Alaska Eskimo Whaling Commission
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August 9, 2010

Via Electronic Mail: PR1.0648–XW05@noaa.gov
P. Michael Payne
Chief, Permits, Conservation, and Education Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Re: Take of Marine Mammals During Marine Seismic Survey in the Arctic Ocean During August to September, 2010. 75 Fed. Reg. 39,336 (July 8, 2010).

Dear Mr. Payne,

Thank you for the opportunity to comment on the United States Geological Survey's (hereafter "USGS") application for an Incidental Harassment Authorization ("IHA") to the National Marine Fisheries Service ("NMFS") pursuant to the Marine Mammal Protection Act ("MMPA") for seismic survey activities in the sensitive Arctic Ocean. *See* 75 Fed. Reg. 39,336 (July 8, 2010). These comments are submitted on behalf of the Alaska Eskimo Whaling Commission ("AEWC"). AEWC represents the eleven bowhead whale subsistence hunting villages of Barrow, Nuiqsut, Kaktovik, Pt. Hope, Wainwright, Kivalina, Wales, Savoonga, Gambell, Little Diomede, and Pt. Lay.

As you are aware, our communities depend upon the marine mammals at stake in this application and the environment that supports them, which is changing rapidly as a result of climate change, at the same time that it is being subjected to increasing levels of industrial and commercial activities. We rely on the migration of bowhead whales and other marine mammals through the Arctic Ocean to feed our people and to preserve our society and culture. The ramifications of improperly managed industrial and commercial activities place our continued nutritional and cultural survival at great risk. This risk comes both from the potential effects of

physical changes and impacts and from the potential for legal challenges to our bowhead whale subsistence quota should a failure of regulatory oversight raise concerns about the health of our bowhead whale stock among the broader public.

Because the AEWC is responsible for protecting our bowhead whale subsistence hunt, that is the cornerstone of our subsistence livelihood andway of life, we take very seriously the changes and impacts we are seeing in our waters and the need for vigilant federal regulatory oversight of potential impacts. We hope that NMFS and NOAA will take seriously the lessons being learned at the Department of the Interior regarding the costs of lax regulatory oversight, in the wake of the Deep Water Horizon disaster. Similarly , we hope that your agencies will take seriously the legal risk our communities face in the context of an increasingly irrational process at the International Whaling Commission .

With respect to the current application, at the outset, we would like to recognize the efforts made by the USGS to meet with representatives of the AEWC and to provide information on the proposed seismic survey work planned for this summer. We appreciate the opportunity to receive information directly from the federal agency planning the activities, and those efforts have helped to provide us with a better understanding of the proposed seismic surveys. We would look forward to further dialogue in the future should the federal government continue with similar work in the Arctic, and we wish to emphasize that, given the willingness of the USGS to work with the AEWC, **we do not object to the issuance of an IHA for these operations, despite the serious process concerns raised in these comments**.

At the same time, however, we must once again vigorously object to the **flawed and broken public process employed by the Office of Protected Resources ("OPR") of NMFS**, in which it purports to accept and consider public comment on requests for Incidental Harassment Authorizations. This particular case provides a stark example of how OPR's process is flawed to the point of being irrelevant for the local impacted communities on the North Slope. Indeed, in this case, **the proposed seismic activities were scheduled to begin at least two days before the public comment period closed**. Moreover, vessel transit across the Chukchi, a major issue of concern for our whaling captains and a focus of the Open Water Season Conflict Avoidance Agreement (CAA), was to begin even earlier.

The AEWC participates in a Cooperative Agreement with NOAA/NMFS for the management of the bowhead whale subsistence hunt, which requires NOAA/NMFS to consult with the AEWC on any federal action potentially affecting bowhead whales. Thus, NMFS has the ability to consult directly with the AEWC and our whaling captains on these matters if time is an issue. Despite this, we are forced to write comments to NMFS expressing our concerns about impacts to our marine mammal species, the operations that are supposedly regulated by NMFS are already occurring out in the water. Rather than consult with the directly affected communities, as it has agreed to do, NMFS ignores us, allowing applicants to commence operations before reviewing our comments submitted as part of the general public process, before responding to our comments, or even before the IHA has been issued. This is no more than a simple exercise in

paper shuffling without any substantive and meaningful opportunity for input from the local community.

We also reiterate, as we have many times in the past, that **NMFS should be imposing the mitigation measures developed in the Conflict Avoidance Agreement** to ensure that regulated activities do not have an unmitigable adverse impact on subsistence activities. In this case, the USGS plans to transit the Chukchi Sea in early August, and the CAA speaks directly to this issue, with those provisions having been developed by our whaling captains and offshore operators over several seasons. Neither USGS nor NMFS discusses at any point in the IHA application or the federal register notice the potential impacts resulting from vessel transit or the protective measures developed by the AEWC, which have been approved by the local whaling captains.

Finally, we reiterate comments we have made with respect to earlier IHA applications for this open water season, namely that OPR lacks an adequate scientific and legal basis for issuing the proposed IHAs. As an example, OPR continues to operate under flawed mitigation measures that fail to provide adequate protections against Level A take, and OPR similarly fails entirely to consider the impacts of this project in the context of all other oil and gas activities planned for the Arctic Ocean. As opposed to restating those comments, we incorporate them by reference and ask that you give serious consideration to the concerns set forth in those earlier documents.[1]

I. NMFS's Public Process is Fundamentally Broken and of Little Use for the Local Impacted Communities

As we have stated for many years, the public process employed by NMFS is ineffective at ensuring that the agency considers adequately and incorporates the concerns of the local communities in regulating activities in the Arctic. We on the North Slope feel like we have no opportunity to influence government decision-making and therefore do not feel like NMFS's decisions reflect the interests or input of the local whaling captains, who have invaluable observations and direct experience, developed over hundreds of generations, to offer. This case presents a stark example of how and why NMFS's public process is fundamentally broken and must be wholly reformulated.

First, we note that Congress clearly recognized the importance of public participation when it required NMFS to provide an opportunity for public comment on the "proposed incidental harassment authorization." 16 U.S.C. § 1371(a)(5)(D)(iii). Congress directed that the public

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[1] Those comments include our July 8, 2010 submissions on the proposed IHA for Statoil (75 Fed. Reg. 32,379), our June 17, 2010 comments on Shell's proposed open-water marine survey program (75 Fed. Reg. 27,708) and our May 19, 2010 comments on Shell's Exploration Drilling Program in the Beaufort Sea (75 Fed. Reg. 20,482). We incorporate those comments by reference herein.

comments period commence "not later than 45 days after receiving an application," that the period be left open for "30 days," and that NMFS then issue the authorization with the required findings "[n]ot later than 45 days after the close of the public comment period." *Id.* Clearly, Congress intended that the local impacted communities have an opportunity to provide substantive feedback to the federal government before decisions are made and **before** any harassment takes place. Indeed, without an IHA, it is illegal for USGS or any other party to harass marine mammals. 16 U.S.C. § 1371(a).

NMFS, in implementing the MMPA, has done everything in its power to gut Congress' expressed intent to provide for meaningful public participation. The way in which NMFS sequences the IHA applications and the public notices renders the public comment process ineffective and irrelevant for NMFS's decision-making process.

Here, for instance, NMFS requested that comments be received by **August 9, 2010**, and the agency then supposedly has 45 days within which to analyze the comments and issue a final IHA. 16 U.S.C. § 1371(a)(5)(D)(iii). In the Federal Register notice, however, NMFS clarifies that USGS's **two ships intend to rendezvous in the survey area on August 7, 2010**. 75 Fed. Reg. at 39337. The obvious problem is that the ships have been deployed, the crews have been informed of their operational restrictions, and **seismic activities have likely commenced before NMFS receives public comment** or issues the final IHA. As a result, we cannot possibly provide any meaningful input into the operations or how they should be regulated. While we are being forced to write detailed comments on a lengthy IHA application and federal register notice, the ships area already out in the water adding noise to the marine environment and transiting the Chukchi Sea. It is absolutely insulting for the activities to commence before the public comment deadline has even been closed.

