



# MARINE MAMMAL COMMISSION

4 September 2014

Ms. Jolie Harrison, Chief  
Permits and Conservation Division  
National Marine Fisheries Service  
Office of Protected Resources  
1315 East-West Highway, Room 13635  
Silver Spring, MD 20910

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the July 2014 application submitted by Apache Alaska Corporation (Apache) seeking a five-year authorization under section 101(a)(5)(A) of the Marine Mammal Protection Act (MMPA) to take small numbers of marine mammals by harassment incidental to seismic surveys in Cook Inlet, Alaska. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 5 August 2014 notice (79 Fed. Reg. 45428) announcing receipt of the application. The Commission reviewed similar incidental harassment authorization applications for Apache's proposed seismic surveys in 2012, 2013, and 2014 in Cook Inlet.

## **Background**

Apache proposes to conduct 3D seismic surveys in Cook Inlet, Alaska, in an area of approximately 4,285 km<sup>2</sup>. Surveys would be conducted during the open-water season (1 March through 31 December) for five years from 1 March 2015 through 29 February 2020. The project area is located primarily in the middle portion of the inlet and includes nearshore intertidal and offshore areas along the east coast of the inlet in waters up to 128 m in depth. As with its previous incidental harassment authorization applications, Apache has requested that this authorization cover a larger area of operation than it actually intends to survey each year to allow for operational flexibility. The proposed survey techniques and mitigation measures are similar to those identified in Apache's most recent incidental harassment authorization application.

## **The potential for greater than a negligible impact on beluga whales**

As indicated in previous letters regarding proposed incidental harassment authorizations for Apache's seismic surveys and exploration activities by other oil and gas operators in Cook Inlet (see 21 October 2011, 9 January 2013, 31 January 2014, 4 April 2014, and 9 May 2014 letters), the Commission remains concerned about the potential impacts of these activities on the declining Cook Inlet beluga whale population and the likelihood of a continued decline in that stock's abundance. The Commission has recommended in its previous letters that NMFS defer issuance of incidental harassment authorizations until it has better information on the cause or causes of the ongoing decline and has a reasonable basis for determining that authorizing additional takes by harassment would not contribute to or exacerbate that decline. The Commission continues to

believe that, given the precarious status of the Cook Inlet beluga whale population, any activity that may contribute to or that may worsen the observed decline should not be viewed as having a negligible impact on the population.

Consistent with these continuing concerns, the Commission once again recommends that NMFS defer issuance of an incidental take authorization to Apache and any other applicant proposing to conduct oil and gas exploration activities in Cook Inlet until such time as NMFS can, with reasonable confidence, support a conclusion that those activities would affect no more than a small number of Cook Inlet beluga whales and have no more than a negligible impact on the population. That conclusion should be based on clear and consistent criteria regarding how NMFS is defining small numbers and negligible impact, which currently do not exist. Therefore, the Commission further recommends that NMFS work with the Fish and Wildlife Service and the Commission to develop a policy that sets forth clear criteria and/or thresholds for determining what constitutes “small numbers” and “negligible impact” for the purpose of authorizing incidental takes of marine mammals. The Commission understands that NMFS has been working on developing a policy and would welcome an opportunity to discuss that policy further before it is finalized.

The Commission also is concerned that NMFS has issued incidental harassment authorizations for the incidental taking of Cook Inlet beluga whales without adequate consideration of the combined or cumulative effects of current and planned activities on this population. Those activities include not only oil and gas exploration, but also bridge and port construction, shipping, coastal development, military, fisheries, and mineral extraction. Authorizing additional incidental harassment of beluga whales without a better understanding of the potential contribution of oil and gas exploration and other activities to the population’s more than 10-year-long decline could exacerbate the situation and reduce the stock’s prospects of eventual recovery. Recognizing the growing interest in oil and gas exploration and development in Cook Inlet, the Commission recommends that NMFS, rather than continuing to consider only the incremental effects of new activities in its review of incidental take authorizations, develop clear policies and adopt clear criteria for ensuring full consideration of the effects of each new activity in combination with the cumulative effects of ongoing and planned activities in Cook Inlet.

