



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

Mr. Mark Belton, Secretary
Maryland Department of Natural Resources
Tawes State Office Building
580 Taylor Avenue
Annapolis, Maryland 21401

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

Dear Mr. Belton:

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 Maryland Coastal Management Program.

For the reasons stated below, the Office for Coastal Management denies Maryland'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 Maryland'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 activities outside of the coastal zone, a state must request approval from the Office for Coastal

¹ 16 U.S.C. § 1456.

² 15 C.F.R. § 930.53.

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 Act⁵ (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 disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).¹⁰

³ *Id.* at §§ 930.53, 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).

¹⁰ *Id.*

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 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 Maryland coast would be 104 kilometers (km) (64 miles).¹⁶ The closest point of the WesternGeco survey to the Maryland 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 be limited additional operations associated with equipment testing, startup, and repeat coverage of any areas where initial data quality is sub-standard.¹⁸

¹¹ 16 U.S.C. § 1371(a)(5)(A)(i)

¹² 82 Fed. Reg. at 26245.

¹³ *Id.*

¹⁴ *Id.* at 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 (July 21, 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

¹⁸ *Id.*

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 fin, humpback, and North Atlantic right whale, Humpback whales, and bottlenose, common and spotted dolphins, which are species identified by the state.²⁴ NMFS concludes that these takes are small numbers in the context of species densities.²⁵ To 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,

¹⁹ *Id.*

²⁰ *Id.* at 26,246.

²¹ *Id.* at 26,249.

²² *Id.*

²³ *Id.* at 26,246.

²⁴ *Id.* at 26,295-26,296 (Table 11). *See* Letter from Mark Belton, DNR, to Jeffrey Payne, et al., NOAA, (July 6, 2017), attached General Comments at p. 1.

²⁵ *Id.* at 26,285.

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 or 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

RELATED UNLISTED ACTIVITY REVIEW REQUESTS

In 2014, Maryland requested approval to review nine G&G applications,³³ including those of CGG³⁴ and WesternGeco.³⁵ On November 18, 2014, the Office for Coastal Management

²⁶ *Id.* at 26,296.

²⁷ *Id.* at 26,304-06, Table 17 (WesternGeco), Table 18 (CGG).

²⁸ *Id.* at 26,250-26,274.

²⁹ *Id.* 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 26,259.

³² *Id.*

³³ Letter from Matt Fleming, MD DNR, to Paul M. Scholz, NOAA (Aug. 22, 2014).

³⁴ E14-005.

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 Office for Coastal Management denied Maryland's request to review the G&G application of WesternGeco 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 March 26, 2017, 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 Maryland 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 separate federal actions subject to the federal consistency regulations.³⁸

THE CRITERIA FOR REVIEW OF STATE REQUESTS

Maryland has included MMPA permits for the taking of marine mammals in its list of federal permits subject to CZMA review. However, the applicability of this listing only applies to permits for activities conducted in state waters. 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.

The state's request must meet two criteria. 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 Management was July 6, 2017. Maryland submitted its request on July 6, 2017. The Office for Coastal Management finds that the state's request is timely.

³⁵ E14-004.

³⁶ Letter from Jeffrey L. Payne, Office for Coastal Management, to Matt Fleming, MD DNR (Nov. 18, 2014).

³⁷ Letter from Elder Ghigareilli, MD MDE) to Amber Stooksbury, (CGG) (March 26, 2017).

³⁸ See 15 C.F.R. § 930.51(a).

³⁹ § 930.54(a)(1).

⁴⁰ § 930.54(c).

⁴¹ Email from Kerry Kehoe, Office for Coastal Management, to Matt Fleming, MD DNR, *et al.* (June 8, 2017).

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 Maryland 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, was 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 Effects include direct, indirect and cumulative effects.⁴⁷ The Office for Coastal Management’s review of a state unlisted activity request and decision are a fact-specific, case-by-case evaluation based on the totality of specific circumstances and information provided.⁴⁸ In addition to the information in Maryland’s request and supplementary information provided by the state,⁴⁹ the Office for Coastal Management’s decision record includes the IHA applications, the proposed IHAs and any references therein, comments submitted by IAGC, and any information provided by the applicant and federal agencies.

The proposed action is the authorization of the incidental take of marine mammals. As such, the

⁴² Letter from Nikki Martin, IAGC, to Jeffrey Payne, NOAA (July 21, 2017), at p. 2.

⁴³ § 930.54(a)(2).

⁴⁴ § 930.54(a)(1).

⁴⁵ § 930.54(a)(2).

⁴⁶ See § 930.54(b).

⁴⁷ § 930.11(g).

⁴⁸ 65 Fed. Reg. 77,124, 77,130 (December 8, 2000).