Moreover, it is readily apparent from this sequencing that **NMFS is actually allowing the USGS to operate without an IHA (or simply looking the other way) during a significant portion of the planned activities**. Based on past experiences, it has taken NMFS several weeks to review public comments and issue a final IHA. Here, USGS plans to operate during August and September, 75 Fed. Reg. at 39336, and yet the public comment period did not close until August 9. Its very likely in this situation that USGS will therefore complete a majority of its planned operations before even receiving from NMFS the actual IHA, which spells out specific mitigation requirements such as monitoring of exclusion zones and shut down and ramp up procedures. In its response to comments, we request explicit clarification from NMFS on whether and to what extent NMFS knew of or allowed USGS to conduct seismic activities before the IHA was issued. We also request explicit clarification on whether USGS or NMFS was in violation of any provisions of the MMPA as a result.

NMFS is also in plain violation of the MMPA by failing to provide to the public a "proposed incidental harassment authorization." 16 U.S.C. § 1371(a)(5)(D)(iii). Instead of providing a draft of the authorization itself, NMFS publishes a federal register notice that describes the application and the basis for the agency's proposed statutory findings. Because it is

the specific authorization itself that governs the harassing activities, it is imperative that we be allowed input into the actual draft authorization and not simply be given a description of the mitigation measures and proposed findings.

For example, the authorization itself must prescribe certain requirements such as "permissible methods for taking by harassment," "means of effecting the least practicable impact on such species," measures to "ensure no unmitigable adverse impact on the availability of the species or stock for taking for subsistence use," requirements pertaining to "monitoring and reporting" and for "independent peer review" of such monitoring and reporting if the taking may affect subsistence use. 16 U.S.C. § 1371(a)(50(D)(ii). Indeed, NMFS's regulations further provide that "[a]ny preliminary finding of 'negligible impact' and 'no unmitigable adverse impact' shall be proposed for public comment along with [] the proposed incidental harassment authorization . . .." 50 C.F.R. § 216.104(c). Without understanding exactly how the IHA incorporates these requirements through specific language, the public is foreclosed from providing input on how the activities will be regulated.

Finally, as we have stated many times in the past, **NMFS has a long track record of publishing its response to our public comments many weeks and months after the IHA has been issued and after the activities have commenced (and in many times concluded)**. This issue again convinces us that our comments are not given serious consideration by the agency before its decision has been made. If the agency cannot articulate a rationale response to public comments, it should not grant the requested authorization. Moreover, if activities are going to commence in our waters, potentially interfering with subsistence activities or the migration of our marine mammals, the government owes us a reasoned response to our concerns before allowing the activities to proceed. Again, as we sit here to write these comments, we know that the boats are already in the water, the activities will begin in a matter of days, and NMFS will not bother to respond to our concerns until well after the harmful activities have taken place. This is little more than an exercise in paper shuffling with the agency already having made up its mind or simply turning a blind eye to activities that will occur without coverage from a valid IHA.

In sum, NMFS's public process is fundamentally broken and must be reformulated. NMFS should not allow USGS to commence operations until we have had the statutorily required opportunity to comment on the draft authorization and NMFS has published responses to those comments. Time and again, Mr. Payne, you have requested input from AEWC and other stakeholders into how NMFS can better respond to our concerns. At bare minimum, we ask that you lead NMFS through a process of reformulating its public participation to provide a meaningful opportunity for the local community. As it stands now, the agency has given every indication that it does not give serious consideration to our concerns.

II. NMFS Should Adopt the Mitigation Measures Set Forth in the Conflict Avoidance Agreement

As you know, our whaling captains have worked for years with the oil and gas industry to design and implement mitigation measures to prevent conflicts between industry operations such as seismic testing and the subsistence activities of the local communities. The CAA contains protective measures that should have been applied to USGS's operations to ensure effective communication between the ships and our whaling captains and to ensure that those ships adhere to travel routes through the Chukchi that our whaling captains have designated.

We are particularly concerned because the Federal Register notice and the IHA application make clear that the USGS intends to transit the *Healy* through the Bering Strait, across the Chukchi Sea and into the survey area in the Beaufort Sea during the first week of August.[2] Again, it is extremely unfortunate that we are only now being given an opportunity to comment on these activities, as they are likely already occurring or have already occurred.

More importantly, however, our whaling captains, through the CAA, have established communication protocols and vessel travel corridors that will avoid conflicts between vessel traffic and subsistence activities. Section 202 of the CAA establishes a communication protocol for vessels and whaling crews to report their location and heading on a regular basis and ensures that both commercial vessels and our whaling captains are able to communicate effectively in the event of incidents. Section 302 of the CAA establishes requirements for vessel routes, which requires that those vessels remain at least five (5) miles offshore in the Chukchi Sea. Section 302 also includes speed limitations and operational restrictions when in the presence of whales.

Instead of adopting or even discussing these provisions as requirements, NMFS simply ignores altogether the potential impacts of the USGS transiting the Chukchi Sea. We ask for clarification from NMFS as to whether it views the USGS's vessel transit as an activity that potentially results in take of marine mammals or adverse impacts to subsistence activities. We are concerned that NMFS failed to consider at all the potential impacts of vessel traffic to and from the survey area. A simple and straightforward manner to address these issues would be to adopt the provision of the CAA or simply require that USGS sign the CAA as a basis for making the statutorily required findings of no unmitigable adverse impacts to subsistence activities.

III. NMFS Continues to Issue IHAs Without an Adequate Scientific and Legal Basis.

As we stated above, we incorporate by reference all of our earlier comments from proposed IHAs for this open water season, in which we set forth how NMFS is issuing IHAs without adequate protections to prevent against Level A take, without adequate monitoring activities and

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[2] IHA Application at 4.

without adhering to the best available science. Given the fact that the activities in the water are already going to occur before NMFS ever even reads our public comments, we will not restate all those arguments again but ask that NMFS review those previous comments.

We will, however, reiterate how **this proposed project clearly demonstrates the flawed nature of NMFS's mitigation measures as they relate to exclusions zones**. As plain logic and the best available science tell us, exclusion zones are only as effective as the people who monitor those areas for marine mammals. Here, NMFS has stated that the "Protected Species Observer" ("PSO") will not be on duty during nighttime operations and yet seismic operations will be allowed to continue 24 hours per day. 75 Fed. Reg. at 39,359. USGS survey crews will encounter as much as 8.5 hours of darkness per day during the survey operations. *Id.* During those times, NMFS states that bridge personnel will keep watch for marine mammals "insofar as practical." *Id.* This requirement is meaningless, as anyone who has spent time on the water will tell you that no bridge personnel can identify marine mammals at night in Arctic conditions.

It is absolutely unacceptable for NMFS to simply look the other way while vessels shoot seismic in the Arctic without any monitoring at all to prevent against Level A take. Given the fact that the proposed operations will emit sounds well in excess of 190 dB, and the fact that USGS will be operating without any observers for much of the time, we fail to see how NMFS could possibly rule out the potential for Level A take. This determination simply has no basis in science or law.

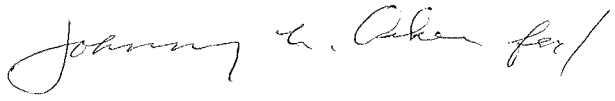
This is just one glaring example of how OPR has failed to regulate adequately activities in the Arctic. In a functional governmental system, NMFS would publish a draft authorization and take public comment on that document well in advance so that our whaling captains could provide meaningful input. In the alternative and in the event of a timing issue, NMFS would consult directly with the AEWC under the NMFS/NOAA-AEWC Cooperative Agreement. Here, however, because the ships have already been deployed, it would be impossible for NMFS to consult with us or review our comments and, for instance, require USGS to implement more rigorous monitoring protocols. That is now impossible or impractical because the ships have already left port. This is but one example of NMFS disregard of its regulatory responsibilities and its utter lack of concern for the local impacts it is charged with preventing.

