Reduced Take Alternative

The Reduced Take Alternative would include the same categories of covered activities as the Proposed Action Alternative; however, under this Alternative, eight geographic areas designated for development under the Proposed Action Alternative that would result in take of Covered Species would not be permitted. These locations are in the vicinity of Clarksburg, Davis, the Dunnigan Specific Plan, West Sacramento, and Woodland (see Exhibit 2–6 in the EIS/EIR), and include approximately 1,335 acres. Other than assuming that no take of Covered Species would occur in the 1,335 acres, the Reduced Take Alternative also assumes that the 1,335 acres of development could be displaced to another location under the same take restriction as the Proposed Action Alternative; all other elements of the Draft Plan (*e.g.,* Covered Species and Covered Activities) remain the same under the Reduced Take Alternative.

Reduced Development Alternative

The Reduced Development Alternative would include the same categories of covered activities as the Proposed Action Alternative; however, under this Alternative, development within a portion of the west side of the Dunnigan Specific Plan Area, and the Elkhorn Specific Plan Area, are assumed to not be included in the Covered Activities. The portion of the Dunnigan Specific Plan selected for exclusion from Covered Activities under this Alternative covers approximately 1,012 acres, and the Elkhorn Specific Plan Area covers approximately 383 acres. In each of these two areas, it is assumed that some type of development could potentially occur within the 50-year term of the permit. If such development were to occur, it would not be considered a Covered Activity under the HCP; therefore, the HCP would not be available as a mechanism to address affects to Covered Species. Any permitting required for compliance with the Act for future development would be undertaken for each of these two areas individually on a project-by-project basis. Permitting and mitigation would be implemented in a manner similar to under the No Action Alternative. Other than characteristics described above, all other elements of the Draft Plan (*e.g.,* Covered Species and Covered Activities) remain the same under the Reduced Development Alternative.

Public Comments

We request data, comments, new information, or suggestions from the public, other concerned governmental agencies, the scientific community, Tribes, industry, or any other interested party on this notice, the draft EIS/EIR, and draft Plan. We particularly seek comments on the following:

1. Biological information concerning the species;
2. Relevant data concerning the species;
3. Additional information concerning the range, distribution, population size, and population trends of the species;
4. Current or planned activities in the subject area and their possible impacts on the species;
5. The presence of archeological sites, buildings and structures, historic events, sacred and traditional areas, and other historic preservation concerns, which are required to be considered in project planning by the National Historic Preservation Act; and
6. Identification of any other environmental issues that should be considered with regard to the proposed development and permit action.

You may submit your comments and materials by one of the methods listed in the **ADDRESSES** section. Comments and materials we receive will be available for public inspection by appointment, during normal business hours (Monday through Friday, 8 a.m. to 4:30 p.m.) at the Service's Sacramento address (see **ADDRESSES**).

Public Availability of Comments

Before including your address, phone number, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—might be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Next Steps

Issuance of an incidental take permit is a Federal proposed action subject to compliance with NEPA. We will evaluate the application, associated documents, and any public comments we receive to determine whether the application meets the requirements of NEPA regulations and section 10(a) of the Act. If we determine that those requirements are met, we will issue permits to the applicants for the incidental take of the Covered Species. A permit decision will be made no sooner than 30 days after the publication of the notice of availability for the final Plan, final EIS/EIR, and completion of the Record of Decision.

Authority

We publish this notice under the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321–4347 *et seq.*), and its implementing regulations at 40 CFR 1500–1508, as well as in compliance with section 10(c) of the Endangered Species Act (16 U.S.C. 1531–1544 *et seq.*) and its implementing regulations at 40 CFR 17.22.

Michael Fris,

Assistant Regional Director, U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California.

[FR Doc. 2017–11295 Filed 5–31–17; 8:45 am]

BILLING CODE 43330–15–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[FWS–R7–ES–2017–N065; FF07CAMM00–FX–FXEX111607MRG01]

Marine Mammals; Incidental Take During Specified Activities; Proposed Incidental Harassment Authorization for Pacific Walruses and Polar Bears in Alaska and Associated Federal Waters

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of receipt of application and proposed incidental harassment authorization; availability of draft environmental assessment; request for comments.

SUMMARY: We, the U.S. Fish and Wildlife Service, in response to a request under the Marine Mammal Protection Act of 1972, as amended, from Quintillion Subsea Operation, LLC, propose to authorize the incidental taking by harassment of small numbers of Pacific walruses and polar bears from July 1 to November 15, 2017. The applicant has requested this authorization for its planned fiber optic cable-laying activities. The area specified for inclusion in the proposed authorization includes Federal waters of the northern Bering, Chukchi, and western portions of the southern Beaufort Seas, the marine waters of the State of Alaska, and coastal land adjacent to Nome, Kotzebue, Point Hope, Wainwright, Utqiagvik (formerly Barrow), and Oliktok Point, as shown in Figure 1. We anticipate no take by injury or death and include none in this proposed authorization, which if

finalized, will be for take by harassment only.

DATES: We will consider comments we receive on or before July 3, 2017.

ADDRESSES:

Document availability: The incidental harassment authorization request, associated draft environmental assessment, and literature cited are available for viewing at *http://www.fws.gov/alaska/fisheries/mmm/iha.htm.*

Comments submission: You may submit comments on the proposed incidental harassment authorization and associated draft environmental assessment by one of the following methods:

- *U.S. mail or hand-delivery:* Public Comments Processing, Attention: Ms. Kimberly Klein, U.S. Fish and Wildlife Service, MS 341, 1011 East Tudor Road, Anchorage, Alaska 99503;
- *Fax:* (907) 786–3816, Attention: Ms. Kimberly Klein; or
- Email comments to: *FW7_AK_Marine_Mammals@fws.gov.*

Please indicate whether your comments apply to the proposed incidental harassment authorization or the draft environmental assessment. We will post all comments on *http://www.fws.gov/alaska/fisheries/mmm/iha.htm.* See Request for Public Comments below for more information.

FOR FURTHER INFORMATION CONTACT: Copies of the application, the list of references used in the notice, and other supporting materials may be downloaded from the web at: *http://www.fws.gov/alaska/fisheries/mmm/iha.htm.* You may also contact Ms. Kimberly Klein by mail at Marine Mammals Management, U.S. Fish and Wildlife Service, MS 341, 1011 East Tudor Road, Anchorage, AK 99503; by email at *kimberly_klein@fws.gov;* or by telephone at 1–800–362–5148, to request documents.

SUPPLEMENTARY INFORMATION: In response to a request from Quintillion Subsea Operation, LLC (Quintillion or ''the applicant''), we propose to authorize the incidental taking by harassment of small numbers of Pacific walruses and polar bears from July 1 to November 15, 2017, under section 101(a)(5)(D) of the Marine Mammal Protection Act of 1972 (MMPA), as amended. Quintillion has requested this authorization for its planned cable-laying activities in Federal waters of the northern Bering, Chukchi, and western portions of the southern Beaufort Seas, the marine waters of the State of Alaska, and coastal land adjacent to Nome, Kotzebue, Point Hope, Wainwright, Utqiagvik, and Oliktok Point, as specified in Figure 1. We anticipate no take by injury or death and include none in this proposed authorization, which, if finalized, would be for take by harassment only.

Executive Summary

Why We Need To Publish a Draft Incidental Harassment Authorization (IHA)

Section 101(a)(5)(D) of the MMPA (16 U.S.C. 1361 *et seq.*) directs the U.S. Fish and Wildlife Service (Service) to allow, upon request, and for periods of not more than 1 year, the incidental but not intentional take of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical area if certain findings are made regarding the effects of the take. The Service has received a petition from Quintillion to provide authorization for the incidental take by harassment of Pacific walruses (*Odobenus rosmarus divergens*) and polar bears (*Ursus maritimus*) for a cable-laying project that is intended to improve broadband internet service in northern Alaska. The project is a continuation of work begun in 2016. The MMPA directs the Service to provide opportunity for public comment prior to finalizing this authorization.

The Effect of This Authorization

The MMPA allows the Service to authorize, upon request, the incidental take of small numbers of marine mammals as part of a specified activity within a specified geographic region. In this case, the Service may authorize the incidental, but not intentional, take by harassment of small numbers of Pacific walruses and polar bears by Quintillion during the specified cable-laying project activities if we determine that such harassment during each period will:

- Have no more than a ''negligible impact'' on the species or stock of Pacific walruses and polar bears; and
- Not have an ''unmitigable adverse impact'' on the availability of Pacific walruses and polar bears for taking for subsistence uses by coastal dwelling Alaska Natives.

If we make these determinations, the Service shall prescribe, where applicable:

- Permissible methods of taking by harassment pursuant to the proposed activity;
- Other means of effecting the least practicable impact on Pacific walruses and polar bears and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of Pacific walruses and polar bears for taking for subsistence uses by coastal dwelling Alaska Natives; and
- Requirements for the monitoring and reporting of the taking of Pacific walruses and polar bears by harassment during the proposed activities.

Request for Public Comments

We intend that this authorization, if finalized, will be as accurate and as effective as possible. Therefore, we request comments or suggestions on this proposed authorization. We particularly seek comments concerning:

- Whether the proposed authorization, including the proposed activities, will have a negligible impact on the species or stocks of Pacific walrus or polar bear.
- Whether the proposed authorization will ensure that an unmitigable adverse impact on the availability of Pacific walruses or polar bears for subsistence taking does not occur.
- The appropriateness of the permissible methods of taking by harassment pursuant to the proposed activity.
- The appropriateness, effectiveness, and practicability of mitigation measures and other means of effecting the least practicable impact on Pacific walruses and polar bears and their habitat.
- The appropriateness, effectiveness, and practicability of requirements for the monitoring and reporting of the taking of Pacific walruses and polar bears by harassment during the proposed activities.

You may submit your comments and materials concerning this proposed authorization by one of the methods listed in **ADDRESSES**.

If you submit a comment via *FW7_AK_Marine_Mammals@fws.gov,* your entire comment—including any personal identifying information—may be made available to the public. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all comments on *http://www.fws.gov/alaska/fisheries/mmm/iha.htm.*

Background

Section 101(a)(5)(D) of the MMPA, as amended (16 U.S.C. 1371(a)(5)(D)), authorizes the Secretary of the Interior (the Secretary) to allow, upon request of a citizen and subject to such conditions as the Secretary may specify, the incidental but not intentional taking by harassment of small numbers of marine

mammals of a species or population stock by such citizens who are engaging in a specified activity within a specified region. Incidental taking may be authorized only if the Secretary finds that such take during each period concerned will have a negligible impact on such species or stock and will not have an unmitigable adverse impact on the availability of such species or stock for subsistence use.

Section 101(a)(5)(D) of the MMPA establishes a process by which citizens of the United States can apply for an authorization for incidental take of small numbers of marine mammals where the take will be limited to harassment during a period of not more than 1 year. We refer to these incidental harassment authorizations as ''IHAs.''

The term ''take,'' as defined by the MMPA, means to harass, hunt, capture, or kill, or to attempt to harass, hunt, capture, or kill any marine mammal. Harassment, as defined by the MMPA, means any act of pursuit, torment, or annoyance which: (i) Has the potential to injure a marine mammal or marine mammal stock in the wild (the MMPA calls this ''Level A harassment''), or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (the MMPA calls this ''Level B harassment'').

The terms ''small numbers,'' ''negligible impact,'' and ''unmitigable adverse impact'' are defined in title 50 of the Code of Federal Regulations at 50 CFR 18.27, the Service's regulations governing take of small numbers of marine mammals incidental to specified activities. ''Small numbers'' is defined as a portion of a marine mammal species or stock whose taking would have a negligible impact on that species or stock. However, we do not rely on that definition here, as it conflates the terms ''small numbers'' and ''negligible impact,'' which we recognize as two separate and distinct requirements. Instead, in our small numbers determination, we evaluate whether the number of marine mammals likely to be taken is small relative to the size of the overall population. ''Negligible impact'' is defined as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to adversely affect the species or stock through effects on annual rates of recruitment or survival. ''Unmitigable adverse impact'' is defined as an impact resulting from the specified activity: (1) That is likely to reduce the availability of the species to a level insufficient for a harvest to meet subsistence needs by (i) causing the marine mammals to abandon or avoid hunting areas, (ii) directly displacing subsistence users, or (iii) placing physical barriers between the marine mammals and the subsistence hunters; and (2) that cannot be sufficiently mitigated by other measures to increase the availability of marine mammals to allow subsistence needs to be met.

In order to issue an IHA, the Service must, where applicable, set forth the following: (1) Permissible methods of taking; (2) means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance; and (3) requirements pertaining to the monitoring and reporting of such takings. Habitat areas of significance for Pacific walruses in the project area include marginal sea-ice zones, important feeding areas, and terrestrial haulouts. Habitat areas of significance for polar bears include den sites, sea-ice, barrier islands, and areas free from sources of disturbance.

Summary of Request

On November 28, 2016, Quintillion submitted a request to the Service for the nonlethal taking by Level B harassment of Pacific walruses and polar bears that may occur incidental to the completion of a cable-laying project begun in 2016. An amended request was received on January 19, 2017, and additional project information was received on February 10, 2017.

Most of this project was completed in 2016, and the Service issued an IHA on August 11, 2016, after opportunity for public comment (81 FR 40902, June 23, 2016) in response to Quintillion's request at that time, however, additional work is needed to complete the project. The proposed work will occur during the summer/fall open-water season of 2017 and will include installation of 76 kilometers (km) (47 miles (mi)) of cable north of Oliktok Point in the Beaufort Sea, testing along the entire cable route, and operations and maintenance (O&M) of any areas that do not meet testing requirements.

Quintillion is requesting incidental take by Level B harassment of 250 Pacific walruses and 20 polar bears from disruption of behavioral patterns and exposure to sound levels exceeding 160 decibels (dB). All dB levels are referenced to 1 μPa for underwater sound. All dB levels herein are dB_{RMS} unless otherwise noted; dB_{RMS} refers to the root-mean-squared dB level, the square root of the average of the squared sound pressure level over some duration (typically 1 second). All sound source levels reported herein are as measured at 1 m (3 ft) from the source.

