown in Attachment 2, the table includes sightings in state and federal waters, and does not always distinguish as to where a marine mammal was sighted. The majority of sightings are individual animals, but some mother calve pairs and group sightings are noted. *See* email from Tricia Arndt, DNREC, to Kerry Kehoe, NOAA (Aug. 11, 2017), Attached Excel file.

[67] *Id.*

[68] Letter from Kimberly B. Cole, DNREC, to Jeffrey Payne, NOAA (July 21, 2017), Figure 1 at p. 5.

[69] NMFS's density information for these species demonstrates that the species identified by the state are regularly and cyclically found far offshore in the Outer Continental Shelf. http://cetsound.noaa.gov/cda.

[70] While not specified by the state's submissions, the proposed IHA and BOEM PEIS identifies that a portion of state waters is seasonal management area (SMAs), and state waters fall within a biologically important area (BIA). These areas were designated by NMFS to reduce ship strikes of North Atlantic right whales as they migrate between their calving and nursing grounds in the Southeastern coastal areas, to their mating and feeding grounds in New England waters. 82 Fed. Reg. at 26,257-26,260; BOEM PEIS at Figures 4-7 and 4-8; https://cetsound.noaa.gov/biologically-important-area-map (last visited 8/23/2017). The overlap of state waters with a SMA or BIA is not *per se* evidence of regular or cyclical presence in state waters, particularly in this case where these areas encompass the coastal areas of almost the entirety of the Eastern seaboard.

[71] *See* 65 Fed. Reg. 77,124-77,175, 77,130 (Dec. 8, 2000).

Importantly, the geographic scale of this particular IHA is difficult to translate into effects on particular marine mammals or stocks that are state resources, as the IHA assesses the effects of the entire geographic extent of the proposed survey activities in the mid-Atlantic. While NMFS analyzes the geographic distribution of marine mammals as a part of its effects analysis, taking care to consider seasonal and regional variability, and modelling is conducted in zones, neither the applicant nor NMFS provides a regional or geographic assessment of takes on a scale appropriate to analyze effects on a particular state resource. Furthermore, the IHA provides conclusions of the number of exposures to a population in the entire survey area by species, not the number of exposures of individual members of each species. Likewise, the negligible impact analysis is made on a population level. Thus, without more analysis from the state, the issuance of takes by an IHA for a large geographic area, for species that are infrequently found in state waters, does not provide a level of specificity to demonstrate foreseeable effects on a particular state's resources.[72]

While there may be uncertainties regarding marine mammal populations, NMFS is required to use the best available information in its decision-making process. NMFS has used the most recently available information on stock abundances.[73] The state has not presented any information that challenges the information used by NMFS as the best available.

In considering the state's cumulative impact arguments, the Office for Coastal Management reviewed the NMFS proposed IHA and BOEM Final PEIS for Atlantic G&G Activities, and found that both NMFS and BOEM considered the combined impacts of other stressors.[74] NMFS has considered impacts other than sound such as those from ship strikes, entanglement, marine debris and fuel spills.[75] NMFS has also considered indirect impacts such as increased ambient noise levels that could mask communications among marine mammals.[76] NMFS has concluded that the impacts of this sort are likely to be short-term in duration as a survey vessel passes through an area.[77]

NMFS and BOEM found that the sound from surveys operating simultaneously would not be appreciably louder and the radii of impacts would not overlap.[78] Also, the state has not

---

[72] That said, even for the large scale of the IHA's analysis, NMFS finds *deminimis* effects of the authorized takes on the populations for each of the cited marine mammals, except Fin whales, which are moderate for WesternGeco. *Id.*, 26,296-26,312. Magnitude and Impact Ratings can be found for WesternGeco and CGG 82 Fed. Reg. at 26,304-26,308.

[73] 82 Fed. Reg. at 26,288. *See* Table 4 at 26,269-26,270 and discussion at 26,268-26,271.

[74] *See* 82 Fed. Reg. at 26,296; Final Programmatic Environmental Impact Statement (PEIS) for Atlantic OCS Proposed Geological and Geophysical Activities, Mid-Atlantic and South Atlantic Planning Areas (OCS EIS/EA BOEM 2014-001), Section 3.6. Note that the MMPA does not use the term "cumulative impacts."

[75] *Id*. at 26,280-26,281.