CONCLUSION

We appreciate the opportunity to provide comment, however the system employed by OPR and NMFS is fundamentally broken. We strenuously object to a public comment process that fails to provide an opportunity for meaningful input before the activities are scheduled to occur. We also reiterate our well-founded concerns that OPR lacks an adequate scientific and legal basis for its decisions. These issues have plagued OPR's program for years, and despite many lessons learned in the offshore context over the past several years, nothing at OPR has changed for the better. We would welcome the opportunity to work with you, Mr. Payne, to improve upon this important regulatory program in the coming months if NMFS and OPR are willing to make

substantive changes to ensure adequate public participation and adequate protection for our local communities and the marine mammals upon which we depend. As it stands now, however, this process is little more than an exercise in paper shuffling to rubber stamp operations already underway.

Sincerely,



Harry Brower
Chairman

cc: AEWC Commissioners
Mayor Edward Itta
Dr. Jane Lubchenco
Eric C. Schwaab

MARINE MAMMAL COMMISSION

2 August 2010

Mr. P. Michael Payne, Chief
Permits, Conservation, and Education Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application submitted by the U.S. Geological Survey seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act to take small numbers of marine mammals by harassment. The taking would be incidental to a marine seismic survey in the northern Beaufort Sea and Arctic Ocean during approximately 30 days in August and September 2010. The Commission also has reviewed the National Marine Fisheries Service's 8 July 2010 *Federal Register* notice (75 Fed. Reg. 39336) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

The U.S. Geological Survey and the Geological Survey of Canada plan to conduct a marine geophysical and bathymetric survey to investigate the continental shelf from 71 to 84°N latitude, 145 to 151°E longitude in U.S., Canadian, and international waters of the northern Beaufort Sea and Arctic Ocean. The survey would occur in waters 1,900 to 4,000 m (6,230 to 13,120 ft) in depth and consist of approximately 1,803 km (1,120 mi) of tracklines of interest to the United States, 809 km (501 mi) of which are within the U.S. Exclusive Economic Zone (i.e., waters out to 200 nmi from shore). The U.S. Geological Survey would use the U.S. Coast Guard Cutter *Healy* for ice-breaking activities associated with the survey, and the Geological Survey of Canada would use the Canadian Coast Guard vessel *Louis S. St. Laurent* for deployment and operation of a 3-airgun array (1,150 in^3; with a nominal source level 236.7 dB re 1 µPa (0-to-peak)). The *St. Laurent* also would operate a 12-kHz chirp echo sounder and a 3 to 5-kHz sub-bottom profiler. It would deploy sonobuoys and tow a single hydrophone streamer approximately 300 m in length. The *Healy* continuously would operate a 12-kHz bathymetric multi-beam echo sounder, a 3.5-kHz chirp sub-bottom profiler, a piloting echosounder, and two acoustic Doppler current profilers.

RECOMMENDATIONS

The Marine Mammal Commission recommends that the National Marine Fisheries Service approve the requested incidental harassment authorization, provided that the Service—

- ascertain who will be responsible for operating the Canadian vessel and the airguns and other instruments deployed from the *St. Laurent* and issue an incidental harassment authorization for these activities only if a U.S. agency or U.S. citizen(s) will be conducting those operations;

- work with the applicant to re-estimate exposures for ice-breaking activities based upon the total area that may be exposed to sound levels greater than or equal to 120 dB re 1 μPa (rms);
- advise the applicant to consult with the Fish and Wildlife Service regarding the need for a separate incidental taking authorization for walruses and polar bears;
- provide additional justification for its preliminary determination that the planned monitoring program will be sufficient to detect, with a high level of confidence, all marine mammals within or entering the identified exclusion zones;
- clarify the meaning of the qualifiers "when practical," "if practical," and "when feasible" to indicate how often and under what specific conditions the applicant expects to use (1) two marine mammal observers to monitor the exclusion zone for marine mammals during daytime operations and nighttime start-ups of the airguns, (2) crew members to assist observers in detecting marine mammals and implementing mitigation requirements, and (3) marine mammal observers during daytime periods to compare sighting rates and animal behavior during times when seismic airguns are and are not operating
- propose to the U.S. Geological Survey that it revise its study design to collect meaningful baseline data on sighting rates for marine mammals;
- require the applicant to collect information to evaluate the assumption that 160 dB re 1 μPa (rms) is the appropriate threshold at which harassment occurs for all marine mammals in the survey area; and
- require the applicant to make observations during all ramp-up procedures to gather the data needed to analyze and report on their effectiveness as mitigation.

RATIONALE

The Service preliminarily has determined that, at most, the proposed activities would result in a temporary modification in the behavior of small numbers of up to 13 species of marine mammals and that any impact on the affected species is expected to be negligible. The Service also preliminarily has determined that no take of marine mammals by death or serious injury is anticipated and that the potential for temporary or permanent hearing impairment will be at the lowest level practicable based on the proposed mitigation measures.

Availability of an Incidental Harassment Authorization

The Marine Mammal Commission supports international cooperation in marine research and management, including activities such as those proposed by the U.S. Geological Survey and its Canadian counterpart, the Geological Survey of Canada. However, the Marine Mammal Protection Act imposes a limitation on incidental harassment authorizations for such activities. Section 101(a)(5)(D)(i) of the Act specifies that incidental harassment authorizations only are available to citizens of the United States. Implementing regulations at 50 C.F.R. § 216.103 define "citizens of the United States" to mean "individual citizens or any corporation or similar entity if it is organized under the laws of the United States or any governmental unit defined in 16 U.S.C. [§] 1362(13). U.S. Federal, state and local government agencies shall also constitute citizens of the United States…."

The activities of the Geological Survey of Canada and the crew of the *St. Laurent* are not subject to the Marine Mammal Protection Act when they occur outside the U.S. EEZ. Inside the U.S. EEZ, their activities do not qualify for an incidental harassment authorization because they do not meet the definition of U.S. citizens. Thus, it appears that the activities of the *St. Laurent* cannot be authorized under section 101(a)(5)(D) if the vessel is under the control of the Geological Survey of Canada and a Canadian crew. If, however, the U.S. Geological Survey controls the operation of the *St. Laurent* and associated airguns and instruments, the portion of the survey in U.S. waters can be authorized under the Act. If the U.S. Geological Survey would continue to control the operations of the *St. Laurent* beyond the U.S. EEZ, then any incidental harassment authorization also must cover those operations. Therefore, the Marine Mammal Commission recommends that the National Marine Fisheries Service ascertain who will be responsible for operating the Canadian vessel and the airguns and other instruments deployed from the *St. Laurent* and issue an incidental harassment authorization for these activities only if a U.S. agency or U.S. citizen(s) will be conducting those operations.

In contrast to the Canadian vessel and crew, the *Healy* is a U.S. vessel with a U.S. crew. In the case of the *Healy*, the Act's taking prohibition not only applies in waters subject to U.S. jurisdiction but also on the high seas beyond the U.S. EEZ. Therefore, the activities of the *Healy* require an incidental harassment authorization when it is operating within U.S. territorial waters, the U.S. EEZ, in international waters, and within the Canadian EEZ (i.e., beyond Canada's 12-nmi territorial sea). The U.S. Geological Survey appropriately has applied for an authorization for its activities in all of these areas.

The discussions of monitoring and mitigation measures assume that U.S. citizens will be conducting the activities that are expected to result in the incidental taking of marine mammals within waters subject to U.S. jurisdiction (e.g., vessel operations and airgun firing). If this is not the case, then a waiver of the Marine Mammal Protection Act's moratorium on taking under sections 101(a)(3) and 103 of the Act appears to be the only option that would allow incidental take within U.S. waters. Beyond the U.S. EEZ, such a waiver would not be necessary if operations were being conducted by a Canadian crew.