Prior to issuing an IHA, the Service must evaluate the level of activities described in the application, the potential impacts to Pacific walruses and polar bears, and the potential effects on the availability of these species for subsistence use. Complete copies of Quintillion's request and supporting documents are available at: *http://www.fws.gov/alaska/fisheries/mmm/iha.htm.*

Description of the Specified Activities and Geographic Area

In 2016, Quintillion installed fiber optic cable in the marine waters of the northern Bering, Chukchi, and southwestern Beaufort Seas, in waters of the State of Alaska, and on coastal land of Alaska (Figure 1). Quintillion plans to complete the project in 2017. When completed, the subsea fiber optic cable network will link with an existing terrestrial-based system to provide high-speed internet to six rural Alaska communities. The project will consist of 1,904 km (1,183 mi) of submerged cable, including a main trunk line and six branch lines to onshore facilities in Nome, Kotzebue, Point Hope, Wainwright, Utqiagvik (formerly Barrow), and Oliktok Point. Oliktok Point is located 260 km (162 mi) southeast of Point Barrow. This line will connect over land with the community of Nuiqsut and the Prudhoe Bay industrial center. Additional project details are available in Quintillion's IHA application, available online at *http://www.fws.gov/alaska/fisheries/mmm/iha.htm.*

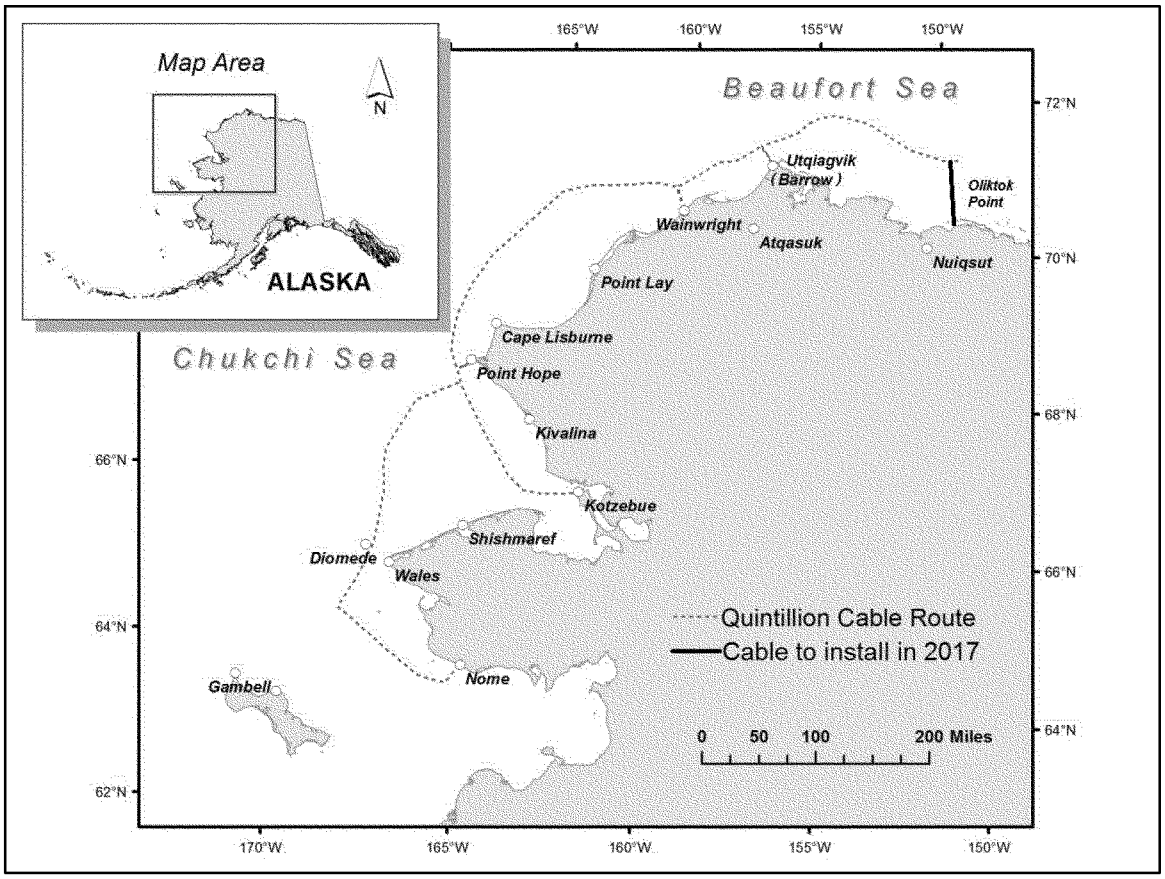

Figure 1. Quintillion Subsea Operations, LLC's fiber optic cable network.

The 2016 program successfully installed the vast majority (96 percent) of the cable, but did not complete the entire project. Work scheduled for the 2017 season includes installation of 76 km (47 mi) of cable along the Oliktok branch line, system testing, and O&M. The O&M activities will occur along portions of the cable that do not meet testing requirements and will involve inspecting, retrieving, repairing, and reburying cable. The O&M work will also include placement of up to four 6-meter (m) by 3-m (20-foot (ft) by 10-ft) concrete mattresses to protect cable splices from ice scour.

Activities associated with the project, including mobilization, preliminary work, cable laying, O&M, post-burial work, and demobilization of survey and support crews are planned to occur June 1–November 15, 2017. Work may occur day or night and will begin in the summer as soon as sea-ice conditions allow. Project vessels will not pass through or work in the Chukchi Sea prior to July 1, 2017. Therefore, encounters with Pacific walruses and polar bears in June are unlikely.

Cable laying along the Oliktok branch line will use a variety of vessels and tools, depending on water depth. Vessels include a cable ship and a support vessel, shallow draft barges, and tugs. Equipment includes a sea plow, vibro plow, and a submerged remote operating vehicle (ROV). Cable components will include the cable, interconnecting hardware, and repeaters. Echo sounders, transceivers, and transponders will monitor the water depth and the position of equipment on the seafloor.

The onshore cable landing at Oliktok Point was completed in 2016 and included a segment of horizontal directionally drilled (HDD) pipe to connect the subsea cable with the land-based facilities. In shallow nearshore waters between the HDD pipe and approximately 6.5 km (4 mi) from shore, cable will be placed in a trench dug by a vibro plow. The vibro plow will be pulled by a construction barge (the *Crowley 218* or similar). Maximum trenching speed is 1.6 km per hour (km/h) (0.6 mi per hour (mi/h) or 0.54 knots (kn)). The construction barge will winch itself along the route using moored anchor lines. The anchors will be placed by a derrick operating from the deck of a small pontoon barge. A small river tug will maneuver the pontoon barge into position. The pontoon barge and river tug will also be used to retrieve the anchors after the cable is laid.

In deeper water, between approximately 6.5–16.5 km (4–10.3 mi) from shore, work will be conducted from the construction barge pulling the vibro plow and winching itself along anchor lines in the same manner as for the shallow-water work. However, in this section, a larger ocean-class tug (the *Vos Thalia* or a similar tug) will be used to place and move the anchors.

In offshore areas, including along approximately 60 km (37 mi) of the Oliktok line, the cable will be laid by the *Ile de Batz* or a similar vessel (*Ile de Sein, CB Networker, or Ile de Brehat*). The ship is 140 m (460 ft) in length and 23 m (77 ft) in breadth, with berths for a crew of 70. It pulls a sea plow that cuts a trench while cable is fed through a depressor that pushes it into the trench. Prior to laying cable, seafloor sediment may be loosened by making multiple passes with the sea plow (this activity is termed ''pre-trenching''). The normal speed during plowing and pre-trenching is approximately 0.6 km/h (0.37 mi/h or 0.32 kn).

The *Ile de Batz* will also perform O&M operations along the entire system, including the main trunk line and six

branch lines. Recovery and repair of faulty cable sections include retrieving the cable, repairing it aboard the ship, and if required, reburying the cable. Cable trenches should fill in by natural current processes, but Quintillion will ensure that cable splices and interconnections are fully buried. It is not possible to determine the amount of cable to be retrieved or reburied prior to testing, but could involve several km for each fault repair. Quintillion provided a maximum estimate of up to 125 km (78 mi) of cable repair or reburial work for the entire project. Based on O&M needs for other projects, this estimate also includes a buffer for possible complications due to the Arctic environment.

Quintillion proposes to conduct limited ice management, if needed. Cable laying cannot be done in the presence of ice due to safety concerns, but Quintillion hopes to begin work on the Oliktok branch as soon as possible after the seasonal retreat of sea-ice from Alaska's northern coast. The *Ile de Batz* must transit past Point Barrow for this work. Since 2007, breakup of coastal sea-ice along much of Alaska's North Slope has occurred in June, but a persistent ice field north of Point Barrow often remains into July. Ice could also reappear during the season or at the end of the season. Quintillion proposes to traverse broken ice around Point Barrow with the aid of an ice tug that, if needed, will maneuver a path through the ice field. The tug will clear a path for the cable ship by pushing individual ice floes aside. Ice management will only occur during an approximately 50-km (31-mi) transit past Point Barrow or in the event of unexpected safety concerns.

Description of Marine Mammals in the Area of Specified Activity

Pacific Walruses

The stock of Pacific walruses is composed of a single panmictic population inhabiting the shallow continental shelf waters of the Bering and Chukchi Seas (Lingqvist *et al.* 2009; Berta and Churchill 2012). The size of the stock is historically uncertain. In 2006, the U.S. and Russian Federation (Russia) conducted a joint aerial survey in the pack ice of the Bering Sea using thermal imaging systems and satellite transmitters to count Pacific walruses in the water and hauled out on sea-ice. The number within the surveyed area was estimated at 129,000 with a 95 percent confidence interval (CI) of 55,000 to 507,000 individuals. This estimate is considered a minimum; weather conditions forced termination of the survey before large areas were surveyed (Speckman *et al.* 2011).

Pacific walrus distribution is largely influenced by the extent of the seasonal pack ice and prey densities. From April through June, most of the population migrates from the Bering Sea through the Bering Strait and into the Chukchi Sea. Pacific walruses tend to migrate into the Chukchi Sea along lead systems that develop in the sea-ice. During the open-water season, Pacific walruses are closely associated with the edge of the seasonal pack ice as it retreats northward between Russian waters to areas west of Point Barrow, Alaska. Most of these animals remain in the Chukchi Sea throughout the summer months, but a few occasionally range into the Beaufort Sea. Oil and gas industry observers reported 35 walrus sightings east of Point Barrow (approximately 156.5° W.) from 1995 through 2012 (Kalxdorff and Bridges 2003; AES Alaska 2015; USFWS unpublished data).

Pacific walruses typically occupy in waters of 100 m (328 ft) depth or less although they are capable of diving to greater depths. When available, they use sea-ice as a resting platform over feeding areas, as well as for giving birth, nursing, passive transportation, and avoiding predators (Fay 1982; Ray *et al.* 2006). Benthic invertebrates are their primary prey, but Alaska Native hunters have reported some Pacific walruses preying on seals, while fish and birds are also occasionally consumed (Sheffield and Grebmeier 2009; Seymour *et al.* 2014). Foraging trips from sea-ice or terrestrial haulouts may last for several days, during which the animals dive to the bottom and feed nearly continuously. Foraging dives typically last 5–10 minutes, with surface intervals of 1–2 minutes. Disturbance of the sea floor by foraging Pacific walruses, known as bioturbation, releases nutrients into the water column, provides food for scavenger organisms, contributes to the diversity of the benthic community, and is thought to have a significant influence on the ecology of the Bering and Chukchi Seas (Ray *et al.* 2006). Bivalve clams of the genera *Macoma, Serripes,* and *Mya* appear to be the most important prey based on both stomach contents and prey availability at Pacific walrus feeding areas (Sheffield and Grebmeier 2009).

Hanna Shoal is the most important foraging area known for Pacific walruses in the eastern Chukchi Sea (Brueggeman *et al.* 1990, 1991; MacCracken 2012; Jay *et al.* 2012). The unique bathymetric and current patterns at Hanna Shoal deposit nutrients from the Bering Sea on the ocean floor where they feed a rich benthic ecosystem. Jay *et al.* (2012) tracked radio-tagged Pacific walruses to estimate areas of foraging and occupancy in the Chukchi Sea during June–November of 2008–2011 (years when sea-ice was sparse over the continental shelf) and observed high use areas in the relatively shallow waters of Hanna Shoal. Based on this information, the Service designated 24,600 km^2 (9,500 mi^2) of the Chukchi Sea as the Hanna Shoal Walrus Use Area (HSWUA).

Pacific walruses are gregarious animals. They travel and haul out onto ice or land in groups, and spend approximately 20–30 percent of their time out of the water. Hauled-out animals tend to be in close physical contact. Young animals often lie on top of adults. The size of the hauled-out groups can range from a few animals to several thousand individuals. The largest aggregations occur at land haulouts. Use of terrestrial haulouts in the eastern Chukchi Sea by large numbers has been common during recent years of low summer sea-ice. At these times the edge of the pack ice moves north into the Arctic Basin where the water depth is too great for Pacific walruses to feed. In recent years, the barrier islands north of Point Lay have held large aggregations of up to 20,000 to 40,000 animals in late summer and fall (Monson *et al.* 2013). Pacific walruses hauled out near Point Lay are known to travel to Hanna Shoal and back for feeding forays.