⁴⁹ See Letter from Mark Belton, MD DNR, to Jeffrey Payne, NOAA (July 21, 2017).

state must demonstrate that impacts from the proposed action will have reasonably foreseeable effects on marine mammals of the coastal zone of the state. 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.⁵⁰ Effects unrelated to marine mammals are not within the scope of the proposed activity and not further considered in the review of the request by the state.

(a) Summary of the Arguments by the State

The State of Maryland asserts that the potential impacts associated with the proposed IHAs will have reasonably foreseeable effects on marine mammals, their habitats, and related economic interests of Maryland's coastal zone, especially on water-dependent businesses and coastal recreation and tourism.⁵¹

The state asserts that marine mammals such as whales, dolphins, porpoises and seals are vital coastal resources. Marine mammals, fish, sea turtles and other aquatic life that inhabit the ocean off Maryland's shore are said by the state to contribute significantly to the economy and quality of life of the state's coastal communities. They hold intrinsic value to the visiting public and contribute to the local tourism economy. Their presence often define coastal recreational experiences and support numerous coastal uses such as swimming and surfing, boating, recreational and commercial fishing, wildlife watching and diving. The state believes that seismic surveys in proximity to sensitive coastal and marine resources jeopardizes the state's commercial, recreational, tourism and wildlife watching industries.

The state asserts that there is growing evidence that existing, emerging and cumulative human activities are having a significant impact on the ocean environment. The growing list of impacts include those from increasing anthropogenic noise, climate change, coastal eutrophication, pollution, ocean acidification, plankton decline, overfishing, and invasive species. The state believes that the proposed surveys may add to these stressors when ocean and estuarine ecosystems are already at an ecological tipping point.

Of particular concern to the state are the increasing and overlapping levels of sound off of Maryland's coast including vessel traffic; renewable energy development; the extraction of sand resources; and training and testing exercises by the U.S. Navy scheduled to begin in November 2018 using sonar, explosives, ordinances, and lasers.

The state asserts that high-energy seismic surveys can impact marine mammals and prey species directly and indirectly. The asserted direct impacts range from death; injury to hearing; disruption of foraging, communication, migration and reproduction; and alteration of benthic and pelagic habitats. Indirect impacts include affects to inter-organism relationships and their life-supporting functions such as the impacts to fish, squid and octopuses, which are prey species for dolphins and toothed whales.

⁵⁰ *Infra* at 6.

⁵¹ See Letters from Mark Belton, MD DNR, to Jeffrey Payne, NOAA (July 6, 2017 and July 21, 2017).

The state notes that IHAs authorize disruptions to behavioral patterns that include but are not limited to migration, breathing, nursing, breeding, feeding, socializing and sheltering. The state claims that the estimates of whale and dolphin takes leading to potential injury may underestimate impacts since the underlying risk model and assumptions about protective measures likely underestimate the severity and breadth of impacts.

Relying on the 2013 literature review by Weilgart,⁵² the state asserts that conventional mitigation measures are insufficient to protect marine mammals given the difficulty of reliably detecting marine mammals, and of determining a safe zone for underwater noise.

The state asserts that its coastal economy includes beachfront tourism and whale watching tours. Included with its July 21, 2017, request is a map from the Maryland Coastal Atlas depicting areas of wildlife viewing from chartered boats. The caption states that the data was collected during a participatory mapping workshop in 2010.

(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.

Effects to Dolphins

The Office for Coastal Management takes note that the sighting of dolphins from the Maryland shore is a common occurrence. However, that dolphins occur in state waters does not establish that these resources are within range of the proposed surveys.

The state cites *Mid-Atlantic Wildlife Studies: Distribution and Abundance of Wildlife along the Eastern Seaboard 2012-2014* as a reference for its effects analysis.⁵³ The report states that there are two genetically distinct ecotypes of bottlenose dolphins in the western North Atlantic. The “offshore” ecotype inhabits colder, deeper waters on the outer continental shelf and shelf edge,

⁵² 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> (last visited Sept. 19, 2017).

⁵³ Williams, K.A. et al., *Mid-Atlantic Wildlife Studies: Distribution and Abundance of Wildlife along the Eastern Seaboard 2012-2014*, Biodiversity Research Institute, Science Communications Series BRI 2015-19 (2015).

while “coastal” dolphins occur in more nearshore areas.⁵⁴ The proposed IHA also notes the discontinuity between coastal populations of bottlenose dolphins and those that inhabit deeper waters offshore. The range of coastal populations typically occur within 20 km (12.4 miles) of the coast, which is outside of the range of the proposed surveys. While the coastal population of bottlenose dolphin is known to occur further offshore than 20 km, available information suggests 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 specific purpose of further protecting the coastal population of bottlenose dolphin.⁵⁵

The Office for Coastal Management finds that the stock of bottlenose dolphins that are within the range of the proposed surveys is not a state resource, and the state has not demonstrated a reasonably foreseeable effect on coastal stocks of bottlenose dolphins.