Exposure Estimates

The Service's *Federal Register* notice and the U.S. Geological Survey's application state that, for ice-breaking activities, 4,109 km^2 (1,587mi^2) of water will be exposed to sound levels greater than or equal to 120 dB re 1 µPa (rms) but that 5,137 km^2 (1,983 mi^2) will be used to estimate the number of marine mammals exposed. The greater area allows for turns, repetition of certain track lines because of poor data quality, or minor changes in survey design. The Service's notice indicates that exposures due to ice-breaking activities (a continuous rather than impulsive sound source) will be estimated based on the total area that may be exposed to sound levels greater than or equal to 120 dB re 1 µPa (rms). However, it appears that the estimated exposures for ice-breaking activities were determined using the lesser area (i.e., 4,109 km^2); thus exposures due to ice-breaking activities may have been underestimated. The Marine Mammal Commission recommends that the National Marine Fisheries Service work with the applicant to re-estimate exposures for ice-breaking activities based

upon the total area that may be exposed to sound levels greater than or equal to 120 dB re 1 μPa (rms).

Walruses and Polar Bears

Walruses and polar bears occur in the proposed survey area but are under the jurisdiction of the U.S. Fish and Wildlife Service. As such, the Service indicated in its *Federal Register* notice that, although these species occur in the proposed survey area, they "are not considered further in the analysis." The Commission believes that this is appropriate but questions why the Service included the level of detail that it did regarding these two species in its *Federal Register* notice. It is important to note that walruses and polar bears occur in the survey area and could be taken incidental to the proposed activities. To address that concern, the Marine Mammal Commission recommends that the National Marine Fisheries Service advise the applicant to consult with the Fish and Wildlife Service regarding the need for a separate incidental taking authorization for walruses and polar bears.

Monitoring

The Service's preliminary determination is that taking will be by harassment only and will have a negligible impact on the affected species and stocks. That determination is based, in part, on the presumed efficacy of the proposed monitoring measures. However, the Service's previous *Federal Register* notices regarding similar requests and the Commission's related comments recognize that visual monitoring is not effective during periods of bad weather or at night. Furthermore, even with good visibility, observers are unable to detect marine mammals when they are below the surface or beyond visual range. Thus, visual monitoring alone will not detect all marine mammals within the exclusion zones—particularly when those zones include all areas within 2,500 m (8,202 ft) of the vessel. Therefore, the Marine Mammal Commission recommends that, prior to granting the requested authorization, the National Marine Fisheries Service provide additional justification for its preliminary determination that the planned monitoring program will be sufficient to detect, with a high level of confidence, all marine mammals within or entering the identified exclusion zones. At a minimum, such justification should (1) identify those species that it believes can be detected with a high degree of confidence using visual monitoring only, (2) describe detection probability as a function of distance from the vessel, (3) describe changes in detection probability under various sea state and weather conditions and at night, and (4) explain how close to the vessel marine mammals must be for observers to achieve the anticipated high nighttime detection rate. If such information is not available, the Service and the applicant should undertake the studies needed to verify that the proposed monitoring program is likely to detect all or nearly all marine mammals in or near exclusion zones and/or to encourage development of alternative means of detecting marine mammals in or near those zones.

The *Federal Register* notice states that five observers will be based aboard the *St. Laurent*, and at least one observer and "when practical two observers" will monitor marine mammals near the seismic vessel during daytime operations and nighttime start-ups of the airguns (noting that the use of two observers simultaneously will increase the effectiveness of detecting animals near the source vessel). It further states that the applicant also will instruct other crew to assist in detecting marine mammals and implementing mitigation requirements, if practical. The terms "when practical" and

"if practical" are not entirely clear in this instance and do not convey how frequently these enhanced monitoring practices will be implemented. Similarly, the notice states that, "when feasible," marine mammal observers will make observations during daytime periods when the seismic system is not operating to compare sighting rates and animal behavior when airguns are operating versus when they are not. The term "when feasible" also is vague, and it is not clear how frequently such observations will be made. The Marine Mammal Commission recommends that, before issuing the requested authorization, the National Marine Fisheries Service clarify the meaning of the qualifiers "when practical," "if practical," and "when feasible" to indicate how often and under what specific conditions the applicant expects to use (1) two marine mammal observers to monitor the exclusion zone for marine mammals during daytime operations and nighttime start-ups of the airguns, (2) crew members to assist observers in detecting marine mammals and implementing mitigation requirements, and (3) marine mammal observers during daytime periods to compare sighting rates and animal behavior during times when seismic airguns are and are not operating.

In addition, the notion that informative comparisons can be made between marine mammal observations when airguns are and are not firing depends on the period of time that the airguns are silent. If firing of the airguns causes marine mammals to depart an area or alter their behavior, a comparison after the airguns are silenced would be meaningful only if sufficient time has elapsed for the marine mammals in the area to return to their normal distribution and behavior. Because such a return may take days, weeks, or longer, collecting baseline information based on brief, intermittent periods when airguns are not firing seems questionable at best and completely unreliable at worst. If the Service and the applicant intend to collect meaningful, reliable baseline information, then they should develop a research design that takes into account the species present, their behavioral patterns, seasonal movements, and—to the extent known—their responses to the types of sounds that will be generated by the proposed activities. Otherwise, the Service and the applicant will have no real scientific basis for describing baseline conditions in the survey area. With that in mind, the Marine Mammal Commission recommends that the National Marine Fisheries Service propose to the U.S. Geological Survey that it revise its study design to collect meaningful baseline data on sighting rates for marine mammals. Such information is essential for a realistic assessment of impacts from the proposed activities and recovery from those impacts.

The use of a single sound threshold, such as 160 dB re 1 μPa (rms), to provide an adequate basis for determining when certain effects (e.g., sufficient to constitute a taking by Level B harassment) will or will not occur (i.e., whether disturbance of marine mammal behavioral patterns occurs) has yet to be substantiated. The Service's *Federal Register* notice acknowledges that disturbance (presumably including disturbance that would constitute Level B harassment) may occur at a wide range of sound levels. So, too, does the application, which states that—

> Beluga whales have been documented swimming rapidly away from ships and icebreakers in the Canadian high arctic when a ship approaches to within 35-50 km, and they may travel up to 80 km from the vessel's track (Richardson et al. 1995). It is expected that belugas avoid icebreakers as soon as they detect the ships (Cosens and Dueck 1993).

The application does not mention that the received levels at the whales were only 94-105 dB in the 20-1,000 Hz band, that they elicited strong avoidance reactions, or that the whales were displaced as much as 80 km. The application just cites Richardson et al. 1995, but the full reference for the study is—

> Finley, K.J., Miller, G.W., Davis, R.A., and Greene, C.R. 1990. Reactions of belugas, *Delphinapterus leucas*, and narwhals, *Monodon monoceros*, to ice-breaking ships in the Canadian High Arctic. Pp. 97–117 *in* T.G. Smith, D.J. St. Aubin, and J.R. Geraci (eds.), Advances in research on the beluga whale, *Delphinapterus leucas*. Canadian. Bulletin of Fisheries and Aquatic Sciences 224.

Furthermore, the directive of section 101(a)(5)(D) of the Marine Mammal Protection Act is not just to determine whether the disturbance resulting from a stimulus at a certain threshold might result in the taking of marine mammals and whether the impact of such takings is negligible. Rather, the Act requires the Service to prescribe means of "effecting the least practicable impact" to the affected marine mammal species and stocks by, for example, minimizing any such disturbance to the extent practicable, irrespective of any presumed threshold. Although it may be reasonable to start with an assumption that, for some species, harassment is not likely to occur at sound levels less than 160 dB re 1 μPa (rms), for other species (e.g., bowhead and beluga whales) the available information indicates behavioral responses at much lower sound levels. This being the case, the Marine Mammal Commission recommends that the National Marine Fisheries Service require the applicant to collect information to evaluate the assumption that 160 dB re 1 μPa (rms) is the appropriate threshold at which harassment occurs for all marine mammals in the survey area. This assumption can and should be tested using in-situ measurements of sound propagation concurrent with observations of the responses of marine mammals exposed to such sounds. Such tests should be conducted using species-specific data, and test results should be used to inform decision makers regarding the applicability of the 160-dB re 1 μPa (rms) threshold for specific species and to improve future mitigation measures.