The pack ice usually advances rapidly southward in late fall, and most Pacific walruses return with it, arriving in the Bering Sea by mid- to late-November. During the winter breeding season, concentration areas form in the Bering Sea where open leads, polynyas (an area of open water surrounded by sea-ice), or thin ice occur (Fay *et al.* 1984; Garlich-Miller *et al.* 2011). Detailed information on the biology and status of the species is available at *http://www.fws.gov/alaska/fisheries/mmm/.*

Polar Bears

Polar bears are distributed throughout the circumpolar Arctic region. The total world population is estimated to be 26,000 (95 percent CI = 22,000–31,000; Wiig *et al.* 2015). In Alaska, polar bears have historically been observed as far south in the Bering Sea as St. Matthew Island and the Pribilof Islands (Ray 1971). Two subpopulations, or stocks, occur in Alaska, the Chukchi Sea (CS) stock and the Southern Beaufort Sea (SBS) stock. An extensive area of overlap between the CS and SBS stocks occurs between Point Barrow and Point

Hope (Amstrup *et al.* 2004; Obbard *et al.* 2010; Wiig *et al.* 2015). Polar bears in this area may be from either stock (Amstrup *et al.* 2004). A detailed description of the CS and SBS stocks is found in USFWS (2017).

The SBS stock is shared with Canada and had an estimated size of approximately 900 bears in 2010 (90 percent CI = 606–1212; Bromaghin *et al.* 2015). This represents a 25–50 percent reduction from previous estimates of approximately 1,800 in 1986 (Amstrup *et al.* 1986), and 1,526 in 2006 (Regehr *et al.* 2006). Analyses of over 20 years of data on the size and body condition of bears in this subpopulation demonstrated declines for most sex and age classes (Rode *et al.* 2010a). Declines in body condition have occurred concurrently with reductions in annual sea-ice availability (Rode *et al.* 2010a, 2012). Reductions in summer sea-ice extent may be associated with low prey abundance or limited access to prey (Bromaghin *et al.* 2015).

The CS stock is shared with Russia. The most recent abundance estimate, based on expert opinion and extrapolation of denning surveys on Wrangel Island in Russia, was 2,000 bears in 2002 (PBSG 2002). The current status and trend of the CS stock are unknown due to a lack of data. A comparison of data from the period 1986–1994 with data from the period 2008–2011 indicated that polar bears from the CS maintained similar body condition and productivity (*e.g.,* number of yearlings per female) between those periods despite declines in sea-ice (Rode *et al.* 2014).

Polar bears depend on sea-ice for a number of purposes, including as a platform from which to hunt and feed. Polar bears are typically most abundant near the ice edges or openings in the ice over relatively shallow continental shelf waters with high marine productivity (Durner *et al.* 2004). Their primary prey is ringed (*Pusa hispida*) and bearded seals (*Erignathus barbatus*), although diet varies regionally with prey availability (Thiemann *et al.* 2008, Cherry *et al.* 2011). Typically, polar bears remain on the sea-ice throughout the year or spend only short periods on land, where they will opportunistically scavenge or feed on beached marine mammal carcasses (Kalxdorff and Fischbach 1998). Remains of bowhead whale (*Balaena mysticetus*) made available following subsistence harvest by Alaska Native communities is an important food source for some polar bears, and may comprise up to 70 percent of the fall diet (Rogers *et al.* 2015). Although polar bears have been observed using terrestrial foods such as blueberries (*Vaccinium sp.*), snow geese (*Anser caerulescens*), and caribou (*Rangifer tarandus*), prolonged consumption of terrestrial foods by polar bears is linked with declines in body condition and survival (Rode *et al.* 2015a). These alternate foods cannot replace the energy-dense diet polar bears obtain from marine mammals (*e.g.,* Derocher *et al.* 2004; Rode *et al.* 2010b; Smith *et al.* 2010b).

Seasonal polar bear distribution and movement patterns are linked to changes in sea-ice habitat; future patterns may differ from those of the past (Durner *et al.* 2007; Rode *et al.* 2014; Wilson *et al.* 2016). Historically, in the Chukchi Sea and Beaufort Sea areas, less than 10 percent of the polar bear locations obtained via radio telemetry were on land (Amstrup 2000; Amstrup, U.S. Geological Survey, unpublished data). However, in recent years, the proportion of time spent on land and the number of bears observed using the coastal areas has increased, particularly during the summer and fall (Schliebe *et al.* 2008, Rode *et al.* 2015b, Atwood *et al.* 2016b). This is most likely due to the retreat of the sea-ice beyond the continental shelf and the associated increase in open water during the summer and early fall (Zhang and Walsh 2006; Serreze *et al.* 2007; Stroeve *et al.* 2007). Once sea-ice concentration drops below 50 percent, polar bears tend to abandon sea-ice for land. Alternately, bears may retreat northward with the consolidated pack ice over the deep water of the polar basin. In both instances, polar bears are likely to find limited prey and may reduce their activity levels and lower body temperatures to save energy (Whiteman *et al.* 2015).

Diminished sea-ice cover also increases the areas of open water across which polar bears must swim to reach land or remaining sea-ice. As areas of unconsolidated ice increase and movement patterns of sea-ice change, some bears are also likely to lose contact with the main body of ice. These bears may be more likely to drift into unsuitable habitat and attempt to swim long distances to return (Sahanatien and Derocher 2012). Researchers have observed that in some cases bears that swim long distances during the open water period may become vulnerable to exhaustion and storms (Durner *et al.* 2011; Pagano *et al.* 2012).

Climate change may also affect the movement patterns and reproductive success of polar bears. Pregnant females will seek out den sites on land or on multiyear sea-ice where accumulation of snow is sufficient for construction of a well-insulated den. Pregnant females typically enter maternity dens by late November and emerge with cubs in late March or April. Pregnant females are the only polar bears that den for an extended period during the winter; others may excavate temporary shelter to escape harsh winter winds. In Alaska, denning habitat is frequently located on barrier islands, riverbank drainages, and coastal bluffs. For a pregnant polar bear to reach denning areas on land, pack ice must drift close enough or must freeze sufficiently early to allow her to walk or swim to shore in the fall (Derocher *et al.* 2004). Distance to the ice edge is thought to be a factor limiting denning on the coast of western Alaska by bears from the CS stock (Rode *et al.* 2015b). In recent years, fewer dens have been found on pack ice, suggesting that these changes may be making pack ice less suitable for maternal denning (Fischbach *et al.* 2007; Rode *et al.* 2015b). Climate projections indicate continued loss of multiyear ice in summer and the possibility of total loss of summer sea-ice in the near future (Holland *et al.* 2006). These conditions may further limit or eliminate maternity denning on pack ice (Stirling and Derocher 2012).

In 2008, the Service listed the polar bear as threatened under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*) due to impacts from climate change. Climate change in the Arctic, driven by increasing atmospheric concentrations of anthropogenic greenhouse gases, is the primary threat to polar bears, and is expected to impact polar bears in a variety of ways. These impacts include reduced sea-ice and a related decrease in prey and seal hunting habitat (Atwood *et al.* 2015). Reductions in sea-ice are expected to increase the polar bears' energetic costs of traveling, since moving through fragmented sea-ice and swimming in open water requires more energy than walking across consolidated sea-ice (Cherry *et al.* 2009, Pagano *et al.* 2012, Rode *et al.* 2014). Bromaghin *et al.* 2015 linked declines in summer sea-ice to reduced physical condition, growth, and survival of polar bears. Projections indicate continued climate warming through the end of this century and beyond (IPCC 2014). The long-term consequences for polar bear populations are uncertain but under unabated greenhouse gas emissions, demographic models project a high probability of population decline throughout the Arctic (Atwood *et al.* 2015).

The Service recently completed a 5-Year status review for the polar bear (USFWS 2017). It concludes that new information continues to support that polar bears rely heavily on sea-ice for

essential life functions and that increasing atmospheric levels of greenhouse gases are contributing to Arctic warming and loss of sea-ice habitat. Although the global population of polar bears is currently estimated to be approximately 26,000, we anticipate that the continued loss of sea-ice will cause the population to decline. The Service also recently issued a Polar Bear Conservation Management Plan that highlights the need to take global action to address climate change, and describes management measures that can be taken to ensure polar bears are in a position to recover once the necessary global actions are taken (USFWS 2016).

Potential Impacts of the Activities on Pacific Walruses and Polar Bears

Quintillion's vessels are most likely to encounter Pacific walruses in the Chukchi and Bering Seas. The Beaufort Sea east of 153° W is considered extralimital for Pacific walruses, so encounters are unlikely in that region. Polar bears from either the SBS or CS stock could be present at any time throughout the project area, including at sea. Quintillion's vessels will most likely encounter polar bears among sea-ice near Point Barrow in July or along the coast of the southwestern Beaufort Sea in August and September.

Acoustic Impacts

Pacific walruses and polar bears may be exposed to underwater noise from Quintillion's activities. Exposure to high levels of underwater sound at close range may cause hearing loss or mask communications. Exposure at greater distances can cause behavioral disturbances.

Pacific walruses are capable of hearing sounds both in air and in water. Kastelein *et al.* (1996) tested the in-air hearing of one captive individual from 125 hertz (Hz)–8 kilohertz (kHz) and determined the animal could hear all frequency ranges tested, with the greatest sensitivity from 250 Hz–2 kHz. Kastelein *et al.* (2002) also tested the underwater hearing of the same individual and determined that his range of hearing was 1 kHz–12 kHz with greatest sensitivity at 12 kHz. The sample size of one animal warrants caution since other pinnipeds can hear up to 40 kHz.

There is limited information on the hearing abilities of polar bears. Nachtigall *et al.* (2007) tested airborne auditory response to stimuli from electrodes placed on the scalp of three captive polar bears. Testing was limited to frequencies ranging from 1 to 22.5 kHz; responses were detected at all frequencies greater than 1.4 kHz. Greatest sensitivity was detected in the range from 11.2–22.5 kHz. Absolute thresholds were less than 27–30 dB. Nachtigall *et al.* (2007) did not test the full frequency range of polar bear hearing. However, polar bears produce low frequency vocalizations and can detect low frequency seal calls in air (Cushing *et al.* 1988). These results indicate that polar bears have acute hearing abilities and can hear a wider range of frequencies than humans (which are limited to about 20 kHz).

While many of the noise sources generated by the Quintillion cable project are likely to be audible to polar bears both in and out of water, polar bears are unlikely to be disturbed by underwater noise as they generally do not dive far or for long below the surface and they normally swim with their heads above water where underwater noises are weak or undetectable. Sound levels also attenuate more rapidly near the surface due to turbulence. Masking of sound is unlikely as polar bears are not known to communicate underwater. Neither Pacific walruses nor polar bears are likely to be injured by airborne noise. Sound attenuates in air more rapidly than in water; airborne sound likely to be produced by the proposed action may cause disturbance, but is unlikely to cause temporary or permanent hearing damage.

Acoustic Sources

Acoustic sources operating during cable laying will include propellers, dynamic positioning thrusters, plows, jets, ROVs, echo sounders, and positioning beacons. Sound production will depend on the vessels in use and their operations. The main Quintillion fleet will include up to seven vessels during the 2017 program. The cable-lay ship *Ile de Batz* (or an equivalent sister ship) will operate alone or will be accompanied by an ice-class tug. A construction barge pulling a vibro plow will install cable in areas too shallow for the *Ile de Batz.* A support vessel will accompany the cable ship as needed. Anchor handling will be conducted by a mid-size tug, or in very shallow water, a pontoon barge and small river tug.

The *Ile de Batz* is propelled by two 4,000-kilowatt (kW) fixed-pitch propellers and will maintain dynamic positioning during cable-laying operations by using two 1,500-kW bow thrusters, two 1,500-kW aft thrusters, and one 1,500-kW fore thruster. Illingworth & Rodkin (I&R 2016) conducted sound source verification (SSV) measurements of the *Ile de Brehat* (sister ship to the *Ile de Batz)* while operating near Nome at the beginning of Quintillion's 2016 field season. They found that noise from dynamic positioning as well as noise from the drive propellers both contributed significantly to the sound signature, but thruster noise was largely subordinate to propeller noise. I&R (2016) determined that maximum sound levels produced by the *Ile de Brehat* reached 185.2 dB, and the best fit for modelling attenuation was a spreading loss model with a transmission loss of 17.36 Log R. Application of this model produced an estimated 160-dB ensonification zone reaching 29 m (95 ft) from the vessel. The *Ile de Batz* is expected to produce similar levels of sound while pulling the sea plow during pre-trenching and cable-laying operations in the offshore segment of the Oliktok branch.

Anchor handling and ice management will be conducted by the *Vos Thalia (*the same tug used in 2016) or a similar-sized tug. There is no sound signature data on the 59-m (194-ft) *Vos Thalia,* but data is available for the 72-m (236-ft) *Katun* and the 84-m (276-ft) *Tor Viking II.* Hannay *et al.* (2004) and LGL/JASCO/Greeneridge (2014) measured sound production for the *Katun* and the *Tor Viking II* and documented sound levels reaching 184 dB and 188 dB, respectively, during anchor handling and ice management. Applying these sound levels to I&R's transmission loss model yields a 160–dB ensonification zone with a radius of 26 m (85 ft) for the *Katun* and 41 m (135 ft) for the *Tor Viking II.* Propeller cavitation rather than contact with the ice is expected to be the primary sound source during ice management activities by this class of vessel.

The *M/V Discoverer* will provide support for the cable ship if needed. This 27-m (89-ft) dual-hulled vessel is considered ''ice-hardened.'' It is not capable of conducting ice management, but will assist with ice detection and monitoring. It is powered by four 551-kW controllable pitch propellers. Sound production levels have not been documented for this vessel, but it will not be towing, plowing, or doing other particularly noisy work. During normal operations, noise from small ships typically elevates the natural ambient noise by 10–40 dB (Malinowski 2002). Other ships in this size class are documented to produce sound levels of 127–129 dB (Chakraborty 2015).

Noise generation from the construction barge will primarily be during use of the vibro plow. There are no available estimates of sound produced during cable installation by a vibro plow in the Arctic, but LouisDreyfus (2014) reported SSV results from various trenching equipment, including a vibro plow, in

offshore waters of France. Nedwell *et al.* (2003) recorded broadband sound levels reached during trenching in the United Kingdom. These studies reported source levels of 176 and 178 dB, respectively. If we use these sound levels to predict the radii of the ensonification zone during use of the vibro plow, we get an estimated distance of 16 m (52.5 ft) to the outer edge of the 160–dB zone. This estimate was derived using a practical spreading loss model with a transmission loss constant of 15 rather than I&R's (2016) 17.36 Log R transmission loss model. The I&R (2016) model was estimated from Quintillion's work in deeper offshore water. Use of the vibro plow will occur in shallow water. Sound carries farther in shallow water due to refraction and reflection, and, in this case, a practical spreading loss model is likely to be more accurate for predicting attenuation (NOAA 2012).