Effects to 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.”⁵⁶ The state has not presented information showing that whales are regularly or cyclically found in its waters.

The State of Maryland has surveyed the abundance and distribution of marine mammals in state and federal waters. These surveys were conducted as part of studies for the Maryland Wind Offshore Wind Energy Area, which has a western-most edge about 10 nm from the Maryland shore. From July 2013 to June 2015, 24 aerial surveys to collect data on the presence, density and seasonality of large whale species were conducted along Maryland coastal waters. Maryland is also cost-sharing a three-year study with BOEM to collect acoustic data to characterize patterns of temporal and spatial occurrence of vocalizing marine mammal species (including North Atlantic Right,⁵⁷ Fin, Humpback, Minke and other whale species).

In support of its request, the state has submitted the report *Marine Mammal and Sea Turtle Sightings in the Vicinity of the Maryland Wind Energy Area July 2013-June 2015*.⁵⁸ The report summarizes two years of monthly aerial surveys of marine mammals offshore of Maryland following 12 perpendicular tracts from the Maryland shore extending 55 to 70 km (34 to 43 miles) out to sea. While the surveys do not pertain to areas where CGG and WesternGeco

⁵⁴ *Id.* at p. 22 citing Waring, G.T. et al., U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2013, NOAA Technical Memo 228 (2014).

⁵⁵ 82 Fed. Reg. 26244, 26256 (June 6, 2017).

⁵⁶ 15 C.F.R. § 930.11(b).

⁵⁷ 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.

⁵⁸ Barco, Susan, *et al.*, MD Dept. of Natural Resources, *Marine Mammal and Sea Turtle Sightings in the Vicinity of the Maryland Wind Energy Area July 2013-June 2015* (cited as VAQF Scientific Report # 2015-06).

propose to conduct G&G surveys, the results are notable in that no baleen whales were recorded as having been found in state waters in the 24 monthly surveys conducted.⁵⁹

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.

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.⁶⁰ 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.

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 South and 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.⁶¹

The state asserts that ocean noise is significant, increasing globally, and poorly understood. These include the cumulative effects to marine mammal communications across larger distances, predator/prey interactions and populations, stress, vocalization and foraging. 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.⁶² NMFS has considered impacts

⁵⁹ *Id.*, Figure 3 at p. 6. 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.

⁶⁰ 65 Fed. Reg. 77,124-175; 77,130 (Dec. 8, 2000).

⁶¹ That said, even for the large scale of the IHA's analysis, NMFS finds *de minimis* effects of the authorized takes on the populations for each of the cited marine mammals, except Fin whales, which are moderate for WesternGeco. 82 Fed. Reg. at 26,296-26,312. Magnitude and Impact Ratings can be found for WesternGeco and CGG at 26,304-26,308.

⁶² *See Id.* at 26,296; Final Programmatic Environmental Impact Statement (BOEM PEIS) for Atlantic OCS

other than sound such as those from ship strikes, entanglement, marine debris and fuel spills.⁶³ NMFS has also considered indirect impacts such as increased ambient noise levels that could mask communications among marine mammals.⁶⁴ 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.⁶⁵

NMFS and BOEM found that the sound from surveys operating simultaneously would not be appreciably louder and the radii of impacts would not overlap.⁶⁶ Also, the state has not 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 miles²)),⁶⁷ the movement of the vessels, the limited duration of the authorization for the surveys, time-area closures, exclusion zones, and other mitigation measures.⁶⁸

The state's challenge to the mitigation measure based on the 500 m shutdown zone is generalized and not compelling. Maryland points to Weilgart (2013) regarding uncertainty in establishing a "safe zone" for underwater noise.⁶⁹ However, NMFS considers a suite of mitigation measures and protocols which are more restrictive than those required by BOEM or the applicants.⁷⁰ 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.⁷¹ 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;⁷² seismic mitigation protocols required or recommended elsewhere; available scientific literature and a number of review articles.⁷³ In its coastal effects analysis, it is the burden of the state to show that these mitigation measures are inadequate. Pointing to general scientific uncertainty is

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."

⁶³ *Id.* at 26,280-26,281.

⁶⁴ *Id.* at 26,279-26,280.

⁶⁵ *Id.* at 26,281.

⁶⁶ *Id.* at 26,256; BOEM PEIS 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 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.

⁶⁷ BOEM PEIS at vii.

⁶⁸ 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).