[76] *Id.* at 26,279-26,280.

[77] *Id.* at 26,281.

[78].Id. at 26,256; Final Programmatic Environmental Impact Statement (PEIS) for Atlantic OCS Proposed Geological and Geophysical Activities, Mid-Atlantic and South Atlantic Planning Areas (OCS EIS/EA BOEM 2014-001) at 2-37 through 2-38. To avoid seismic interference, survey vessels typically maintain a 17.5 km separation during surveys. Sound models demonstrate that the largest exposure radii for Level B exposures are 15 km, occurring in 10 percent of modeled cases, with a more typical radii of no more than 10 km. *Id*. at 2-38. NMFS has also discussed simultaneous operation, and notes that, in fact, it may be a protective measure to group acoustic

explained why the issuance of five IHA's would have cumulative effects to state uses or resources, especially when considering the large areal extent of the proposed surveys (which is over 854,779 km2 (330,032 miles^2)),[79] the movement of the vessels, the limited duration of the authorization for the surveys, time-area closures, exclusion zones, and other mitigation measures.[80]

The state's challenges to the mitigation measures are generalized and uncompelling. The state argues that the fact that the IHA's imposed mitigation measures is evidence of the harmful effects of the surveys. However, under the MMPA, an IHA must prescribe permissible methods of taking by harassment and other means of effecting the least practicable impacts on marine mammals. Second, the mitigation measures, and benefits of those measures in reducing any effects, are considered as part of the entire proposed activity for this review. Finally, while mitigation measures each have different levels of effectiveness and cannot in all cases completely eliminate all risks of exposure to a marine mammal, this fact on its own does not demonstrate that the impacts in federal waters arise to the level to be coastal effects. In developing the mitigation measures, NMFS, the expert federal agency, reviewed the measures proposed by the applicants; the mitigation requirements specified in the BOEM Programmatic Environmental Impact Statement for Atlantic OCS Proposed Geological and Geophysical Activities in the Mid-Atlantic and South Atlantic Planning Areas;[81] seismic mitigation protocols required or recommended elsewhere; available scientific literature and a number of review articles.[82] In its coastal effects analysis, it is the burden of the state to show that these mitigation measures are inadequate. The Office for Coastal Management finds that the state has not met that burden. While there may be impacts to marine mammals from the seismic surveys even with the proposed mitigation measures, the state has not shown that there would be any discernible impacts to baleen whales in the state's coastal zone.

Dolphins

The proposed IHA notes the discontinuity between coastal stocks of bottlenose dolphins found in state waters and those that inhabit deeper waters offshore in the survey area. The range of coastal stocks typically occur within 20 km (12.4 miles) of the coast, which is outside of the range of the proposed surveys. While the coastal stocks of the bottlenose dolphin is known to occur further offshore than 20 km, NMFS determined that a 20 km exclusion zone for the surveys would avoid the vast majority of impacts. NMFS has added an additional 10 km to this exclusion zone for the

---

sources as closely together as possible, in which case the sound exposure would not be appreciably louder and potentially shorten total duration of sound exposure. 82 Fed. Reg. at 26,256.

[79] Final Programmatic Environmental Impact Statement (PEIS) for Atlantic OCS Proposed Geological and Geophysical Activities, Mid-Atlantic and South Atlantic Planning Areas (OCS EIS/EA BOEM 2014-001), Summary at vii.

[80] Although a biological opinion pursuant to the requirements of the Endangered Species Act (ESA) has not been completed at the time of this decision, NMFS has confirmed that a single biological opinion will be prepared for the proposed issuance of the five IHAs so that the cumulative impacts of the five IHAs will be assessed. *See* email from Benjamin Laws, NMFS Office of Protected Resources, to Kerry Kehoe, NOAA Office for Coastal Management (August 2, 2017).

[81] Final Programmatic Environmental Impact Statement (PEIS) for Atlantic OCS Proposed Geological and Geophysical Activities, Mid-Atlantic and South Atlantic Planning Areas (OCS EIS/EA BOEM 2014-001).

[82] 82 Fed. Reg. at 26,250.

specific purpose of further protecting the coastal stocks of bottlenose dolphin.[83] Therefore, the stock of bottlenose dolphins that would be impacted by the survey is not a state resource, and the state has not demonstrated a reasonably foreseeable effect on coastal stocks of bottlenose dolphins.