A small river tug will be used to maneuver a pontoon barge during anchor handling in very shallow water. The specific tug has not yet been identified, but smaller tugs generally produce broadband underwater noise up to 180 dB; the loudest sounds are usually generated by thrusters when towing (Richardson *et al.* 1995, Blackwell and Greene 2003). Applying the practical spreading loss model results in a maximum 160–dB ensonification zone with a radius of 22 m.

Echo sounders, transceivers, and transponders will be used to conduct hydroacoustic surveys of water depth and to guide the position of the plow and ROV. Sound levels produced by these sources can range from 210 to 226 dB at 1 m, but are generally at frequencies above the hearing sensitivities of Pacific walruses; typical frequencies are 24–900 kHz. Pulses of sound are produced every 1–3 seconds in narrow downward-focused beams; there is very little horizontal propagation of noise. I&R (2016) attempted to measure echo sounder and transponder sound levels associated with the *Ile de Brehat,* but could not detect them, even at a very close range.

Anchor handling with tugs, vibro plowing from the barge, and cable laying from the *Ile de Batz* may be conducted simultaneously, resulting in multiple or overlapping ensonification zones, particularly along the Oliktok cable branch. Ice management will not be done during cable laying, but will occur when the cable ship is underway. Thruster noise from the ice management tug and propeller cavitation noise from the cable ship will, therefore, occur concurrently, although propeller noise produced by the *Ile de Batz* during transit will be lower than that produced during cable laying. Sound from multiple sources may combine synergistically or partly cancel out, depending on the hydrodynamics and acoustics involved.

Acoustic Thresholds

Potential acoustic impacts from exposure to high levels of sound may cause temporary or permanent changes in hearing sensitivity. Researchers have not studied the underwater hearing abilities of Pacific walruses sufficiently to develop species-specific criteria for preventing harmful exposure. Sound pressure level thresholds have been developed for other members of the pinniped taxonomic group, above which exposure is likely to cause behavioral responses and injuries (Finneran 2015).

Historically, the National Marine Fisheries Service (NMFS) has used 190 dB as a threshold for predicting auditory injury to pinnipeds, which equates to Level A harassment under the MMPA. The NMFS 190-dB injury threshold is an estimate of the sound level likely to cause a permanent shift in hearing thresholds (''permanent threshold shift'' or PTS). This value was modelled from temporary threshold shifts (TTS) observed in marine mammals (NMFS 1998; HESS 1999).

Thresholds for predicting behavioral impacts equating to Level B take under the MMPA have been developed from observations of marine mammal responses to airgun operations (*e.g.,* Malme *et al.* 1983a, 1983b; Richardson *et al.* 1986, 1995) or have been equated with TTS detected in lab settings. For pinnipeds, NMFS has traditionally adopted a 160-dB threshold for exposure to impulse noise and a 120-dB threshold for continuous noise (NMFS 1998; HESS 1999). Southall *et al.* (2007) assessed relevant studies, found considerable variability among pinnipeds, and determined that exposures between approximately 90–140 dB generally do not appear to induce strong behavioral responses in pinnipeds in water, but an increasing probability of avoidance and other behavioral effects exists in the range between 120–160 dB.

Southall *et al.* (2007) reviewed the literature and derived behavior and injury thresholds based on peak sound pressure levels of 212 dB (peak) and 218 dB (peak), respectively. Because onset of TTS can vary in response to duration of exposure, Southall *et al.* (2007) also derived thresholds based on sound exposure levels (SEL). The SEL can be thought of as a composite metric that represents both the magnitude of a sound and its duration. The study proposed threshold SELs weighted at frequencies of greatest sensitivities for pinnipeds of 171 dB (SEL) and 186 dB (SEL) for behavioral impacts and injury, respectively (Southall *et al.* 2007). Kastak *et al.* (2005) found exposures resulting in TTS in pinniped test subjects ranging from 152 to 174 dB (183–206 dB SEL). Reichmuth *et al.* (2008) demonstrated a persistent TTS, if not a PTS, after 60 seconds of 184 dB SEL. Kastelein (2012) found small but statistically significant TTSs at approximately 170 dB SEL (136 dB, 60 min) and 178 dB SEL (148 dB, 15 min). Finneran (2016) summarized these studies.

New guidance has been recently released by NMFS (2016) for avoidance of underwater acoustic injury (Level A take) for marine mammals based on estimates of PTS summarized by Finneran (2016). The thresholds for non-impulse sound are based on cumulative SEL levels (SELcum) and include weighting adjustments that account for the sensitivity of different species to varying frequencies. These recommendations do not identify criteria for avoidance of Level B take, but do identify threshold sound levels above which marine mammals may experience TTS. For pinnipeds, PTS is predicted to occur at 219 dB SELcum, and TTS at 199 dB SELcum.

Quintillion evaluated the probability of exceeding PTS thresholds given the project's predicted sound levels using calculations in ''Safe Distance Methodology for Mobile Sources'' user spreadsheet developed by NMFS for this purpose (see I&R 2016 for calculations). Model outcomes predict there is no area where injury thresholds for pinnipeds will be exceeded. We repeated these model calculations using the same assumptions to evaluate the likelihood of reaching TTS at 199 dB SELcum. The radius of the resulting sound isopleth was 1.9 m (6.2 ft) from the source.

We then used the ''Stationary source: Non-Impulsive, Continuous'' model to predict the size of the 199 dB SELcum ensonification zone during stationary activities such as anchor handling. We assumed the maximum sound pressure level of 188 dB, a weighting adjustment factor of 2 for broadband sound below 8.5 kH, and a spreading loss constant of 15 for shallow water. The model output predicts that pinnipeds within 2.4 m (7.9 ft) of the sound source could experience TTS within 60 seconds. Those remaining within 16 m (6.2 ft) of the sound source for 17 minutes could experience TTS, as could those within 22 m (52.5 ft) for 28 minutes, 29 m (95 ft) for 43 minutes, and those remaining

within 41 m (135 ft) for 72 minutes or longer.

Based on the NMFS (2016) estimates of TTS onset, most animals that are exposed to the maximum estimated sound production level (188 dB) will not remain within the radius of the 160-dB ensonification zone (41 m (135 ft) from the vessel) long enough to experience TTS. Pacific walruses swim at an average speed of 7 km/h (4.4 mi/h) and maximum speeds up to 35 km/h (22 mi/h) (MarineBio 2013). At those rates of travel, a Pacific walrus could depart an ensonification zone within 1 minute.

The new thresholds help predict when animals may experience TTS, but behavioral reactions in response to noise or vessel activities remain a more likely cause of Level B take. Animals exposed to high levels of sound are not likely to experience TTS without also expressing significant changes in behavior. The best predictor of behavioral response for Pacific walruses exposed to underwater sound continues to be the distance at which the encounter occurs in relation to the sound levels produced.

Applying a precautionary approach in the absence of empirical information, we assume it is possible that Pacific walruses exposed to 190 dB or greater sound levels from underwater activities could suffer injury from PTS. Sound pressure levels greater than 180 dB could cause temporary shifts in hearing thresholds. Repeated or continuous exposure to sound levels between 160–180 dB may also result in TTS, and exposures above 160 dB are more likely to elicit behavioral responses than lower level exposures.

The Service's underwater sound mitigation measures include employing ''Protected Species Observers'' (PSOs) to establish and monitor 160-dB, 180-dB, and 190-dB isopleth ensonification zones centered on any underwater sound source greater than 160 dB. Quintillion's work is not expected to generate sound levels greater than 190 dB, but PSOs will monitor areas within the 160-dB zone (including a 180-dB zone) during all work in areas where Pacific walruses could occur. Pacific walruses in this zone will be assumed to experience Level B take due to the possibility that prolonged sound exposure may lead to TTS and the higher probability of biologically significant behavioral responses.

Behavioral Response to Disturbance

Marine mammals in general have variable reactions to sights, sounds, smells, and visual presence of vessels and human activities. An individual's reactions will depend on their prior exposure to the disturbance source, their need or desire to be in the particular area, their physiological status, or other intrinsic factors. The location, timing, frequency, intensity, and duration of the encounter are among the external factors that also determine the animal's response. Relatively minor reactions such as increased vigilance or a short-term change in direction of travel are not likely to disrupt biologically important behavioral patterns and do not constitute take by harassment as defined by the MMPA. These types of responses typify the most likely reactions of the majority of Pacific walruses and polar bears that will interact with Quintillion's activities.

Extreme behavioral reactions capable of causing injury are characterized as Level A harassment and will not be authorized. Examples include separation of mothers from young or stampedes, which could result in death of the offspring or trampling of young animals. Quintillion has included measures to prevent such disturbances (see Mitigation and Monitoring).

Intermediate reactions disrupting biologically significant behaviors, such as interruptions in nursing, feeding, or resting, may potentially result in decreased fitness for the affected animal. These reactions meet the criteria for Level B harassment under the MMPA and are discussed for each species in the following sections.

Behavioral Response of Pacific Walrus

Between June and mid-November, Pacific walruses may be found in the Chukchi Sea near the edge of seasonal pack ice, among broken sea-ice, in preferred feeding areas (especially the HSWUA), at coastal haulouts, or travelling between these areas. While animals may be present anywhere west of 153° W., Quintillion's vessels are most likely to encounter Pacific walruses in two areas: (1) Along the cable route as it passes between the HSWUA and a seasonal haulout at Point Lay (cable-laying and support vessels may cross paths with Pacific walruses that are traveling between these areas), and (2) near the Point Barrow ice field when project vessels are in transit to and from the Beaufort Sea.

Pacific walruses may respond to the sights, sounds, and smells of humans, machinery, and equipment. Typical behavioral responses to disturbances include: Altered headings; increased swimming rates; increased vigilance; changes in dive, surfacing, respiration, feeding, and vocalization patterns; and hormonal stress production (*e.g.,* see Richardson *et al.* 1995; Southall *et al.* 2007; Ellison *et al.* 2011). Low-level reactions are common and can be caused by both natural and anthropogenic sources. Pacific walruses at haulouts have been documented reacting to minor disturbances with head raises and changes in body orientation in response to passing ships, aircraft, rock slides, and seabird activities (Helfrich and Meehan 2004).

Significant behavioral responses include displacement from preferred foraging areas, increased stress levels or energy expenditures, or cessation of feeding. Disturbance that occurs while Pacific walruses are resting at a haulout may have the greatest potential for harmful impacts. Disturbance events in the Chukchi Sea have been known to cause groups to abandon land or ice haulouts and occasionally result in trampling injuries or separation of a calf from a cow, both of which are potentially fatal (USFWS 2015a). Females with dependent calves are considered least tolerant of disturbance and most likely to flee a haulout. Calves and young animals at terrestrial haulouts are particularly vulnerable to trampling injuries during a stampede.

Quintillion's activities are planned to avoid terrestrial haulouts but may encounter hauled-out animals on ice. Icebreaking activities in the Chukchi Sea were observed to displace some Pacific walrus groups up to several kilometers away (Brueggeman *et al.* 1990). Approximately 25 percent of groups on pack ice responded by diving into the water; most reactions occurred within 0.8–1 km (0.5–0.6 mi) of the ship. However, groups of hauled-out Pacific walruses beyond these distances generally showed little reaction to icebreaking activities (Brueggeman *et al.* 1990, 1991). Pacific walruses are typically less sensitive to disturbance when they are in the water than when hauled out on land or ice (Fay *et al.* 1984). Pacific walruses on ice have been observed to move away from an approaching ship that is hundreds of meters away, whereas walruses in water react at ranges of tens of meters (Fay *et al.,* 1984). Quintillion's vessels will maintain slow speeds in the presence of Pacific walruses. Ice management activities will not be conducted, except in emergencies, until a PSO has verified that no Pacific walruses are present.

Pacific walruses may become habituated to some activities, tempering their reactions. For example, Pacific walruses at haulouts show increased tolerance of outboard motorboats in years when they are not hunted from boats compared with years when hunting occurs (Malme *et al.,* 1989).

Most adult Pacific walruses have had some previous exposure with ships at sea and probably have some degree of habituation to vessel propulsion sounds. In general, low frequency diesel engines have been observed to cause fewer disturbances than high-frequency outboard engines (Fay *et al.* 1984). The presence of Quintillion's vessels alone has little consequence for most animals and is unlikely to cause significant disturbances in the absence of cable-laying or ice-breaking activity.

Vessels will produce higher noise levels during cable laying and ice management than while in transit. These noises may evoke behavioral responses in addition to the possible impacts to hearing discussed previously. Passive acoustic monitoring conducted during Quintillion's 2016 work documented Pacific walruses vocalizing in the local area before and after, but not during, cable-laying work. There is a possibility that the Pacific walruses moved or ceased vocalizing due to the project's noise (Owl Ridge 2017). This may be an indication of auditory masking (a change in the ability to detect relevant sounds in the presence of other sounds) (Wartzok *et al.* 2003). The biological implications of anthropogenic masking among Pacific walruses are unknown, but if the Pacific walruses' response to masking is to leave the area, then the physiological costs are similar to those of other disturbances that trigger the same response.

The most likely behaviorally significant responses that Quintillion's activities may evoke among Pacific walruses include temporary cessation of feeding, resting, or communicating. Some animals could abandon a preferred travel corridor or foraging area. Some could abandon a haulout on ice, although the proposed avoidance and minimization measures will reduce this likelihood. Effects of these types of mid-level responses include increased energy expenditures and stress levels. Energetic costs are incurred from loss of forage and energy expended while travelling to another region.