As noted in previous Commission letters, the ongoing development of a recovery plan for Cook Inlet beluga whales should be seen as an opportunity to define and promote additional research needed to identify the cause or causes of the population’s decline and to assess the cumulative effects of multiple factors. That research could be coupled with periodic reviews of all sources of potential disturbance, adoption of measures to mitigate such disturbance, and regular evaluations of the effectiveness of current conservation measures. A precautionary approach to the issuance of authorizations under section 101(a)(5) of the MMPA is another important tool for mitigating or even preventing takes by harassment when considerable uncertainty exists regarding the effects of ongoing and planned activities on vulnerable marine mammal populations, such as Cook Inlet beluga whales. The Commission understands that NMFS is planning to engage stakeholders more broadly to identify actions that would allow certain activities to go forward in Cook Inlet without further jeopardizing the recovery of the beluga population. The Commission appreciates NMFS’s invitation to participate in the first of these stakeholder-based forums and encourages NMFS to convene such meetings on a regular and ongoing basis.

**Use of best available density estimates**

It has become a standard practice for incidental harassment authorization applications, including those from Apache and other applicants proposing to conduct seismic or drilling activities in Cook Inlet, to use available density estimates to derive take estimates for various marine mammal species (see 76 Fed. Reg. 58473, 77 Fed. Reg. 73434, 78 Fed. Reg. 80386, 79 Fed. Reg. 12160, 79 Fed. Reg. 19252). However, the density estimates used have varied considerably (see Table 1).

**Table 1.** Density estimates cited in previously proposed incidental harassment authorizations and the current authorization. See text for discussion of units used and sources.

	Apache 2012 OWS <sup>1</sup>		Apache 2013 OWS		Apache 2014 OWS		Apache 2015-2019 OWS		Furie 2014 OWS		Buccaneer 2014 OWS
	Max	Avg	Max	Avg	Zone 1 (north)	Zone 2 (south)	Zone 1 (north)	Zone 2 (south)	High area	Low area	
Beluga whale	0.0077	0.00154	0.00128	0.00051	0.0212	0.0056	0.0212	0.0056	0.3018 (May–Aug)	0.005458 (May–Aug)	Not requested
									0.1847 (Sept)	0.00698 (Sept)	
									0.1006 (Oct)	0.01743 (Oct)	
									0.1472 (Nov)	0.008539 (Nov)	
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Avg	Avg	
Harbor porpoise	0.00037	0.00004	0.00179	0.00006	0.00038	0.00009	0.00038	0.00009	0.0261	0.013	
Harbor seal	0.00776	0.0029	0.00644	0.00317	0.00681	0.00512	0.00681	0.00512	0.319	0.278	
Stellar sea lion	0.00035	0.00007	0.00035	0.00011	0.00035	0.00016	0.00035	0.00016	0.00579	Not requested	
Killer whale	0.00011	0.00001	0.00011	0.00001	0.00011	0.00001	0.00011	0.00001	0.00196	Unknown	
Gray whale	Not requested		Not requested		Not requested		<0.00001	<0.00001	Unknown	Unknown	
Minke whale	Not requested		Not requested		Not requested		Not requested		Not requested	Unknown	
Dall's porpoise	Not requested		Not requested		Not requested		Not requested		Not requested	Unknown	

<sup>1</sup> OWS=open-water season

This large variability apparently results from each applicant using different methods and/or different data for estimating densities. For example, for the 2013 open-water season, NMFS used a habitat model based on Goetz et al. (2012) to estimate beluga whale densities for different areas within Apache’s project area (78 Fed. Reg. 12720)—Apache used information from that habitat model again for activities conducted during the 2014 open-water season. For species other than beluga whales, Apache used NMFS’s annual aerial survey data for Cook Inlet from 2000 to the most recent year for which survey data are available. However, Apache inappropriately presented density estimates for those species using animals per hour of survey effort per square kilometer, rather than animals per square kilometer. True density estimates do not include a time component. Like Apache, Furie used NMFS’s annual aerial survey data for Cook Inlet. Although Furie presented density estimates appropriately as animals per square kilometer, it considered only the three most recent survey years for which sightings data were available (2009, 2010, and 2012). Buccaneer’s density estimates for harbor seals and harbor porpoises originated from the literature (Boveng et al. 2003 and Hobbs and Waite 2010, respectively), but those estimates were based on surveys conducted

prior to 2000. Considering the limited information available on densities of marine mammals in Cook Inlet, NMFS should require, or at least be promoting, consistency in how species-specific density estimates are derived and used within and across applications, including guidance on how to use the most appropriate and up-to-date information. The Commission recommends that NMFS (1) specify that applicants use animals per square kilometer as the metric for all species-specific density estimates and (2) work with Apache and other applicants conducting similar activities in the same area to ensure that they use consistent, appropriate, and up-to-date information to derive the marine mammal density estimates used in their applications.