Wildlife Watching

As an attempt to demonstrate coastal uses for CZMA review purposes, the Office for Coastal Management finds the MARCO map submitted by the state to be too general to demonstrate reasonably foreseeable effects on a state use.[84] The MARCO map depicts the results of survey of recreational users and the public in providing data on "non-consumptive" recreational use, including surfing, diving, kayaking, beach going, and wildlife viewing. To understand the data presented by the state, we also reviewed the survey report.[85] The survey questions were broad, requesting "watching birds, whales, seals and/or other marine life" either from shore, private boat, or charter boat.[86] The survey respondents were requested to identify the location where they engaged in the activity, and the area depicted for offshore wildlife watching shows a footprint that includes the entirety of the area offshore of Delaware extending beyond the edge of the continental shelf. However, the map and underlying data demonstrates "high intensity" wildlife viewing activities from and close to shore, well outside the survey area and presence of marine mammals in the proposed IHA.[87] For offshore, the map depicts the activity as "low intensity", and the underlying data only reveals one to two respondents identifying the offshore areas for wildlife viewing.[88] And given that the northern-most extent the proposed surveys overlap with only a small portion of the southern-most area that the state claims as used for recreational wildlife watching (an area about 70 miles offshore of Virginia), there appears to be ample room for wildlife watching to occur without conflict with the proposed surveys. Participation in wildlife viewing is generally low compared with other recreational activities. Fifteen percent of survey respondents reported participation of wildlife viewing from a charter boat as an activity they participated in during the last year, three percent during the last trip, and no respondents reported wildlife viewing as their primary activity.[89] As for expenditures, the average expenditure for a charter was $20, accounting for $0.13 per respondent, and 2.6% of expenditures among all respondents.[90] Therefore, the state has not demonstrated a reasonably foreseeable effect on wildlife viewing.

---

[83] 82 Fed. Reg. at 26,256.

[84] The state notes that the participatory mapping process was designed by the NOAA Coastal Services Center. Letter from Kimberly B. Cole, DNREC, to Jeffrey Payne, NOAA (July 6, 2017), at p. 3. It should be noted that NOAA's participation in the design of the process was not an endorsement of the product. *See* Disclaimer and Funding Statement at http://maps.dnrec.delaware.gov/oceanplanning/.

[85] U.S. Mid-Atlantic Coastal and Ocean Recreation Study, (July 2014), available at http://www.surfrider.org/pages/coastal-recreation-studies (last visited August 31, 2017).

[86] U.S. Mid-Atlantic Coastal and Ocean Recreation Study, Appendix B at 1 (July 2014).

[87] *Id.* at 39.

[88] *Id.*

[89] *Id.* at 71-72.

[90] *Id*. at 73.

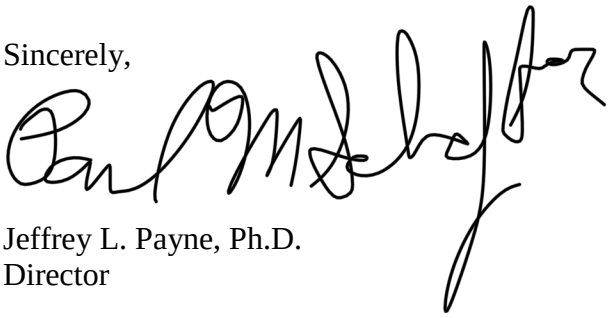
CONCLUSION

For the reasons stated above, the Office for Coastal Management finds that the state has not met its burden of demonstrating that there may be reasonably foreseeable effects from the issuance of an IHA on state resources or uses.

Upon these findings, the Office for Coastal Management denies the request by the state for approval to conduct CZMA reviews of the proposed IHAs.

Please contact David Kaiser, Senior Policy Analyst, Office for Coastal Management, at 603-862-2719, or Kerry Kehoe, Federal Consistency Specialist, Office for Coastal Management, at 240-533-0782, if you have any questions.

Sincerely,



Jeffrey L. Payne, Ph.D.
Director

cc:
Robert Scarborough, DNREC
Tricia Arndt, DNREC
J. Mayville, WesternGeco
Amber Stooksberry, CGG
Brian Cameron, BOEM
Benjamin Laws, NMFS/OPR