The overall impact to the affected animals depends on the duration and frequency of the disturbance events and the ability of the affected animals to reach and use alternate areas. All Quintillion's activities within the range of the Pacific walruses in 2017 are expected to be short-duration transient activities. No activities will restrict availability of or access to other nearby suitable foraging habitat or alternate travel routes during this project. Pacific walruses will, therefore, be able to return to normal behaviors and avoid prolonged disturbances. Short-term increased energy expenditures are expected to be within tolerance levels and will not affect survival or reproductive capacity of any Pacific walruses.

Behavioral Responses of Polar Bears

Quintillion's crew may see polar bears among the broken ice of the Point Barrow ice field during early summer activities. If the ice retreats northward prior to the start of the work season, the crew may not encounter polar bears until August or September, when bears become more common near shore and along the barrier islands. At that time, workers along the Oliktok branch line could see bears resting or travelling along the coast. The amount of time the bears spend in these coastal habitats depends on a variety of factors including storms, ice conditions, and the availability of food. The remains of subsistence-harvested bowhead whales at Cross and Barter islands provide a readily available food source and may influence the numbers of bears in the area (Schliebe *et al.* 2006).

Sights, sounds, and scents produced by Quintillion's activities may elicit a wide range of responses from polar bears. Individual responses are shaped by previous experiences and individual tolerance levels. Polar bears have been observed to respond to the sights and sounds of human activities, including vessels, vehicles, and aircraft (*e.g.,* Watts and Ratson 1989; Dyck 2001; Dyck and Baydack 2004; Andersen and Aars 2005). Noise and vessel activity may act as a deterrent or cause physiological stress. Alternately, novel sights and sounds could attract bears in search of a potential food source.

Much of the available information about the responses of polar bears to construction and industrial activity comes from PSO monitoring reports. From 2010 through 2014, we received 1,234 reports of 1,911 polar bears in both on- and off-shore areas of the Chukchi Sea, Beaufort Sea, and in coastal Alaska. Most of these sightings were likely repeated observations of the same animals. Based on these reports and coastal survey data, the Service estimated that up to 125 individuals of the SBS stock occur between Utqiagvik and the Canada border during the fall period. The greatest numbers of polar bears are found along the coast and barrier islands from August through October. The majority of observations were of bears walking near vessels, development sites, or work areas. Offshore oil and gas facilities typically documented the highest numbers of polar bear sightings, followed by onshore facilities. Reports by vessels at sea were relatively uncommon. Most sightings were of single adult and subadult bears. Fewer sightings were of sows with cubs. Polar bear sightings have generally increased in recent years, likely due in part to greater monitoring efforts, and possibly also due to increased use of coastal areas by bears. In most cases, the bear showed no response or responded by walking or swimming away from the facilities or activities.

Chronic disturbances, extreme reactions (fleeing or fighting), or disturbances affecting key behaviors are more likely to affect fitness and can cause injury. These events have the potential to cause Level A take. Polar bears attracted to human activities are at significant risk of human-bear conflicts, which could result in intentional hazing or possibly lethal take in defense of human life. Historically, polar bear observations are seasonally common, but close encounters with people are uncommon. Human-bear interactions and impacts to denning polar bears are of particular concern. Quintillion's activities will not overlap with the denning season and are not likely to affect denning polar bears.

Increased use of onshore habitat by polar bears has also led to higher incidence of conflict with humans (Dyck 2006; Towns *et al.* 2009). In two studies of polar bears killed by humans in northern Canada, researchers found that the majority of conflicts resulting in polar bears being killed in defense of life occurred during the open-water season (Stenhouse *et al.* 1988; Dyck 2006). Thus, as more polar bears come on shore during summer, and spend longer periods of time on land, there is an increased risk of human-bear conflict; resulting in potential for more defense-of-life kills.

Lethal take of polar bears associated with development or industrial activities is very rare. Since 1968, there have been three documented cases of lethal take of polar bears associated with oil and gas activities. Polar bear interaction plans, training, and monitoring help reduce the potential for encounters and the risks to bears and humans when encounters occur. Quintillion has included such efforts in a marine mammal monitoring and mitigation plan (Owl Ridge 2016).

Polar bears are most likely to react to Quintillion's activities with short-term behavioral responses, such as changes in direction of travel, discontinued hunting efforts, or heightened levels of vigilance. The effects of retreating from a disturbance may be minimal if the event is short and the animal is

otherwise unstressed. However, on a warm day, a short run may be enough to overheat a well-insulated polar bear. The effect of fleeing a vessel on young polar bear cubs would likely be the use of energy that otherwise would be needed for survival during a critical time in a polar bear's life. Significant behavioral responses could also include abandonment of a seal carcass or a preferred hunting area, or fleeing from land into water. Polar bears disturbed while resting may exhibit more substantial energy expenditures or adverse physiological responses than those disturbed while active (Watts *et al.* 1991).

Open-water encounters with polar bears are possible. Monitoring reports from the oil and gas industry and from Quintillion's 2016 work reported several encounters with swimming bears. In those instances, the bears were observed to either swim away from or approach the vessels. Sometimes a polar bear would swim around a stationary vessel before leaving. In at least one instance a polar bear approached, touched, and investigated a stationary vessel from the water before swimming away.

Perhaps the most likely scenario for Level B take is disturbance of a polar bear during Quintillion's ice management activities. During a period of little ice in the late 1980s at an oil exploration drilling site in the Beaufort Sea, a large ice floe threatened the drill rig. After the floe was moved by an icebreaker, workers noticed a female bear with a cub-of-the-year and a lone adult swimming nearby. It was assumed these bears had abandoned the ice floe due to the activities of the icebreaker. In this type of encounter, disturbance could potentially affect the survival of the cub while disturbance of the adults was likely negligible.

Polar bears will most often respond to Quintillion's activities with behaviors that are not biologically significant. Bears using the ice fields will experience only short-term disturbance or displacement during passage of project vessels past Point Barrow. Bears travelling or resting in coastal areas and barrier islands will be able to alter travel routes or find comparable undisturbed resting areas without expending extensive amounts of energy or foregoing critical resources. Movement of displaced polar bears will be temporary and localized compared to the overall movement patterns of polar bears. Most bears will be able to tolerate short-term disturbance without consequence. Behavioral responses of polar bears to project activities are not likely to affect the health or survival of any individual animal.

Impacts to Food and Habitat

The behavior of a marine mammal may be indirectly altered if human activities affect the availability of food or habitat. Quintillion's 2017 program will have short-term, localized effects on Pacific walrus and polar bear habitat.

Local areas of Pacific walrus habitat will be affected along the Quintillion cable route during O&M work or at cable splice sites where concrete mattresses will be installed. Impacts to benthic and epibenthic invertebrates from cable removal and reburial or from placement of concrete mattresses will include: (1) Crushing with the sea plough or ROV; (2) dislodgement onto the surface where they may die; and (3) the settlement of suspended sediment away from the trench where it may clog gills or feeding structures of sessile invertebrates or smother sensitive species (BERR 2008).

Quintillion's work will leave a lasting impact on the seafloor within the cable corridor, but will affect only a small area of the seafloor. Recolonization of benthic communities in northern latitudes is slow and may take 10 years or more (Conlan and Kvitek 2005; Beuchel and Gulliksen 2008). The maximum amount of seafloor disturbance is 125 km (78 mi). Trench widths of 3 m (10 ft) along this length could disturb a total area of 0.38 km^2 (0.15 mi^2) (0.003×125 km = 0.375 km^2). This amount is an insignificant portion of the total seafloor available for Pacific walrus foraging. Further, none of the activity will occur in the HSWUA. The overall effects of cable laying on habitat and food resources will be inconsequential to Pacific walruses.

Vessel activities could affect food resources for polar bears. Quintillion's activities may impact seals by causing underwater noise or disturbance. Seals may respond by abandoning habitat areas, such as feeding areas, haulouts, and breathing holes. Pupping lairs are a particularly important type of habitat for seals but are not likely to be affected due to the timing and location of the proposed activities. The effects of Quintillion's activities on seals were assessed by NMFS in 2016 (81 FR 40274, June 21, 2016). The agency found that no injuries or mortalities were likely, and the impacts would be limited to brief startling reactions and/or temporary vacating of the area. Therefore, the Service does not expect the availability of seals as a food source for polar bears to be significantly changed due to Quintillion's activities in 2017.

No long-term impacts to polar bear habitat are expected, including to the critical habitat designated under the ESA. The designated critical habitat for the polar bear consists of sea-ice, barrier islands, and terrestrial denning habitat. The physical and biological features essential to the conservation of the polar bear include: (1) Annual and perennial marine sea-ice that serve as a platform for hunting, feeding, traveling, resting, and (to a limited extent) denning; and (2) terrestrial habitats used by polar bears for denning and reproduction, as well as for seasonal use in traveling or resting. Barrier island habitat includes the barrier islands off the coast of Alaska, their associated spits, and an area extending out 1.6 km (1 mi) from the islands where this zone contains habitat that is free from human disturbance.

Pacific walruses and polar bears will likely respond to Quintillion's short-term habitat impacts with low- to mid-level behavioral responses, such as temporary cessation of feeding or movement to another area. Responses to habitat impacts are likely to be similar to and indistinguishable from those caused by direct disturbances.

Oil and Fuel Spills

Potential spills could involve fuel, oil, lubricants, solvents, and other substances used aboard the cable ships or support vessels. An oil spill or unpermitted discharge is an illegal act; IHAs do not authorize takes of marine mammals caused by illegal activities. If a spill did occur, the most likely impact upon Pacific walruses or polar bears would be exposure to spilled oil, which may cause injury, illness, or possibly death depending on degree and duration of exposure and the characteristics of the spilled substance. A large spill could result in a range of impacts from reduced food availability to chronic ingestion of contaminated food. Spill response activities, especially use of dispersants, may increase the cumulative impact of a spill on Pacific walrus habitat by making oil more bioavailable for uptake by filter feeders and benthic invertebrates (*e.g.,* Epstein *et al.* 2000; Hansen *et al.* 2012). However, the overall effect on the environment of response activities given a spill are expected to be lower than the level of impact of the spill alone (USFWS 2015b). The effects of a spill event would depend on the amount, substance, and specific circumstances of the spill, but small spills, such as could occur in connection with the activities proposed by Quintillion, are unlikely to have negative impacts on Pacific walruses or polar bears.

Estimated Incidental Take

Although we cannot predict the outcome of each encounter, it is possible to consider the most likely reactions, given observed responses of marine mammals to various stimuli. In general, the response of Pacific walruses and polar bears to vessel activities at sea is related to the distance between the vessel or activity and the animal. The proposed action will include measures to allow animals to detect the vessels at greater distances (*e.g.,* by maintaining slow speeds) in order to prevent extreme behavioral reactions. Measures include minimizing probability of encounters by avoiding terrestrial haulouts and maintaining slow travel speeds when marine mammals are detected. Acoustic ensonification zones will be monitored by PSOs during cable laying, O&M work, and ice management to avoid marine mammals and to reduce noise levels when possible (vessels cannot alter speed or course during active cable laying). During pre- and post-cable-laying activities, vessels will maintain at least a 0.8-km (0.5-mi) distance from feeding Pacific walruses or polar bears on land or ice. These measures are expected to reduce the intensity of disturbance events and to minimize the potential for injuries to animals.

Take Calculations for Pacific Walruses

The Service anticipates that incidental take of Pacific walruses may occur during Quintillion's cable-laying project. Noise, vessels, and human activities could temporarily interrupt feeding, resting, and movement patterns. The elevated underwater noise levels may cause short-term, nonlethal, but biologically significant changes in behavior that the Service considers to be Level B harassment. Quintillion's O&M work includes use of a submersible ROV and placement of concrete mattresses on the seafloor. These activities may have similar effects and could cause behavioral disturbance leading to take.

Quintillion's operations will generate noise within frequencies audible to Pacific walruses. The expected noise levels will not exceed the traditional 190-dB threshold indicative of Level A harassment for non-impulse sounds, nor will they exceed frequency-weighted injury thresholds recently released by NMFS (2016) for cumulative sound exposure. Therefore, there is no 190-dB mitigation zone from the proposed activities, and no project activities are expected to result in take by Level A harassment.

Level B take by acoustic harassment was estimated based on the number of animals that are likely to be exposed to broadband noise levels above 160 dB along the cable route, during O&M work, and during ice management. The area of the 160-dB ensonification zone is assumed to include 125 km (78 mi) of the cable route during O&M work in the Chukchi Sea and 50 km (31 mi) of the transit route during ice management, for a total of 175 km (109 mi). It is not possible to know how much retrieval and reburial of cable (O&M activity) will be necessary, but Quintillion has projected these distances based on maximum estimates from work on other cable projects plus a buffer for unpredictable issues in an Arctic environment.

The radius of the 160-dB ensonification area was estimated by assuming that all O&M work and ice management will produce the maximum noise levels estimated for Quintillion's fleet, regardless of the specific vessel in use or activity being conducted. The maximum level reported in Quintillion's IHA application (OwlRidge 2016) was 188 dB produced by the propulsion systems of an ocean tug, the *Tor Viking II,* during ice management. The maximum source level of 188 dB was then used in a spreading loss model with transmission loss of 17.36 Log R, as described in *Acoustic Sources,* resulting in a 160-dB ensonification zone with a radius of 41 m (135 ft) from the vessel. The total ensonified area was calculated by multiplying the project length (175 km (109 mi)) by the width ($2 \times 41 = 82$ m (269 ft)) to be about 14 km^2 (5.5 mi^2) in total area (0.082×175 km = 14.34 km^2).

The *Vos Thalia* may replace the *Tor Viking II* during Quintillion's work. During SSV, both the *Vos Thalia* and the *Ile de Brehat* produced lower maximum sound levels than did the *Tor Viking II.* The estimation of ensonification area may, therefore, represent an overestimate, but it allows a degree of flexibility in the vessel used and does not result in a substantial difference in estimates of Level B take.

The number of Pacific walruses in the total ensonified area was then estimated using the best available density estimates. Aerts *et al.* (2014) conducted shipboard surveys for marine mammals in the Chukchi Sea from 2008 through 2013. Their highest recorded summer densities were in the low-ice years of 2009 and 2013 (0.04 per km^2 (0.1 per mi^2)). During the heavy-ice years of 2008 and 2012, densities were 0.001 and 0.006 per km^2 (0.003 and 0.02 per mi^2), respectively. Given the continuing trend for light summer ice conditions, it is assumed that 2017 will be similar to 2013. Therefore, the 2013 density estimate of 0.04 per km^2 (0.1 per mi^2) is used to calculate Level B take.