### **Marine mammal species expected to be affected by oil and gas exploration activities in Cook Inlet**

In general, applicants should base their requests for incidental harassment authorizations on the best available information regarding the likelihood that a given species will be present in the project area and the potential for that species to be harassed during the timeframe of the proposed activities. As indicated in Table 1, the list of species for which applicants conducting oil- and gas-related activities in Cook Inlet have sought authorization for incidental taking has not been consistent. Apache requested authorization for the incidental harassment of gray whales in its current request, consistent with the Commission's 31 January 2014 recommendation and NMFS's authorization issued to Apache for seismic activities during the 2014 open-water season (79 Fed. Reg. 13626). However, further clarification should be provided by NMFS regarding whether Apache also should be requesting authorization to take minke whales and Dall's porpoises in its current application, as was requested for Buccaneer's drilling activities during the 2014 open-water season. Conversely, authorization for taking Steller sea lions was requested by all applicants except Buccaneer. Due to these inconsistencies, the Commission recommends that NMFS work with Apache and other applicants proposing to conduct activities in Cook Inlet to determine which marine mammal species should be included in all incidental take or harassment authorization requests for this area.

### **Mitigation and monitoring measures**

Passive acoustic monitoring is a potentially useful tool to supplement visual monitoring of beluga whales and other marine mammals throughout the survey area. In its monthly monitoring report for May 2012, Apache indicated that a monitoring buoy had been deployed but waves and currents had caused damage to the unit. A single over-the-side hydrophone was used instead but the range of that unit was limited (3 km). Researchers have detected belugas and other marine mammals in Cook Inlet with moored buoys (Lammers et al. 2013), and the Commission believes that a series of moored buoys deployed throughout all of the proposed seismic survey areas in Cook Inlet could provide useful information. Although calls recorded by these buoys would not be useful for real-time mitigation monitoring, the data could be analyzed after the open-water season to better understand beluga and other marine mammal use of the survey areas during and after the surveys. As such, the Commission recommends that NMFS require Apache, in coordination with other companies that are conducting or intend to conduct seismic operations in Cook Inlet, to deploy a series of bottom-mounted, passive acoustic monitoring buoys throughout the project area to collect information on marine mammal presence and movements.

Very little information is available regarding the effectiveness and reliability of observers to visually monitor variously sized exclusion and disturbance zones. To help determine the probability of detecting marine mammals in Cook Inlet, the Commission recommends that NMFS require Apache to investigate and report on detection probabilities for each of the proposed observation platforms being used and under the sea states, weather conditions, and light levels that would be encountered in Cook Inlet at times when activities are conducted.

### **Reducing the potential for duplicative seismic surveys**

The Commission understands that NMFS is reviewing two other applications seeking authorization to take beluga whales by harassment incidental to proposed seismic surveys in Cook Inlet in 2015, one submitted by a company that has conducted similar seismic surveys on behalf of Apache in the past. It is not clear whether those applications are seeking separate authorizations for some or all of the same activities. This should be clarified and the applicants required to amend or combine their requests if there is any overlap (i.e., if authorizations related to essentially the same survey are being sought by both the seismic operator and the client). Similarly, NMFS and the Bureau of Ocean Energy Management (BOEM) need to work together to develop and implement policies and procedures to ensure that separate applications to conduct essentially the same activities in the same areas are considered more holistically. If indeed the applicants are proposing to conduct multiple, independent seismic surveys within the same area, it would increase the numbers of marine mammals taken and expose beluga whales and other marine mammals to unnecessary risks. Section 101(a)(5)(A)(i)(II)(aa) of the MMPA directs NMFS to structure incidental take authorizations so that they prescribe “other means of effecting the least practicable adverse impact on such species or stock and its habitat...” Allowing multiple operators to obtain separate authorizations to conduct duplicative surveys is inconsistent with that mandate.

The Commission has repeatedly emphasized the need to minimize redundant seismic surveys in all areas of oil and gas exploration. NMFS has had some success in the past in encouraging applicants to collaborate on seismic surveys in areas of common interest, and BOEM is in the process of developing options for minimizing duplicative surveys in other oil and gas planning areas. The Commission therefore recommends that NMFS (1) scrutinize potentially related or duplicative authorization requests and issue only one authorization if both the operator and the client request an authorization for similar activities (which may be the case for Apache’s proposed activities) and (2) work with BOEM to encourage Apache and other applicants proposing to conduct seismic surveys in Cook Inlet to collaborate on those surveys and, to the extent possible, submit a single application seeking authorization for incidental harassment of marine mammals.

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

Sincerely,

A handwritten signature in blue ink that reads "Rebecca J. Lent". The signature is written in a cursive style with a large initial 'R'.

Rebecca J. Lent, Ph.D.  
Executive Director

cc: Jon Kurland, National Marine Fisheries Service, Alaska Regional Office

### References

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