Mitigation

As the Commission has noted in previous correspondence, the effectiveness of ramp-up has yet to be empirically verified. The Service should not continue to assume that ramp-up constitutes effective mitigation without empirical verification. Such verification not only may require collecting opportunistic data but also designing and conducting studies to test specific hypotheses regarding the utility of ramp-up and analysis of responses of the various species encountered. Had the Service implemented a policy five years ago that required sound producers to collect and report data regarding the efficacy of ramp-up procedures, the scientific community would have had ample information for determining the utility of this mitigation measure. The Service's continued failure to add this requirement is contrary to the notion of implementing science-based management methods. For those reasons, the Marine Mammal Commission recommends that the National Marine Fisheries Service require the applicant to make observations during all ramp-up procedures to gather the data needed to analyze and report on their effectiveness as mitigation. Such analyses would provide a stronger scientific basis for this particular monitoring measure. As it has noted in past correspondence, the Commission would be pleased to discuss with the Service the collection and

analysis of such data and the design of such experiments to promote a better understanding of the utility and shortcomings of ramp-up as a mitigation measure.

Please contact me if you have questions about the Commission's recommendations and comments.

Sincerely,

Timothy J. Ragen

Timothy J. Ragen, Ph.D.
Executive Director

North Slope Borough

OFFICE OF THE MAYOR

P.O. Box 69
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Edward S. Itta, Mayor

August 9, 2010

Sent Via Email to PR1.0648-XW05@noaa.gov

P. Michael Payne
Permits, Office of Protected Resources
National Marine Fisheries Service
1315 East-West highway
Silver Spring, MD 20910-3225

Re: RIN 0648–XW05, Taking Marine Mammals Incidental to Open Water Marine Seismic Survey in the Beaufort Sea, Alaska.

Dear Mr. Payne:

Thank you for the opportunity to comment on the National Marine Fisheries Service's (NMFS) proposed authorization of incidental take by the United States Geological Survey (USGS) of marine mammals from proposed surveys in the Beaufort Sea this summer.

The North Slope Borough (NSB or Borough) has the largest coastal jurisdiction of any municipal government in the United States and encompasses an onshore area larger than the state of Minnesota. We have multiple interests at stake in the Arctic Ocean Outer Continental Shelf (OCS).

First and foremost the Borough and its residents are rightfully concerned about potential health impacts associated with offshore development on the North Slope. Activities allowed by the proposed authorization pose direct, indirect, and cumulative impacts on species that are critical to our people's subsistence harvest. Although many of our residents are engaged in the cash economy, we continue to depend heavily on subsistence to maintain and support cultural and nutritional needs. Traditional foods are far more nutritious than many types of imported "store-bought" food, and their continued consumption has repeatedly been shown to be critical to

the health of the residents.[1] Subsistence activities are also crucial for passing skills, knowledge and values from one generation to the next, thus ensuring cultural continuity and vibrancy.

Second, we are concerned that NSB communities are being overwhelmed by multiple planning processes both because of constraints on time and expertise of communities and individuals and because of the seeming inability to meaningfully influence the decisions being made.

The ongoing disaster in the Gulf of Mexico makes clear that our concerns are well-founded. The potentially significant impacts of industrial activities and environmental changes offshore individually and cumulatively demand comprehensive environmental analysis and proven mitigation prior to the issuance of any additional incidental take authorization.

With respect to the current application we recognize the efforts made by the USGS to meet with representatives of our communities and to provide information on the proposed seismic survey work planned for this summer. We appreciate receiving information directly from the federal agency planning the activities, and that has helped to provide us with a better understanding of the proposed seismic surveys. We would look forward to further dialogue should the federal government continue with similar work in the Arctic, and given the willingness of the USGS to work with our communities, we wish to emphasize that we do not object to the issuance of an IHA for these operations, despite the serious process concerns raised in these and prior comments.

At the same time, however, we object to the ongoing flawed process employed by the Office of Protected Resources (OPR) of NMFS, in which it purports to accept and consider public comment on requests for Incidental Harassment Authorizations. This particular case highlights how OPR's process is flawed to the point of being irrelevant for the affected local communities on the North Slope. For instance, in this action the proposed seismic activities were scheduled to begin at least two days before the public comment period closed. Moreover, vessel transit across the Chukchi, a major issue of concern for our whaling community and a focus of the Open Water Season Conflict Avoidance Agreement (CAA), was to begin even

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[1] The subsistence diet protects against obesity and diabetes, and associated problems such as hypertension and cardiovascular disease. Restricted access to subsistence foods therefore places the community at increased risk for these problems. If subsistence use in the region is reduced, very significant increases in obesity and diabetes in the impacted communities would predictably ensue. *See*

Ebbesson SO, Kennish J et al. Diabetes is Related to Fatty Acid Imbalance in Eskimos. *International Journal of Circumpolar Health.* 58: 108-119. 1999.

Shephard R and Rode A. The Health Consequences of Modernization: Evidence from Circumpolar Peoples. Cambridge University Press. 1996

Curtis T, Kvernmo S et al. Changing Living Conditions, Lifestyle, and Health. *International Journal of Circumpolar Health.* 64(5) 442-450

Jorgensen M, Bjerregaard P et al. Diabetes and impaired glucose tolerance among the Inuit of Greenland. *Diabetes Care.* 26: 1766-1771. 2002.

Ebesson S, Schraer C et al. Diabetes and impaired glucose tolerance in three Alaskan Eskimo Populations. *Diabetes Care.* 21: 563-569. 1998.

Hogan P et al. Economic Costs of Diabetes in the U.S. in 2002. *Diabetes Care.* 2003. 26: 917- 932.

earlier.

We also reiterate that NMFS should be imposing the mitigation measures developed in the Conflict Avoidance Agreement to ensure that regulated activities do not have an unmitigable adverse impact on subsistence activities. In this case, the USGS plans to transit the Chukchi Sea in early August and the CAA speaks directly to this issue, with those provisions having been developed by our whaling captains and offshore operators over several seasons. Neither USGS nor NMFS discusses in the IHA application or the federal register notice the potential impacts resulting from vessel transit or the protective measures developed by the AEWC, which have been approved by the local whaling captains.

Finally, we reiterate comments we have made with respect to earlier IHA applications for this open water season, namely that OPR lacks an adequate scientific and legal basis for issuing the proposed IHAs. As an example, OPR continues to operate under flawed mitigation measures that fail to provide adequate protections against Level A take. And, OPR similarly fails entirely to consider the impacts of this project in the context of all other oil and gas activities planned for the Arctic Ocean. As opposed to restating those comments, we incorporate them by reference and ask that you give serious consideration to the concerns set forth in those earlier documents.[2]

In conclusion, while we do not object to NMFS' current proposed authorization of incidental take of marine mammals from its contemplated seismic surveying in the Beaufort Sea during 2010 by USGS, we respectfully request that you review and revise your future IHA review and approval process to allow for more meaningful involvement and consideration of our concerns.

Thank you for consideration of these comments.

Sincerely,

Edward S. Itta
Mayor

Attachment

cc:

Bessie O'Rourke, NSB Attorney
Dan Forster, Director, NSB Department of Planning and Community Services
Taqulik Hepa, Director, NSB Department of WildlifeManagement
Andy Mack, NSB Mayor's Office
Karla Kolash, NSB Mayor's Office

[2] On July 12, 2010, we submitted comments on the environmental assessment of this proposed action. We have attached those comments and ask that you consider them in carrying out this review.

North Slope Borough

OFFICE OF THE MAYOR

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Edward S. Itta, Mayor

July 12, 2010

Via Electronic Mail: jchilds@usgs.gov

Jonathan R. Childs
U.S. Geological Survey
Mail Stop 999, 345 Middlefield Rd.
Menlo Park, CA 94025

Re: Environmental Assessment of a Marine Geophysical Survey by the U.S. Geological Survey in the Arctic Ocean, August-September 2010. 75 Fed. Reg. 33,325 (June 11, 2010).