The number of Pacific walruses potentially exposed to acoustic harassment by the Quintillion cable project was then estimated by multiplying the density by the total area that would be ensonified by noise greater than 160 dB. This calculation results in an estimate of 1 Pacific walrus ($0.04 \times 14 \approx 0.6$) thereby demonstrating that take by acoustic harassment is not likely to affect a large number of Pacific walruses.

Quintillion's activities are more likely to cause Level B take associated with behavioral responses than acoustic harassment. As with acoustic harassment, the numbers affected will be determined by the distribution of animals and their location in proximity to the project work. The seasonal distribution of Pacific walruses in the project area is directly associated with the distribution and extent of broken pack ice (Fay *et al.* 1984, Garlich-Miller *et al.* 2011, Aerts *et al.* 2014). During years with high levels of sea-ice, most Pacific walrus are expected to remain over the Chukchi Sea shelf and feed at areas like HSWUA. During low ice years, the ice edge moves north over the Arctic Basin where waters are too deep to forage. The animals leave the ice and haul out on beaches (such as near Point Lay), where they rest between offshore foraging trips until the pack ice returns. Relative to the Quintillion cable laying, if 2017 is a high ice year, few Pacific walruses are expected to be encountered during O&M work, as most of them will remain with the pack ice to the north or northwest of the cable route. Encounters could occur if isolated ice floes supporting Pacific walruses were to blow back southward during storm events. There is also a possibility of disturbing hauled out animals among persistent ice around Point Barrow when Quintillion is creating a path through broken ice in order for the *Ile de Batz* to access the Oliktok branch route. During light ice years, Pacific walruses are less likely to be encountered near Point Barrow and more likely to intercept cable-laying activities while moving between the pack ice and terrestrial haulouts. Independent of the extent of seasonal ice, Quintillion's vessels could also encounter animals migrating southward though the Bering Strait in November.

It is impossible to accurately predict the total number of Pacific walruses that may be encountered due to the substantial uncertainty in the work that will be necessary and the unknown ice conditions, but in 2016, Quintillion's PSOs observed 1,199 Pacific walruses in

62 groups. The largest group had approximately 500 animals. For comparison, during marine mammal observations made for offshore oil and gas activities conducted by Shell Oil Company (Shell) in the Chukchi Sea in 2015, PSOs recorded 500 sightings of 1,397 individual Pacific walruses (Ireland and Bisson 2016). The average number per observation was only 1.5, but on several occasions, groups of more than 100 animals were observed with a maximum group size of 243 animals. Quintillion's work will move through the range of the Pacific walrus more quickly in 2017 than in 2016 and the work season will be shorter than that of Shell's in 2015. In general, summer densities in the project area are unpredictable, and distributions clumpy, but it is reasonable to expect that 500 or more Pacific walruses may be encountered.

Most of the Pacific walruses encountered will show no response or only a low-level behavioral response. Quintillion's avoidance and minimization measures will reduce the likelihood of more significant disruptions of normal behaviors, but despite these measures, some animals may show more acute responses, particularly if encountered at closer range or disturbed while resting on ice. During 2016, Quintillion PSOs reported six encounters involving eight individuals within 50 m (31 ft) of the vessels. Eight groups comprising 183 total animals were observed hauled out on ice floes; the largest group had 70 animals. Encounters among ice could cause animals to leave ice-based haulouts, resulting in a disruption of important resting, nursing, and social behaviors. Given the possibility that any encounter involving Pacific walruses might involve large groups, and that work may occur near ice, Quintillion requested take of up to 250 Pacific walruses by Level B harassment based on the maximum estimated size of haulouts on sea-ice.

Potential Impacts on the Pacific Walrus Stock

Although 250 Pacific walruses (approximately 0.2 percent of the population) could potentially be taken by Level B harassment due to the possibility of significant behavioral responses, most events are unlikely to have consequences for the health, reproduction, or survival of affected animals.

Disturbance from noise is most likely to be caused by propeller cavitation and thruster noise during cable laying and ice management. Sound production is not expected to reach levels capable of causing harm. Animals in the area are not expected to incur hearing impairment (*i.e.,* PTS) or non-auditory physiological effects, but could experience TTS due to prolonged exposure to underwater sound. Level A harassment is not authorized. Pacific walruses exposed to sound produced by the project are likely to respond to proposed activities with temporary behavioral modification or displacement. With the adoption of the mitigation measures required by this proposed IHA, we conclude that the only anticipated effects from noise generated by the proposed action would be short-term temporary behavioral alterations of small numbers of Pacific walruses.

Vessel-based activities could temporarily interrupt the feeding, resting, and movement of Pacific walruses. Ice management activities could cause animals to abandon haulouts on ice. Because offshore activities are expected to move relatively quickly, impacts associated with the project are likely to be temporary and localized. The anticipated effects include short-term behavioral reactions and displacement of small numbers of Pacific walruses in the vicinity of active operations.

Areas affected by the proposed action will be small compared to the regular movement patterns of the population, indicating that animals will be capable of retreating from or avoiding the affected areas. Animals that encounter the proposed activities may exert more energy than they would otherwise due to temporary cessation of feeding, increased vigilance, and retreat from the project area, but we expect they would tolerate this exertion without measurable effects on health or reproduction. Adoption of the measures specified in Mitigation and Monitoring are expected to reduce the intensity of disturbance events and minimize the potential for injuries to animals. In sum, we do not anticipate injuries or mortalities to occur as a result of Quintillion's subsea cable-laying operation, and none will be authorized. The takes that are anticipated would be from short-term Level B harassment in the form of brief startling reactions or temporary displacement.

The estimated level of take by harassment is small relative to the most recent stock abundance estimate for the Pacific walrus. A take level of 250 represents 0.2 percent of the best available estimate of the current population size of 129,000 animals (Speckman *et al.* 2011) (250/129,000 ≈ 0.002). No long-term biologically significant impacts to Pacific walruses are expected.

Take Calculations for Polar Bears

Quintillion's 2017 activities have the potential to cause Level B take due to harassment of polar bears. Polar bears are most likely to be observed during cable-laying activities along the Oliktok branch route. The Oliktok branch passes through a chain of barrier islands that parallels the coast. This region is often inhabited by polar bears in summer and fall. Quintillions PSOs observed polar bears at these locations in 2016, although usually at long distances.

Polar bears are widely distributed among sea-ice and may be encountered during ice management operations near Point Barrow. Ice management activities will involve maneuvering broken ice with a tug. Quintillion's PSOs will monitor for marine mammals; ice management will not occur if polar bears are observed in the area. Observers are not always capable of detecting every animal and ice management work could, therefore, disturb polar bears among sea-ice.

There is a low probability of encounters while Quintillion is conducting proposed O&M activities in the Chukchi Sea. Quintillion's vessels will operate there during the open-water period, and will avoid sea-ice for safety reasons. Encounters with polar bears swimming in open water are uncommon. In 2016, Quintillion PSOs observed one bear swimming at sea.

Quintillion's 2017 activities could encounter polar bears from either the CS or the SBS stock. Polar bears encountered near Oliktok Point are most likely to be from the SBS stock. Those observed in the Chukchi Sea or near Wainwright, Point Hope, Kotzebue, or Nome are probably from the CS stock. Bears near Utqiagvik may be from either population.

The expected number of takes was calculated by assuming a similar number of bears would be encountered in 2017 as in 2016, and further assuming that any encounter could result in take. In 2016, Quintillion's PSOs reported 12 observations of 18 bears between 5 m–4.6 km (16 ft–2.9 mi) from the vessels. Quintillion has, therefore, requested take of 20 polar bears, 10 each from the SBS and CS stock. This calculation represents a conservative approach to take estimation and it is likely to be an overestimate of the actual level of take. Of the 18 polar bears observed in 2016, 2 bears changed their direction of travel to avoid the activities; others had no apparent response to Quintillion's vessels. Based on observation data from

the oil and gas industry, 81 percent of encounters result in instances of non-taking. Therefore, the probable level of take is much lower than that requested.

Potential Impacts on the Stock of Polar Bears

Take of ten bears from the CS stock represents approximately 0.5 percent of the estimated population size (10 ÷ approximately 2,000 = 0.005). Ten bears from the SBS stock is approximately 1 percent (10 ÷ 900 = 0.011) of that stock. Most bears will show little if any response, but some may be harassed by Quintillion's work, particularly during encounters at close range.

The majority of encounters that cause polar bears to react are not expected to have long-term consequences for the affected animals. Although flight responses, abandonment of feeding areas, or other mid-level responses have the potential to reduce the long-term survival or reproductive capacity of an individual, most of the animals that show these types of responses will be able to tolerate them without consequences to survival and fitness.

We expect Quintillion's activities to have no impacts to the SBS or CS stocks of polar bears for the following reasons: (1) The majority of the polar bears from each stock will not come in contact with Quintillion's activities; (2) only small numbers of Level B take will occur; (3) take events are unlikely to have significant consequences for most polar bears; and (4) the monitoring requirements and mitigation measures described in Mitigation and Monitoring will further reduce potential impacts.

Potential Impacts on Subsistence Uses

The proposed activities will occur near the marine subsistence harvest areas used by Alaska Natives from the villages of Nome, Wales, Diomede, Kotzebue, Kivalina, Point Hope, Point Lay, Wainwright, Utqiagvik, and Nuiqsut.

Between 1989 and 2016, approximately 3,126 Pacific walruses were harvested annually in Alaska. The years 2013–2016 were low harvest years with an average of 1,433 Pacific walruses per year. Lower harvest rates in recent years may be related to changes in sea-ice dynamics (Ray *et al.* 2016). Statewide harvest estimates are adjusted for underreporting and for animals that are struck and lost.

Most of the Pacific walrus harvest (85 percent) was by the villages of Gambell and Savoonga on St. Lawrence Island, located 135 km (84 mi) south of the geographic region of the Quintillion cable project. Relative to the village population size (556), Pacific walruses are also an important staple for the community of Wainwright, where a reported 27 Pacific walruses were taken annually from 2007 through 2016. The village of Diomede (population of approximately 115) reported harvest of an average of 21 Pacific walruses per year during that period. The villages of Point Hope (population approximately 699) and Wales (population approximately 145), both reported an average of 5–6 Pacific walruses taken each year. Nome (population approximately 4,000) reported harvest of 9 Pacific walruses per year, and Utqiagvik (population approximately 4,000), harvested 15 Pacific walruses per year from 2007 through 2016. Estimates of harvest by village have not been corrected for struck and lost animals or underreporting.

The total reported Alaska Native harvest of polar bears from 1990 through 2013 was 1,576 bears. Harvest levels varied considerably during this period, ranging from 16 to 107 bears, but the average was 65 polar bears per year. Harvest rates are declining by about 3 percent per year, and the average annual harvest from 2004 through 2013 was closer to 50 polar bears. Within the project area, the villages of Utqiagvik, Nome, Point Hope, Point Lay, Kivalina, Kotzebue, Nuiqsut, Shishmaref, Wainwright, and Wales regularly harvested polar bears. Of these, Utqiagvik, Point Hope, and Wainwright harvested the greatest numbers, averaging 16, 12, and 6 polar bears per year, respectively, during 1990 through 2014. Diomede, Savoonga, and Gambell harvested an annual average of 5, 6, and 7 animals each. No project work will occur near St. Lawrence Island and Little Diomede Island, but project vessels may pass nearby.

In only a few locations could the proposed project area significantly overlap with subsistence harvest areas. These locations include the portion of the route passing between the villages of Diomede and Wales, the branching line into Wainwright, and the branching line and ice management areas near Point Barrow (*i.e.,* near Utqiagvik). Quintillion's vessels are not expected to affect subsistence harvest near Diomede because polar bears and Pacific walruses hunted there are usually taken from sea-ice and Quintillion's vessels will not travel through areas of sea-ice in the Chukchi Sea.

The cable route passes within 30 km (19 mi) of both Wainwright and Utqiagvik, and branching lines go directly to both villages. Ice management is possible near Point Barrow in July. Wainwright hunters usually take polar bears when sea-ice is present in winter and spring. Pacific walruses are harvested from drifting ice floes near Wainwright and Utqiagvik during July and August (Bacon *et al.* 2009). Utqiagvik harvests polar bears throughout the year. Quintillion will not be operating near Wainwright when seasonal sea-ice is present. Thus, the cable-laying project is not expected to affect the Pacific walrus or polar bear hunt in Wainwright. Quintillion will coordinate with Utqiagvik hunters and employ PSOs to watch for Pacific walruses and polar bears in order to avoid conflicts during ice management or O&M activities near Point Barrow.

Pacific walruses and polar bears from the CS stock are usually taken from sea-ice in winter and spring. As mentioned, Quintillion will not operate among sea-ice in the Chukchi Sea. Therefore, the proposed project timetables relative to the seasonal timing of the various village harvest periods will minimize the impacts to subsistence hunting. However, polar bears from the SBS stock may be harvested at any time of year. Quintillion will work closely with the affected villages and the Eskimo Walrus Commission (EWC) to minimize effects the project might have on subsistence harvest.

Mitigation and Monitoring

Quintillion has adopted a marine mammal monitoring and mitigation plan (4MP) that describes the avoidance and minimization measures. The plan describes measures to avoid interactions with Pacific walruses and polar bears wherever possible, especially in habitat areas of significance. The PSOs will be employed to watch for marine mammals and to initiate adaptive measures in response to the presence of Pacific walruses or polar bears. A Plan of Cooperation (POC) has also been developed and will be implemented to facilitate coordination with subsistence users. Work will be scheduled to minimize activities in hunting areas during subsistence harvest periods. Quintillion will communicate closely with the EWC and the villages to ensure subsistence harvest is not disrupted. These documents are available for public review as specified in **ADDRESSES**.