⁶⁹ Letter from Mark Belton, MD DNR, to Jeffrey Payne, NOAA (July 21, 2017) at 5-6.

⁷⁰ 82 Fed. Reg. at 26,250-26,274.

⁷¹ *Id.* at 26,250-26,274.

⁷² BOEM PEIS at xxv – xxvii.

⁷³ 82 Fed. Reg. at 26,250.

insufficient. 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 whales in the state's coastal zone.

Effects to Prey Species

Even assuming the surveys cause behavioral reactions to prey species, including fish, squid and octopus, the state has not shown that predation would be affected. As NMFS explained in the proposed IHA, the most likely impacts to prey species would be minor, temporary avoidance of the survey area.⁷⁴

Effects to Wildlife Viewing and Beach Tourism

Wildlife watching, which could include whale watching, is mentioned as a potentially affected coastal use by the state. The state has not presented any information in support of this claim such as the number of commercial enterprises engaged in wildlife watching, number of individuals served by such enterprises, or economic data pertaining to revenues generated by this activity.

As an attempt to demonstrate coastal uses for CZMA review purposes, the Office for Coastal Management finds the Maryland Coastal Atlas map submitted by the state to be too general to demonstrate reasonably foreseeable effects on a state use.⁷⁵ The caption of the map states that it contains data derived from a 2010 participatory mapping workshop. The Maryland Coastal Atlas Map website shows the source data is the Mid-Atlantic Regional Council (MARCO) survey.⁷⁶ To understand the figure presented by the state, we reviewed the MARCO survey report and visited the MARCO data portal.⁷⁷ The survey questions were broad, requesting "watching birds, whales, seals and/or other marine life" either from shore, private boat, or charter boat.⁷⁸ 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 Maryland extending beyond the edge of the continental shelf. However, the underlying MARCO data demonstrates "high intensity" wildlife viewing activities from and close to shore, well outside the survey area and presence of marine mammals addressed in the proposed IHA.⁷⁹ For offshore, the MARCO's data portal depicts the activity as "low intensity", and the underlying data only reveals one respondent identifying the offshore area for wildlife viewing.⁸⁰ 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

⁷⁴ 82 Fed. Reg. at 26,281.

⁷⁵ Letter from Mark Belton, MD DNR, to Jeffrey Payne, NOAA (July 21, 2017) at 10, Figure 2.

⁷⁶ https://geodata.md.gov/imap/rest/services/Society/MD_RecreationalUses/MapServer/6 (last visited September 19, 2017).

⁷⁷ U.S. Mid-Atlantic Coastal and Ocean Recreation Study (MARCO Study), (July 2014), available at <http://www.surfrider.org/pages/coastal-recreation-studies> (last visited August 31, 2017); MARCO data Portal is available at <http://portal.midatlanticocean.org> (last visited September 19, 2017).

⁷⁸ MARCO Study, Appendix B at 1 (July 2014).

⁷⁹ *Id.* at 40; <http://portal.midatlanticocean.org> (last visited September 19, 2017).

⁸⁰ <http://portal.midatlanticocean.org> (last visited September 19, 2017).

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. Ten percent of survey respondents reported participation of wildlife viewing from a charter boat as an activity they participated in during the last year, two percent during the last trip, and less than one percent of respondents reported wildlife viewing as their primary activity.⁸¹ As for expenditures, the average expenditure for a charter was \$27, accounting for \$0.34 per respondent, and 1.2% of expenditures among all respondents.⁸² Therefore, the state has not demonstrated a reasonably foreseeable effect on wildlife viewing.

As for reasonably foreseeable effects on the beach goers, the state has not provided any specific information to demonstrate the role that wildlife watching plays in the general beach-goers visiting experience, or to demonstrate that alleged effects to wildlife far offshore would negatively affect that experience.

Based on the information before it, the Office for Coastal Management finds that the state has not met its burden that the resources of the state would be affected by the proposed seismic survey.

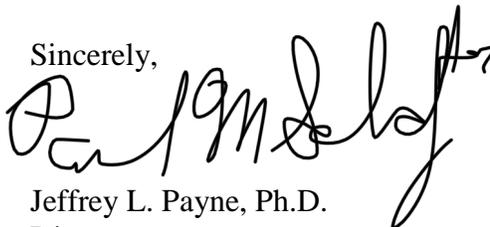
CONCLUSION

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. The state has not shown that the marine mammals in the proposed survey area are present in or have a connection to the state. We have determined that the state has failed to demonstrate a reasonable likelihood of effects on state resources from the proposed activity. As for wildlife viewing activities, we also find that the state has failed to demonstrate a reasonably foreseeable effect on a state use.

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

⁸¹ MARCO Study at 77-78.

⁸² *Id.* at 79.

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