Dear Mr. Childs:

Thank you for the opportunity to comment on the United States Geological Survey (USGS) draft Environmental Assessment (EA) for its proposed surveys in the Beaufort Sea this summer.

USGS proposes to conduct seismic surveys with a U.S. Coast Guard icebreaker in the Beaufort Sea in August and September, 2010 in collaboration with a Canadian government icebreaker. It will be carried out with a 1,150 cubic inch air gun array, which will be fired from the Canadian icebreaker. The draft EA covers the final year of a four-year project. The only apparent difference between the survey planned for 2010 and previous years is how close the 2010 survey is located to the Alaskan coast. The same species, and possibly the same individuals, have been exposed to the seismic sounds generated across the years of this project. Even though the airguns are being deployed from the Canadian vessel, the project is jointly funded by the U.S. and Canada.

An EA should have been conducted for previous years of the project and the responsible agencies should have applied for Incidental Harassment Authorizations. The potential exists for marine mammals to be physically harmed by this project and a strong potential exists for behavioral harassment. The U.S. Federal government should be diligent in protecting marine mammals and subsistence hunters from projects, especially those conducted by U.S. agencies.

The North Slope Borough (NSB or Borough) has the largest coastal jurisdiction of any municipal

government in the United States and encompasses an onshore area larger than the state of Minnesota. We have multiple interests at stake in the Arctic Ocean Outer Continental Shelf (OCS).

The Borough and its residents are rightfully concerned about potential health impacts associated with offshore development on the North Slope. Activities allowed by the proposed authorization pose direct, indirect and cumulative impacts on species that are critical to our people's subsistence harvest. Although many of our residents are engaged in a cash economy, we continue to depend heavily on subsistence to maintain and support cultural and nutritional needs. Traditional foods are far more nutritious than many types of imported "store-bought" food and their continued consumption has repeatedly been shown to be critical to the health of the residents.[1] Subsistence activities are also crucial for passing skills, knowledge and values from one generation to the next, thus ensuring cultural continuity and vibrancy.

We are also very concerned that NSB communities are being overwhelmed by multiple planning processes, both because of constraints on time and expertise of communities and individuals and because of the seeming inability to meaningfully influence the decisions being made.

The ongoing disaster in the Gulf of Mexico makes clear that our concerns are well-founded. The potentially significant impacts of industrial activities and environmental changes offshore, individually and cumulatively, demand comprehensive environmental analysis and proven mitigation prior to the issuance of any additional incidental take authorization.

I. USGS has Not Adequately Analyzed Harassment Associated with Noise.

The Marine Mammal Protection Act (MMPA) defines harassment to mean any act of pursuit, torment or annoyance that 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,

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[1] The subsistence diet protects against obesity and diabetes, and associated problems such as hypertension and cardiovascular disease. Restricted access to subsistence foods therefore places the community at increased risk for these problems. If subsistence use in the region is reduced, very significant increases in obesity and diabetes in the impacted communities would predictably ensue. *See*

Ebbesson SO, Kennish J et al. Diabetes is Related to Fatty Acid Imbalance in Eskimos. *International Journal of Circumpolar Health.* 58: 108-119. 1999.

Shephard R and Rode A. The Health Consequences of Modernization: Evidence from Circumpolar Peoples. Cambridge University Press. 1996

Curtis T, Kvernmo S et al. Changing Living Conditions, Lifestyle, and Health. *International Journal of Circumpolar Health.* 64(5) 442-450

Jorgensen M, Bjerregaard P et al. Diabetes and impaired glucose tolerance among the Inuit of Greenland. *Diabetes Care.* 26: 1766-1771. 2002.

Ebesson S, Schraer C et al. Diabetes and impaired glucose tolerance in three Alaskan Eskimo Populations. *Diabetes Care.* 21: 563-569. 1998.

Hogan P et al. Economic Costs of Diabetes in the U.S. in 2002. *Diabetes Care.* 2003. 26: 917- 932.

migration, breathing, nursing, breeding, feeding or sheltering.[2] An activity constitutes harassment if it has even the "potential" to affect marine mammal behavior.

In a previous EA, the National Marine Fisheries Service (NMFS) made clear the potential for harassment from seismic surveying and the need for mitigation that includes a protective 120-dB exclusion zone:

> NMFS considers the feeding, socializing and migration of bowhead whales during the fall westward migration to be critical to bowhead whale survival. The reason for the 120-dB-related conditions and the requirement for two aerial surveys is that preliminary information from a Canadian seismic survey in 2006 indicates that a tagged bowhead whale migrating westward ceased its migration until the seismic survey ended. This reaction is of concern to NMFS principally because one animal's response to seismic sounds is a likely indicator that a larger population of bowheads could exhibit the same reaction to seismic sound and possibly even drilling noise.[3]

But here, USGS estimates the number of whales exposed to airgun sounds of 160 dB re: 1 μPa or higher. This uniform approach to harassment does not take into account known reactions of marine mammals, particularly bowhead and beluga whales, in the Arctic to levels of noise far below 160 dB.

In determining the impacts on marine mammals, USGS has also only considered limited sources of sounds. The EA focuses on airgun sounds for its estimates of take. Activities that use equipment other than airguns should be considered in the assessment of impacts. For example, ship sounds, particularly ice breaker noise, should also be considered in determining potential impacts.

Finally, USGS should also consider global warming-induced changes relating to the oceanic acoustical environment, such as the relationship between acidification and oceanic sound absorption.

II. USGS Should Review the Cumulative Impacts of Its Activities in Combination with All Other Past, Present and Reasonably Foreseeable Future Activities.

USGS will need to adequately consider the cumulative impacts of its proposed activities combined with all other past, present and reasonably foreseeable future activities.[4]

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[2] 16 U.S.C. § 1362(18)(A)(ii).

[3] NMFS, Environmental Assessment for the Shell Offshore, Inc. Incidental Harassment Authorization to Take Marine Mammals Incidental to an Offshore Drilling Program in the U.S. Beaufort Sea Under the Marine Mammal Protection Act, at 9 (October 2007).

[4] 40 C.F.R. § 1508.7.

Specifically, and as discussed in greater detail below, USGS should ascertain the significance of multiple exposures to underwater noise, ocean discharge, air pollution, and vessel traffic—all of which could impact bowhead whales and decrease survival rates or reproductive success. USGS should consider how many bowhead whales and other marine mammals would be exposed to underwater noise, where those exposures could take place, what impact the noise could have on bowhead and other marine mammal behavior, and the biological significance of these impacts. USGS should also consider the cumulative impact of discharge and whether bioaccumulation of contaminants could have lethal or sub-lethal effects on bowhead whales and other marine mammals. USGS should then synthesize that information into a health impact assessment looking at the overall combined effect to the health of our residents.

Reasonably foreseeable activities for the 2010 open water season include the following:

1) GX Technology's Beaufort Sea seismic surveys.
2) Shell's Beaufort and Chukchi open water surveys.
3) Seismic surveys planned in the Canadian Arctic.
4) Statoil's Chukchi seismic surveys.
5) BP's production operations at Northstar.
6) Dalmorneftegeophysica (DMNG) Russian Far East Offshore Seismic surveys.

a. Air Quality

Despite the project's use of two icebreakers, which are known to be very large emitters of air quality pollutants including hazardous air pollutants and greenhouse gases, the EA does not appear to contain an assessment of the proposal's air quality impacts. Please review and provide such an analyses taking into account the cumulative impacts of other past, present and foreseeable future projects, including those referenced above.

b. Water Quality

Sanitary and Domestic Discharges

Table 1 below demonstrates the crew sizes for the two survey ships based on the information provided in the EA.

Table 1. Estimated Wastewater Discharges from the Healy & St. Laurent Survey

Vessel Name	Crew Size
CGC Healy[5]	53
CCGS St. Laurent[6]	138
Total	191

[5] U.S. Coast Guard Cutter (CGC) Healy.