Avoidance

For the proposed Quintillion subsea cable-laying operations, the primary means of minimizing potential consequences for Pacific walruses, polar bears, and subsistence users is routing the cable to avoid concentration areas and important habitat. Most of the main trunk line is 30–150 km (19–93 mi) offshore, thereby avoiding nearshore

Pacific walrus concentrations and terrestrial haulouts. No work will be done near Point Lay, where large haulouts may seasonally occur, or near the HSWUA, where Pacific walrus feeding aggregations may occur. The timing of activities allows the project to avoid impacts to polar bear dens.

Where cable end branches will come ashore, landings will be conducted at right angles to the coastline and immediately adjacent to the respective village (except at Oliktok Point where no village exists) to avoid Pacific walrus haulouts and minimize activities near barrier islands and coastal areas that provide habitat for polar bears that is free from disturbance.

The proposed action will not occur north of the Bering Strait until July 1, which will allow Pacific walruses the opportunity to disperse from the confines of the spring lead system and minimize interactions with subsistence hunters. Quintillion's O&M and cable-laying work must avoid sea-ice for safety reasons. In doing so, Quintillion will avoid ice habitat used by Pacific walruses and polar bears. The only region where sea-ice may be encountered will be north of Point Barrow. Quintillion may use a tug to maneuver broken ice away from the cable-laying vessel in order to transit through the region if needed after July 1. Quintillion has determined that if early-season access is possible and ice management can be done safely, it would not be practicable for the project to delay work by waiting for the sea ice to disperse. Early season access to the Beaufort Sea will help to complete the project prior to the end of the season and will reduce potential for conflict with the fall subsistence harvest of bowhead whales.

Vessels will be operated at slow speeds to avoid injuries and disturbances. Collisions between vessels and marine mammals are rare in waters of Alaska, and when they do occur, they usually involve fast-moving vessels. Observers will monitor for marine mammals and apply speed restrictions, alter course, or reduce sound production whenever possible when animals are present. Ships will not be able to alter course or speed to avoid marine mammals during cable laying, but this work will be conducted at slow speeds (0.6 km/h (0.37 mi/h or 0.32 kn)) and constant sound production levels. This activity will provide ample warning, allowing Pacific walruses and polar bears to avoid the vessels before they are close enough to cause harm. Maximum underwater sound levels produced by project activities will not be loud enough to cause hearing damage (*i.e.,* PTS). In most cases, animals will also be able to retreat from the vessels without experiencing Level B take from either sound exposure (*i.e.,* TTS) or biologically significant behavioral responses.

Vessel-Based Protected Species Observers (PSOs)

Quintillion has proposed to employ vessel-based PSOs to watch for and identify marine mammals, to record their numbers, locations, distances, and reactions to the operations, and to implement appropriate adaptive measures. Observers will monitor whenever the activities of the *Ile de Batz* are expected to produce sound above 120 dB. This activity will include transit to and from work sites, ice management, pre-trenching, cable laying, and O&M work (including use of the ROV and placement of concrete mattresses). The vigilance of PSOs will help minimize encounters with Pacific walruses and polar bears when the possibility of encounters cannot be avoided outright. This oversight is especially important in habitat areas of significance for these species, including the barrier islands and nearshore coastal habitats used by polar bears for refuge from disturbance, and among the marginal sea-ice, used by both species for hunting and foraging.

Observers will conduct this monitoring during all daylight periods of operation throughout the work season. A sufficient number of trained PSOs will be required onboard each vessel to achieve 100 percent monitoring coverage of these periods with a maximum of 4 consecutive hours on watch and a maximum of 12 hours of watch time per day per PSO. Nighttime observations will be made opportunistically using night-vision equipment. Quintillion has determined that monitoring by PSOs is not feasible during use of the construction barge, the pontoon barge, or the small river tug due to the limited space aboard these vessels. Encounters with Pacific walruses are not a concern for these vessels because they will not operate in suitable habitat areas. However, polar bears may be present. The vessel crews will remain vigilant for polar bears and will implement all relevant measures specified in the 4MP if a polar bear is observed.

Observers will monitor all areas around project vessels to the outer radius of the 120-dB ensonification zone. Specific distances monitored will depend on the activity being conducted. Greater distances will be monitored during louder activities, including use of the sea plow and use of dynamic positioning thrusters. Monitoring zones will range from 1.7 to 5.4 km (1.0–3.4 mi) from the vessels.

Each vessel will have an experienced field crew leader to supervise the PSO team and will consist of individuals with prior experience as marine mammal monitoring observers, including experience specific to Pacific walruses and polar bears. New or inexperienced PSOs will be paired with an experienced PSO so that the quality of marine mammal observations and data recording is kept consistent. Resumes for candidate PSOs will be made available for the Service to review. All observers will have completed a training course designed to familiarize individuals with monitoring and data collection procedures. The PSOs will be provided with Fujinon 7×50 or equivalent binoculars. Laser range finders (Leica LRF 1200 or equivalent) will be available to assist with distance estimation.

All location, weather, and marine mammal observation data will be recorded onto a standard field form or database. Global positioning system and weather data will be collected at the beginning and end of a monitoring period and at every 30 minutes in between. Position data will also be recorded at the change of an observer or the sighting of a Pacific walrus or polar bear. Enough position data will be collected to map an accurate charting of vessel travel. Observations of Pacific walruses and polar bears will also include group size and composition (adults/juveniles), behavior, distance from vessel, presence in any applicable ensonification zone, and any apparent reactions to the project activities. Data forms or database entries will be made available to the Service upon request.

Acoustic Monitoring

Sound source verification was conducted in 2016 for Quintillion's vessels and activities. The noise levels are expected to be similar in 2017. No additional SSV is planned.

Pacific walruses may be exposed to underwater sound levels capable of causing take by Level B harassment. Sound pressure levels greater than 180 dB could cause temporary shifts in hearing thresholds. Repeated or continuous exposure to sound levels between 160 and 180 dB may also result in TTS, although this result is unlikely for most Pacific walruses. Exposures above 160 dB are more likely to elicit behavioral responses. For this reason, observers will monitor the 120-dB ensonification zone for the presence of approaching Pacific walruses. The 160-dB zone (inclusive of the 180-dB zone) will be monitored for animals that may

be exposed to high levels of sound. The radius of these zones will depend on the activity being conducted. Observers will also record the distance from the animals upon initial observation, the duration of the encounter, and the distance at last observation in order to monitor cumulative sound exposures. Observers will note any instances of animals lingering close to or traveling with vessels for prolonged periods of time.

Adaptive Measures

When the cable ships are traveling in Alaska waters to and from the project area (before and after completion of cable laying and O&M work) and during all travel by support vessels, operators will follow these measures:

- Avoid potential interactions with any and all Pacific walruses and polar bears by reducing speed to less than 9.4 km/h (5.8 mi/h or 5 kn), altering course, or reducing sound production when animals are observed within 0.8 km (0.5 mi). Achieve changes in speed or course gradually to avoid abrupt maneuvers whenever possible.
- Do not approach Pacific walruses or polar bears within 0.8 km (0.5 mi).
- Reduce speed to less than 9.4 km/h (5.8 mi/h or 5 kn) when visibility drops (such as during inclement weather, rough seas, or at night) to allow marine mammals to avoid project vessels (during cable laying, the normal vessel speed is less than 9.4 km/h (5.8 mi/h or 5 kn)).
- Avoid sea-ice used by Pacific walruses or polar bears. Observers will monitor all project activities before commencing ice management and continuously during ice management. If Pacific walruses or polar bears are detected anywhere along the transit route, ice management will not commence. If animals are detected while vessels are underway, all project activities will cease or be reduced to the minimum level necessary to maintain safety of the vessels and crew. Forward progress can resume after the animals have departed of their own accord to a distance of at least 1.6 km (1 mi) from the vessels and route.
- Do not operate vessels in such a way as to separate members of a group of Pacific walruses or polar bears from other members of the group.
- If Pacific walruses are observed on land, ensure that vessels maintain a 1.6-km (1-mi) separation distance.
- Report any behavioral response indicating more than Level B take due to project activities to the Service immediately but not later than 48 hours after the incident, including separation of mother from young, stampeding haulouts, injured animals, and animals in acute distress.

Measures To Reduce Impacts to Subsistence Users

Holders of an IHA must cooperate with the Service and other designated Federal, State, and local agencies to monitor the impacts of proposed activities on marine mammals and subsistence users. Quintillion has coordinated with the Service, NMFS, and the Army Corps of Engineers, along with communities and subsistence harvest organizations. Specifically, Quintillion has coordinated with EWC, Utqiagvik Whaling Captains Association members and board, the Community of Wainwright, Wainwright Whaling Captains, Point Hope Community, Tikigaq Whaling Captains, the Northwest Arctic Borough, Kotzebue City Management, the Community of Kotzebue, Maniilaq Association, Kawerak Incorporated, the Nome Community, and Kuukpik Corporation.

Communications will continue throughout the project through public service announcements on KBRW and KOTZ radio stations, messaging on the Alaska Rural Communications Service television network, local newspapers, and 1–800 comment lines. At the end of the work season Quintillion will conduct community meetings at the affected villages to discuss and summarize project completion. In coordination with these agencies and organizations, Quintillion has agreed to the following actions to minimize effects on subsistence harvest by Alaska Native communities:

- Schedule cable-laying operations to avoid conflict with subsistence harvest.
- Where faults are found, schedule O&M work around local subsistence activity.
- Plan routes in offshore waters away from nearshore subsistence harvest areas.
- Develop and implement a POC to coordinate communication.
- Participate in the Automatic Identification System for vessel tracking to allow the cable-laying fleet to be located in real time.
- Monitor local marine radio channels for communication with local vessel traffic.
- Distribute a daily report by email to all interested parties. Daily reports will include vessel activity, location, subsistence/local information, and any potential hazards.

Reporting Requirements

Holders of an IHA must keep the Service informed of the impacts of authorized activities on marine mammals by: (1) Notifying the Service at least 48 hours prior to commencement of activities; (2) reporting immediately but no later than 48 hours, any occurrence of injury or mortality due to project activities; (3) submitting project reports; and (4) notifying the Service upon project completion or at the end of the work season.

Weekly reports will be submitted to the Service each Thursday during the weeks that cable-laying activities take place. The reports will summarize project activities, monitoring efforts conducted by PSOs, numbers of Pacific walruses and polar bears detected, the number of Pacific walruses exposed to sound levels greater than 160 dB, and all behavioral reactions of Pacific walruses and polar bears to project activities.

A final report will be submitted to the Service within 90 days after the end of the project or the end of the open-water season, whichever comes first. The final report will describe all monitoring conducted during Quintillion's activities and provide results. The report will include the following:

- Summary of monitoring effort (total hours of monitoring, activities monitored, number of PSOs).
- Summary of project activities completed and additional work yet to be done.
- Analyses of the factors influencing visibility and detectability of Pacific walruses and polar bears (*e.g.,* sea state, number of observers, and fog/glare).
- Discussion of location, weather, ice cover, sea state, and other factors affecting the presence and distribution of Pacific walruses and polar bears.
- Number, location, distance/direction from the vessel, and initial behavior of any sighted Pacific walruses and polar bears upon detection.
- Dates, times, locations, heading, speed, weather, and sea conditions (including sea state and wind force), as well as description of the specific activity occurring at the time of the observation.
- Estimated distance from the animal or group at closest approach and at the end of the encounter.
- Duration of encounter.
- An estimate of the number of Pacific walruses that have been exposed to noise (based on visual observation) at received levels greater than or equal to 160 dB with a description of the responses (changes in behavior).
- Estimates of uncertainty in all take estimates, with uncertainty expressed by the presentation of confidence limits, a minimum-maximum, posterior probability distribution, or another

applicable method, with the exact approach to be selected based on the sampling method and data available.

- A description of the mitigation measures implemented during project activities and their effectiveness for minimizing the effects of the proposed action on Pacific walruses and polar bears.
- An analysis of the effects of operations on Pacific walruses and polar bears.
- Occurrence, distribution, and composition of sightings, including date, water depth, numbers, age/size/gender categories (if determinable), group sizes, visibility, location of the vessel, and location of the animal (or distance and direction to the animal from the vessel) in the form of electronic database or spreadsheet files.
- A discussion of any specific behaviors of interest.

Notification of Injured or Dead Marine Mammals

In the unexpected event that the specified activity causes the take of a Pacific walrus or polar bear in a manner not authorized by the IHA, such as an injury or mortality (*e.g.,* ship-strike), Quintillion must cease activities or reduce them to the minimum level necessary to maintain safety and report the incident to the Service immediately and no later than 48 hours later. Activities will not continue until the Service reviews the circumstances and determines whether additional measures are necessary to avoid further take and notifies Quintillion that activities may resume. The report will include the following information:

- Time, date, location (latitude/longitude), and description of the incident;
- Name and type of vessel involved;
- Vessel's speed during and leading up to the incident;
- Description of all sound sources used in the 24 hours preceding the incident;
- Environmental conditions (*e.g.,* wind speed and direction, cloud cover, visibility, and water depth);
- All Pacific walrus and polar bear observations in the preceding 24 hours;
- Description of the animal(s) involved and fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

In the event that Quintillion discovers an injured or dead Pacific walrus or polar bear, and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in the IHA (*e.g.,* previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), Quintillion must report the incident to the Service within 48 hours of the discovery. Quintillion will provide photographs or video footage (if available) or other documentation to the Service.

Mitigation Conclusions

We have carefully evaluated Quintillion's proposed mitigation measures and considered a range of other measures of ensuring that the cable project will have the least practicable impact on polar bears, Pacific walruses, and their habitat. Our evaluation considered the following: (1) The manner in which, and the degree to which, the successful implementation of the measures are expected to minimize adverse impacts to the animals; (2) the proven or likely efficacy of the measures to minimize adverse impacts as planned; and (3) the practicability of the measures for applicant implementation. The expected effects of the prescribed mitigation measures are as follows:

- Avoidance of injury or death of polar bears and Pacific walruses.
- Reduction in the numbers of polar bears and Pacific walruses exposed to activities expected to result in the take of marine mammals.
- Reduction in the number of times individuals would be exposed to project activities.
- A reduction in the intensity of exposures to activities expected to result in the take of Pacific walruses and polar bears.
- Avoidance or minimization of adverse effects to important Pacific walrus and polar bear habitat, especially den sites, barrier islands, haulout areas, sea-ice, and foraging areas.
- An increase in the probability of detecting Pacific walruses and polar bears through vessel-based monitoring, allowing for more effective implementation of adaptive mitigation measures.
- Reduction in the likelihood of affecting Pacific walruses and polar bears in a manner that would alter their availability for subsistence uses.

Based on our evaluation of the proposed mitigation measures, we have determined that these measures provide the means of effecting the least practicable impact on Pacific walruses, polar bears, and their habitat. These measures will also minimize any effects the project will have on the availability of the species or stock for subsistence uses.

Findings

Small Numbers

For small take analyses, the statute and legislative history do not expressly require a specific type of numerical analysis, leaving the determination of ''small'' to the agency's discretion. In this case, we propose a finding that the Quintillion project may take up to 250 Pacific walruses and 20 polar bears by Level B harassment, and that these values constitute small numbers of animals. Factors considered in our small numbers determination include the number of animals in the affected area, the size of the affected area relative to available habitat, and the expected efficacy of mitigation measures.

First, the number of Pacific walruses and polar bears inhabiting the proposed impact area is small relative to the size of the populations. The potential exposures for the 2017 cable-laying period are based on estimated density and encounter rates during previous work. An allowance for the clumped distribution of Pacific walruses was also included, resulting in a total estimate of take of approximately 250 animals. This amount is about 0.2 percent of the population size of 129,000 estimated by Speckman *et al.* (2011). The number of polar bears was estimated based on past encounter rates to be 10 each from the CS and SBS stocks. This amount is approximately 0.5 percent of the CS stock and about 1 percent of the SBS stock.

Second, the area where the proposed activities will occur is a small fraction of the available habitat for Pacific walruses and polar bears. Cable-laying activities will have temporary impacts to Pacific walrus and polar bear habitat along a 175-km (109-mi) linear corridor of marine waters and coastal lands in Alaska. Underwater sound levels greater than 160 dB may affect a total area of up to 14 km^2 (5.4 mi^2). Trenching of the seafloor may disturb the benthos along the cable route, affecting a total area of approximately 0.38 km^2 (0.15 mi^2). Given the expansive range and distribution of both polar bears and Pacific walruses, these areas constitute a small fraction of the available habitat. These impacts will be temporary and localized, and will not impede the use of an area after the project activities are complete.

Third, monitoring requirements and mitigation measures are expected to limit the number of takes. The cable activities will avoid den sites, sea-ice, terrestrial haulouts, and important feeding habitat. Adaptive mitigation measures will be implemented when areas that are used by Pacific walruses and polar bears cannot be avoided. These measures will include changes in speed or course when Pacific walruses or polar bears could come within 0.8 km (0.5 mi), as well as maintaining a 1.6-km

(1-mi) distance from Pacific walruses observed on land. These measures are expected to prevent take by Level A harassment and to minimize take by Level B harassment, especially in habitat areas of particular importance. Vessel activities will be monitored by PSOs, and unexpected impacts will be reported to the Service. No take by injury or death is anticipated or authorized. Monitoring and reporting will allow the Service to reanalyze and refine future take estimates and mitigation measures as activities continue in Pacific walrus and polar bear habitat in the future. Should the Service determine, based on monitoring and reporting, that the effects are greater than anticipated, the authorization may be modified, suspended, or revoked. For these reasons, we propose a finding that the Quintillion project will involve takes by Level B harassment of only a small number of animals.

Negligible Impact

We propose a finding that any incidental take by harassment resulting from the proposed Quintillion cable-laying operation cannot be reasonably expected to, and is not reasonably likely to, adversely affect the Pacific walrus or the polar bear through effects on annual rates of recruitment or survival and would, therefore, have no more than a negligible impact on the species or stocks. In making this finding, we considered the best available scientific information, including: (1) The biological and behavioral characteristics of the species; (2) the most recent information on species distribution and abundance within the area of the proposed action; (3) the potential sources of disturbance during the proposed action; and (4) the potential responses of animals to this disturbance. In addition, we reviewed material supplied by the applicant, other operators in Alaska, our files and datasets, published reference materials, and species experts.

Pacific walruses and polar bears are likely to respond to proposed activities with temporary behavioral modification or displacement. These reactions are unlikely to have consequences for the health, reproduction, or survival of affected animals. For Pacific walruses, a predominant source of disturbance is likely to be production of underwater sound by the cable-laying vessels. Sound production is not expected to reach levels capable of causing harm, and Level A harassment is not authorized. For polar bears, the sights, sounds, smells, and visual presence of vessels, workers, and equipment could all cause disturbances. Most animals will respond to disturbance by moving away from the source, which may cause temporary interruption of foraging, resting, or other natural behaviors. Affected animals are expected to resume normal behaviors soon after exposure, with no lasting consequences. Some animals may exhibit more severe responses typical of Level B harassment, such as fleeing, abandoning a haulout, or becoming separated from other members of a group. These responses could have significant biological impacts for a few affected individuals, but most animals will also tolerate this type of disturbance without lasting effects. Thus, although 250 Pacific walruses (approximately 0.2 percent of the stock) and 20 polar bears (0.5 percent of the CS stock and 1 percent of the SBS stock) are estimated to be taken (*i.e.,* potentially disturbed) by Level B harassment, we do not expect this type of harassment to affect annual rates of recruitment or survival or result in adverse effects on the species or stock.

Our proposed finding of negligible impact applies to incidental take associated with the proposed activities as mitigated by the avoidance and minimization measures. These mitigation measures are designed to minimize interactions with and impacts to Pacific walruses and polar bears. These measures, and the monitoring and reporting procedures, are required for the validity of our finding and are a necessary component of the IHA. For these reasons, we propose a finding that the 2017 Quintillion project will have a negligible impact on Pacific walruses and polar bears.

Impact on Subsistence

We propose a finding that the anticipated harassment caused by Quintillion's activities would not have an unmitigable adverse impact on the availability of Pacific walruses or polar bears for taking for subsistence uses. In making this finding, we considered the timing and location of the proposed activities and the timing and location of subsistence harvest activities in the area of the proposed action. We also considered the applicant's consultation with potentially affected subsistence communities and proposed measures for avoiding impacts to subsistence harvest.

Required Determinations

National Environmental Policy Act (NEPA)

We have prepared a draft Environmental Assessment (see **ADDRESSES**) in accordance with the NEPA (42 U.S.C. 4321 *et seq.*). We have preliminarily concluded that approval and issuance of an authorization for the nonlethal, incidental, unintentional take by Level B harassment of small numbers of Pacific walruses and polar bears in Alaska during cable-laying activities conducted by Quintillion in 2017 would not significantly affect the quality of the human environment, and that the preparation of an environmental impact statement for these actions is not required by section 102(2) of NEPA or its implementing regulations.

Endangered Species Act

Under the ESA, all Federal agencies are required to ensure the actions they authorize are not likely to jeopardize the continued existence of any threatened or endangered species or result in destruction or adverse modification of critical habitat. We reviewed the range-wide status of Pacific walruses in response to a 2008 petition to list this species. On February 10, 2011 (76 FR 7634), listing was found to be warranted, but was precluded due to higher priority listing actions (*i.e.,* the Pacific walrus is now a candidate species). The Service listed the polar bear as a threatened species throughout its range under the ESA on May 15, 2008, due to loss of sea-ice habitat caused by climate change (73 FR 28212). In 2010, the Service designated critical habitat for polar bears in the United States (75 FR 76086, December 7, 2010). Prior to issuance of this IHA, the Service will complete intra-Service consultation under Section 7 of the ESA on our proposed issuance of an IHA, which will consider whether the effects of the proposed project will adversely affect polar bears or their critical habitat. In addition, we will review our previous evaluation on whether the effects of the proposed activities will jeopardize the continued existence of the Pacific walrus. These evaluations and findings will be made available on the Service's Web site at *http://www.fws.gov/alaska/fisheries/mmm/iha.htm.*

Government-to-Government Coordination

It is our responsibility to communicate and work directly on a Government-to-Government basis with federally recognized Alaska Native tribes and organizations in developing programs for healthy ecosystems. We seek their full and meaningful participation in evaluating and addressing conservation concerns for protected species. It is our goal to remain sensitive to Alaska Native culture, and to make information available to Alaska Natives. Our efforts are guided by the following policies and directives: (1) The Native American

Policy of the Service (January 20, 2016); (2) the Alaska Native Relations Policy (currently in draft form); (3) Executive Order 13175 (January 9, 2000); (4) Department of the Interior Secretarial Orders 3206 (June 5, 1997), 3225 (January 19, 2001), 3317 (December 1, 2011), and 3342 (October 21, 2016); (5) the Alaska Government-to-Government Policy (a Department of the Interior (DOI) memorandum issued January 18, 2001); and (6) the DOI's policies on consultation with Alaska Native tribes and organizations,

Alaska Natives have a long history of self-regulation, based on the need to ensure a sustainable take of marine mammals for food and handicrafts. Co-management promotes full and equal participation by Alaska Natives in decisions affecting the subsistence management of marine mammals (to the maximum extent allowed by law) as a tool for conserving marine mammal populations in Alaska. To facilitate co-management activities, the Service maintains cooperative agreements with the EWC and the Qayassiq Walrus Commission. We are currently seeking a partner for co-management of polar bears. These cooperative relationships help support a wide variety of management activities, including co-management operations, biological sampling programs, harvest monitoring, collection of Native knowledge in management, international coordination on management issues, cooperative enforcement of the MMPA, and development of local conservation plans. To help realize mutual management goals, the Service meets regularly with our co-management partners to discuss future expectations and outline a shared vision of co-management.

We have evaluated possible effects of the proposed activities on federally recognized Alaska Native tribes and organizations. Through the IHA process identified in the MMPA, the applicant has presented a communication process, culminating in a POC with the Native organizations and communities most likely to be affected by their work. Quintillion has engaged these groups in numerous informational meetings.

Through these various interactions and partnerships, we have determined that the issuance of this proposed IHA is permissible. We invite continued discussion, either about the project and its impacts, or about our coordination and information exchange throughout the IHA/POC process.

Proposed Authorization

We propose to issue an IHA for the incidental, unintentional take by Level B harassment of small numbers of Pacific walruses and polar bears during cable-laying activities in the marine waters of Alaska and impacted coastal communities, as described in this document and in the applicant's petition. We neither anticipate nor propose authorization for intentional take or take by injury or death. If issued, this IHA will be effective immediately after the date of issuance through November 15, 2017.

If issued, this IHA will also incorporate the mitigation, monitoring, and reporting requirements described in this proposal. The applicant will be expected and required to implement and fully comply with those requirements. If the nature or level of activity changes or exceeds that described in this proposal and in the IHA petition, or the nature or level of take exceeds that projected in this proposal, the Service will reevaluate its findings. The Service may modify, suspend, or revoke the authorization if the findings are not accurate or the mitigation, monitoring, and reporting requirements described herein are not being met.

Dated: May 1, 2017.

Gregory E. Siekaniec

Regional Director, Alaska Region.

[FR Doc. 2017–11381 Filed 5–31–17; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLNVS01000. L71220000.EU0000. LVTFF1604850; N–94619; 11–08807; MO #4500101865; TAS: 14X1109]

Notice of Realty Action: Direct Sale of Public Land in Clark County, NV

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of realty action.

SUMMARY: The Bureau of Land Management (BLM) is proposing a non-competitive (direct) sale of 3.75 acres of public land in Clark County, Nevada, to the Tabernacle of Praise Church, Inc. (Church) pursuant to the Southern Nevada Public Land Management Act of 1998 (SNPLMA), as amended, to resolve an unauthorized use of public lands. The sale will be subject to the applicable provisions of Section 203 of the Federal Land Policy and Management Act of 1976 (FLPMA) and BLM land sale regulations. The appraised fair market value for the sale parcel is $280,000.

DATES: Interested parties may submit written comments regarding this direct sale until July 17, 2017.

ADDRESSES: Mail written comments to the BLM Las Vegas Field Office, Assistant Field Manager, 4701 North Torrey Pines Drive, Las Vegas, NV 89130.

FOR FURTHER INFORMATION CONTACT: Manuela Johnson, Supervisory Realty Specialist, BLM Las Vegas Field Office at 702–515–5224. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service (FRS) at 1–800–877–8339 to contact the above individual during normal business hours. The FRS is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION: The parcel is located in the City of Las Vegas on the corner of Buffalo Drive and Constantinople Avenue and is legally described as:

Mount Diablo Meridian, Nevada

T. 20 S., R. 60 E.,
Sec. 10, N½SW¼NW¼NW¼NW¼ and SE¼NW¼NW¼NW¼.

The area described contains 3.75 acres.

This sale is in conformance with the BLM Las Vegas Resource Management Plan decisions LD–1 and LD–2, approved on October 5, 1998. The Las Vegas Valley Disposal Boundary Environmental Impact Statement and Record of Decision issued on December 23, 2004, analyzed the sale parcel. The sale complies with Section 203 of FLPMA. Consistent with Section 203 of FLPMA, a tract of public land may be sold where, as a result of approved land use planning, sale of the tract meets the disposal criteria of that section: The tract is difficult and uneconomic to manage because of its location or other characteristics, such as the subject's history of use or current level of development, and is not suitable for management by another Federal department or agency. The subject parcel of land is located in a residential and commercial area. The lands proposed for the direct sale are not needed for Federal purposes and the United States has no present interest in the property. A parcel-specific Determination of National Environmental Policy Act Adequacy (DNA) document numbered DOI–BLM–NV–S010–2016–0104–DNA was prepared in connection with this Notice of Realty Action.

The land also meets the criteria for direct sale under FLPMA, Section 203(a)(3) and 43 CFR 2711.3–3(a),