[6] Canadian Coast Guard Ship (CCGS) Louis S. St. Laurent

Based on overall crew size of the CGC Healy and CCGS St. Laurent, total wastewater flow rates can be estimated. The estimated total sanitary and domestic wastewater flow rate is estimated in the range between 6,876 and 11,842 gallons per day from the two ships.[7]

But no water quality assessment was performed by the USGS to determine likely pollutant impacts for pathogenic bacteria, nutrients (nitrogen and phosphorus), waste heat, and treatment chemicals (if any). These pollutant parameters may have direct and indirect adverse effects on marine mammals and their prey food. No information for water pollutant treatment levels or criteria is provided by the USGS.

The USGS states[8]:

> The Arctic Ocean is classified as a low productivity ecosystem, a consequence of the extensive seasonal ice cover and extreme weather conditions. Arctic plankton show[s] weak diurnal vertical migrations but pronounced seasonal ones. Arctic fauna is impoverished and consists mainly of organisms derived from the Atlantic Ocean. The biomass is low, often dominated by one of only a few species. Because of the extensive areas of sediments, arctic benthic fauna is mainly an infauna. Specialized endemic fish are not present in the Arctic. Marine mammals however, are relatively diverse.

The USGS also characterizes the Beaufort Sea region to be surveyed as having a low productivity ecosystem, low biomass and impoverished fauna. But USGS then fails to assess the impact of the proposed action's discharge of nutrients, waste heat and treatment chemicals on this unique ecosystem, its resident marine mammals and their prey food.

Moreover, discharge of nutrients, waste heat, treatment chemicals and other pollutant parameters may have longer-term effects, which extend beyond the actual duration of the survey. Nutrients, for example, will be taken up by aquatic organisms and incorporated into the food web. No assessment of the effect of the survey's discharges on the Beaufort Sea nutrient cycle was conducted by the USGS

Thermal Discharges

Direct thermal discharges from engines and generators aboard the two ships was not quantified or evaluated for effects on marine mammals and their prey food.

Table 2 shows the amount of fuel provisioned for the two survey vessels based on information in the EA. Waste heat generated from these 2.5 million gallons of fuel will be discharged to the Beaufort Sea environment primarily through air emissions and cooling water discharges.

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[7] Based on a typical per capita wastewater range of 36 to 62 gpd per capita and a total crew numbering 191 individuals.

[8] On page 21 of the EA, 1st paragraph under "Biological Environment"

Table 2. Estimated Potential Fuel Consumption from Survey Vessels

Vessel Name	Fuel Consumption (gallons)
CGC Healy	1,220,915
CCGS St. Laurent	1,267,938
Total	2,488,853

The USGS has not quantified or evaluated the direct and indirect effects of increased waste heat discharged to the Beaufort Sea despite the potential impacts on marine mammals and their prey food. Moreover, no assessment was made of the metals and biocides typically contained in cooling water discharges. These metals and biocides exert a direct toxic effect on aquatic organisms including the prey food of marine mammals.

Cumulative WQ Impacts

The USGS did not consider the cumulative adverse effects of waste heat, pathogenic bacteria, nutrients, treatment chemicals and other pollutants to be discharged to the Beaufort Sea as part of the proposed survey. These pollutant parameters overlap similar types of discharges already being discharged into the Beaufort Sea, in particular, by the oil and gas industry.

The EA states[9]:

> Oil and gas development in the Alaskan Beaufort Sea and on the Arctic Coastal Plain has been considerable. USDI/MMS (2003) listed 17 offshore North Slope oil and gas discoveries and 46 onshore discoveries as of 1 July 2002.

Discharges of pollutants from the proposed survey are cumulatively imposed on the increased and ongoing development in the Beaufort Sea. The USGS has not quantified or evaluated the survey's effects of these cumulative pollutant loads in the Beaufort Sea.

Potential Sediment Core Sampling Effects

The EA does not discuss whether sediment core sampling will be conducted alongside the airgun survey. However, it is common that these core samples are conducted to support the airgun survey results with chemical and sediment morphology data.

For example, dart cores are heavy steel tubes, lowered over the side of survey ships to collect sediments. Silt plumes, turbidity, and other pollution dispersed throughout the water column may result. If it is to be conducted during the proposed survey, the EA has provided no assessment of turbidity effects resulting from sediment sampling.

[9] On page 73 of the EA, 1st paragraph under "Oil and Gas Development"

Please indicate whether USGS plans to conduct sediment sampling during the survey. If so, please indicate whether the USGS plans to provide the sediment plan, quantification and/or assessment of turbidity effects.

III. USGS Should Consider and Address Disproportionate Impacts in Analyzing the IHA Application.

Federal agencies must "make achieving environmental justice part of ... [their] mission[s]."[10] Compared to many U.S. residents, our residents (many of whom are part of federally recognized tribes) face significant impacts from oil and gas activities in the OCS. USGS should thus specifically address issues of environmental justice in considering this application. USGS must also work to ensure effective public participation and access to information, and must "ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public."

In addition to the foregoing, below are additional comments from the NSB wildlife scientists:

Pg. 5, Schedule, 1st paragraph:

No geophysical surveys should be conducted on the Beaufort Sea shelf from August 25, 2010 through the completion of subsistence hunting in Kaktovik and Nuiqsut. The Alaska Eskimo Whaling Commission (AEWC) and the village whaling captains have devised mitigation measures to protect subsistence hunting. The hunts in those two villages typically begins around September 1. Stopping seismic surveys several days before the hunt will allow bowheads to be less impacted by anthropogenic sounds and less skittish. The USGS should either implement an August 25, 2010 shutdown for activities on the Beaufort Sea shelf or negotiate an agreement with the AEWC about when and where their activities should occur.

Pg. 14, 3rd paragraph:

> The USGS states that there is "no plan to implement an acoustic monitoring program during the proposed seismic survey." This approach is not appropriate. The propagation properties vary widely in a single location in the ocean depending on various environmental conditions. An acoustic monitoring program should be implemented to verify safety radii and to assist in estimating "takes" of marine mammals during the surveys. Marine mammal observers (MMOs), or Protected Resource Observers (PROs) as they are called in the EA, are not sufficient for determining behavioral takes or implementing mitigation measures to protect whales, especially feeding whales or cow/calf pairs. Real-time acoustic monitoring, perhaps via the use of sonobuoys, should be used during the 2010 seismic surveys. Additionally, data are needed on the sounds and variation in those sounds produced by icebreakers during various types of activities,

[10] Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." Section 6-606 applies the Order equally to Native American Programs.

including breaking ice, managing ice, or operating in open water. Additional ice breaker cruises will occur in the Beaufort and Chukchi Seas. Data on sound propagation will be needed to understand and mitigate impacts during future activities.

Pg. 15, last sentence:

The USGS proposes to use only the 160 dB zone for estimating takes of marine mammals. This is not the appropriate sound level for estimating and measuring behavioral harassment. The best available science indicates that bowheads, and likely belugas, are sensitive to seismic and other anthropogenic sounds at a much lower level than 160 dB. Bowheads in the Alaskan Beaufort Sea have been shown to avoid areas that are ensonified by anthropogenic sounds to levels of 120 dB or perhaps even lower. Thus, USGS should estimate and measure behavioral impacts to bowheads within the 120 dB zone, especially if they are going to be operating seismic airguns during September, when bowheads and belugas are migrating across the Beaufort Sea shelf.

Pg. 19, Alternative Action, 3rd paragraph:

USGS suggests that their geophysical surveys in August and September will not interfere with bowhead hunts in Kaktovik, Nuiqsut or Barrow. This may be true, but because airguns sounds propagate considerable distances, more information is needed about the timing of when specific seismic lines will be surveyed. Because bowheads have been shown to respond to low levels of anthropogenic sound and because seismic sounds propagate great distances, bowheads could be impacted near the three Beaufort Sea villages and thus the subsistence hunts could be impacted. Appropriate mitigation measures are needed, which could include specific restrictions for the timing of some of the survey lines.

Pg. 22 and 23, Seabirds:

Yellow-billed Loons are not included in this section. They are a candidate species for listing under the Endangered Species Act and special protections have been implemented to reduce mortalities from other human activities. Potential impacts from USGS activities to this species must be assessed.

Pg. 26 and 27, Table 3, and throughout the section on marine mammals:

Population estimates provided in the EA for many of the marine species are misleading. Angliss and Allen (2009) are often referenced for population estimates. Unfortunately, Angliss and Allen (2009) is not the primary source for any population estimates. They provide summaries of other researchers work. Additionally, the population estimates they provide are minimal estimates for a specific purpose, not related to seismic surveys. The estimates are not the values that would typically be used for describing the size of a population. Because the estimates are minimal, they do not give a reasonable estimation of the true population size. Especially for belugas, and possibly for other species, the populations are much larger than indicated in the EA. Many more animals could be harassed by USGS' proposed surveys. This is especially concerning for belugas because they use the shelf break extensively. The seismic surveys have

the potential to impact many beluga whales that are feeding or raising young along the shelf break or in deeper waters of the Beaufort Sea.

Pg. 28, 4th paragraph, 1st sentence:

All of the belugas that were tagged by Suydam et al. (2005) ventured into the Beaufort Sea, not just "some of the whales". Based on tagging results (and limited sightings of belugas during the summer in the Chukchi Sea), the entire population of eastern Chukchi Sea belugas spends the summer in the Beaufort Sea and Arctic Ocean north of the Beaufort Sea. The entire population could be impacted by the planned surveys of the USGS. Careful consideration, adequate monitoring (visually and acoustically), and appropriate mitigation measures should be implemented for the USGS seismic survey in 2010.

Pg. 43+, Environmental Consequences of Proposed Action:

Many paragraphs of this section are misleading. For example, the section on Tolerance suggests that marine mammals in the Beaufort Sea are tolerant of seismic sounds. The USGS should have provided the more specific and pertinent information for studies conducted in the Beaufort Sea and not just for the general case. For bowhead whales, there is no evidence that they have become tolerant of industrial sounds in the Beaufort Sea. Another example is the section on Hearing Impairment and other physical effects. USGS states there is "no specific documentation" for hearing impairment from airgun pulses. Unfortunately, according to our records, there have been no studies on wild populations of marine mammals that have carefully documented whether there have been impacts or not. If one does not look for impacts, then there will not be any specific documentation. The language of the EA tends to give a false impression of the potential for impacts to marine mammals from the USGS' proposed activities. Please revise.

Pg. 56 and 57, Mitigation Measures:

It appears there are few mitigation measures being proposed for this USGS surveys. Monitoring relies solely on observers on board the source vessel and the lead icebreaker. Additional monitoring is needed because observers are of limited efficacy, especially when surveys are occurring in ice. Few marine mammals could be seen even if they are present. Real-time acoustic monitoring is also needed. Also, there do not appear to be any mitigation measures in place to protect feeding marine mammals or mothers with young. Adequate monitoring and appropriate mitigation measures are needed to protect those important portions of the populations.

Pg. 57, last sentence:

The surveys being conducted are jointly funded by the U.S. and Canadian governments. Thus, the seismic surveys are not just being conducted by the Canadian government but are also being conducted by the U.S. government. It does not seem credible that exposing marine mammals only in U.S. waters should be the consideration in this EA. The U.S. is participating in the surveys; in fact, the surveys will only be possible because of the U.S. involvement. Thus,

assessing and mitigating impacts from this joint project should occur whether in U.S. or international waters.

Pg. 64, Table 5:

The USGS suggests that they will expose small numbers of marine mammals to sounds >160 dB. There are several aspects of this table that are misleading. First, the area to be ensonified should be based on the best available data. Bowheads, and probably belugas, respond to anthropogenic sounds that are much quieter than 160 dB. Thus, the areas to ensonified where animals may be deflected will be much larger than the 160 dB zones provided in the EA. Furthermore, the areas where USGS plans to do surveys occur in or near migration corridors for bowheads, belugas, and possibly other species. Therefore, a large percentage of the populations could be exposed to sounds that could cause displacement. Would displacing a large segment of populations cause significant biological impacts? There are no data to assess the larger scale or longer term impacts on the populations. We recommend using caution when evaluating impacts from the USGS activities. Appropriate assessments are needed along with adequate monitoring and mitigation. The estimates in the Table 5 are too low, especially for belugas, but likely for other species as well.

Pg. 73 and 74, Cumulative impacts, Oil and Gas Development:

The EA does an inadequate job of listing cumulative oil and gas activities. USGS does not mention oil and gas activities in the U.S. Chukchi Sea, nor does it mention activities (seismic surveys) in the Russian Chukchi or the Canadian Beaufort Sea (seismic surveys). From a cumulative sense, these activities are important to assess because the marine mammals and birds that migrate through the Chukchi and Beaufort seas could be exposed to all of these human activities. Additionally, USGS does not conduct a reasonable assessment of impacts from the accumulation of human activities. Their assessment of cumulative impacts is simply a list of activities. This approach is insufficient; especially considering the USGS is one of the pre-eminent science organizations in the U.S.

Pg. 74, Summary of Cumulative Impacts:

This section is insufficient. USGS asserts that because there will be no other human activities in the area where the planned surveys will occur there will be minimal cumulative impacts. This approach does not make sense because many of the species that migrate through the area may be impacted by the USGS survey and impacted by other human activities in other areas before or after the USGS surveys. The conclusion that there will be minimal cumulative impacts is not supported by available data or analyses. For further information, refer to the cumulative impact discussion above.

Pg. 123, Appendix D, 1st paragraph, 3rd sentence:

USGS states that the "observed changes in behavior appeared to be of little or no biological consequence" to migrating bowhead or gray whales. There are no data to support this statement. No one has looked at the duration or significance of deflecting bowheads or other marine

mammals in the Beaufort or Chukchi Seas from feeding areas or migratory routes. Organizations or companies conducting surveys that propagate sounds into Arctic waters of the U.S. should be required to provide data on the duration of deflections from anthropogenic sounds and the biological significance of those impacts.

Pg. 124, penultimate paragraph, penultimate sentence:

The sentence stating "[a]voidance of the areas of seismic operations did not persist beyond 12-24 hours after seismic shooting stopped" is not accurate. First, the authors (Miller et al. 1999) explicitly stated that their results on the duration of impacts were very preliminary. Second, their results could have easily and appropriately been interpreted that bowheads did not re-occupy the area for at least 96 hours after the seismic survey stopped. The NSB has made these comments many times about this specific portion of the Miller et al. (1999) study. The specific reference to the duration of the impacts from seismic surveys has not been used recently in EAs or IHA applications. It is disappointing to see the reference again in this draft EA.

Pg. 144, Strandings and Mortality, 1st paragraph, 3rd sentence:

USGS suggests there is "no specific evidence that they [seismic airguns] can cause serious injury, death, or standing". Please indicate the data supporting this statement. In the Arctic, there have been no studies to look for serious injury or death. In fact, when marine mammals have been found dead in seismic survey areas, those animals were not necropsied to determine cause of death. Therefore it is misleading to state that there is no specific evidence of serious injury, death or stranding from seismic surveys mostly because no studies have been implemented to look for such impacts. Additional study is needed.

Conclusion

Thank you again for the opportunity to comment on this EA. The NSB appreciates USGS' preparation of such an assessment and the effort it has taken in communicating with the Borough regarding the action. We urge the agency to revise the EA in light of the concerns raised above.

Sincerely,

Edward S. Itta

Edward S. Itta
Mayor

cc: Bessie O'Rourke, NSB Attorney
Dan Forster, Director, NSB Department of Planning and Community Services
Taqulik Hepa, Director, NSB Department of Wildlife Management
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Karla Kolash, NSB Mayor's Office