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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[Docket No. FWS–R7–ES–2026–4357; FXES111607MRG01–278–FF07CAMM00]

Marine Mammals; Proposed Incidental Harassment Authorization for the Southern Beaufort Sea Stock of Polar Bears During Exploration Activities in the Arctic National Wildlife Refuge 1002 Area Alaska; Draft Environmental Assessment

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of receipt of application; proposed incidental harassment authorization; notice of 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 from the Alaska Industrial Development and Export Authority (AIDEA), propose to authorize nonlethal incidental take by harassment of small numbers of Southern Beaufort Sea (SBS) polar bears (*Ursus maritimus*) for 1 year from the date of issuance of the incidental harassment authorization (IHA). The applicant requested this authorization for take by harassment that may result from activities associated with a seismic exploration program in the Coastal Plain of the Arctic National Wildlife Refuge Section 1002 area. This proposed authorization, if finalized, will be take of polar bears associated with the specified activities, which may come from the SBS stock. We invite comments on the proposed IHA and accompanying draft environmental assessment from the public, Tribes, and local, State, and Federal agencies.

DATES: Comments must be received by [INSERT DATE 30 DAYS AFTER THE DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

To ensure your comment is received and considered, you must submit it using one of the methods identified in the **ADDRESSES** section of this document. Comments

submitted through any method not authorized in this document, or sent to an address not listed here, will not be considered.

ADDRESSES: *Document availability:* You may view supplemental information at https://www.regulations.gov under Docket No. FWS–R7–ES–2026-4357.

Comment submission: You may submit comments on the proposed authorization by one of the following methods:

- *Electronic submission:* Go to the Federal eRulemaking Portal: https://www.regulations.gov. In the Search box, enter FWS–R7–ES–2026-4357, which is the docket number for this rulemaking action. Then, click on the Search button. On the resulting page, in the panel on the left side of the screen, under the Document Type heading, check the Notice box to locate this document. You may submit a comment by clicking on "Comment." Comments must be submitted to https://www.regulations.gov before 11:59 p.m. (Eastern Time) on the date specified in DATES.
- *U.S. mail:* Public Comments Processing, Attn: Docket No. FWS–R7–ES–2026-4357, U.S. Fish and Wildlife Service, MS: PRB (JAO/3W), 5275 Leesburg Pike, Falls Church, VA 22041–3803.

Comments submitted through any method not authorized in this document, or sent to an address not listed here, will not be considered. We will not accept comments via email, fax, or hand delivery. We are not required to consider comments that are submitted after the comment period ends or that are submitted via a method outside of these instructions. Comments containing profanity, vulgarity, threats, or other inappropriate content will not be considered.

We request that you send comments only by the methods described above. We will post all comments at https://www.regulations.gov. You may request that we withhold

personal identifying information from public review; however, we cannot guarantee that we will be able to do so. See **Request for Public Comments** for more information.

SUPPLEMENTARY INFORMATION:

Background

Section 101(a)(5)(D) of the Marine Mammal Protection Act of 1972 (MMPA; 16 U.S.C. 1361, et seq.) authorizes the Secretary of the Interior (Secretary) to allow, upon request, the incidental, but not intentional, taking by harassment of small numbers of certain marine mammals in response to requests by U.S. citizens (as defined in title 50 of the Code of Federal Regulations (CFR) in part 18, at 50 CFR 18.27(c)) engaged in a specified activity (other than commercial fishing) within a specified geographic region during a period of not more than 1 year. The Secretary has delegated authority for implementation of the MMPA to the U.S. Fish and Wildlife Service (FWS, or we). According to the MMPA, the FWS shall allow this incidental taking by harassment if we find that the total of such taking for the 1-year period:

1. Will affect only small numbers of individuals of the species or stock;

2. Will have no more than a negligible impact on the species or stock; and

3. Will not have an unmitigable adverse impact on the availability of these species or stock for taking for subsistence use by Alaska Natives.

If the requisite findings are made, we issue an authorization that sets forth the following, where applicable:

1. Permissible methods of taking;

2. Means of effecting the least practicable adverse impact on the species or stock and its habitat and the availability of the species or stock for subsistence uses; and

3. Requirements for monitoring and reporting of such taking by harassment, including, in certain circumstances, requirements for the independent peer review of proposed monitoring plans or other research proposals.

The term "take" means to "harass, hunt, capture, or kill, or to attempt to harass, hunt, capture, or kill any marine mammal" (16 U.S.C. 1362(13)). Harassment for activities other than military readiness activities or scientific research conducted by or on behalf of the Federal Government means any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild (the MMPA defines this as "Level A harassment"), or 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 defines this as "Level B harassment") (16 U.S.C. 1362(18)).

The terms "negligible impact" and "unmitigable adverse impact" are defined in 50 CFR 18.27(c) as follows: "Negligible impact" is 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" means 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.

The term "small numbers" is also defined in 50 CFR 18.27(c). However, we do not rely on that definition here as it conflates "small numbers" with "negligible impacts." We recognize "small numbers" and "negligible impacts" as two separate and distinct considerations when reviewing requests for incidental harassment authorizations (IHA) under the MMPA (see *Ctr. for Biological Diversity* v. *Salazar*, 695 F.3d 893, 904 (9th Cir. 2012)). Instead, for our small numbers determination, we estimate the likely number

of marine mammals to be taken and evaluate if that take is small relative to the size of the species or stock.

The term "least practicable adverse impact" is not defined in the MMPA or its enacting regulations. In processing requests for IHAs, we ensure the least practicable adverse impact by requiring mitigation measures that are effective in reducing the impact of specified activities, but they are not so restrictive as to make specified activities unduly burdensome or impossible to undertake and complete.

Summary of Request

On August 14, 2026, the FWS received a request from the Alaska Industrial Development and Export Authority (AIDEA) for authorization to take by nonlethal incidental harassment small numbers of Southern Beaufort Sea (SBS) polar bears (*Ursus maritimus*) during activities associated with a seismic exploration program in the Coastal Plain 1002 area of the Arctic National Wildlife Refuge for a period of 1 year from the date of issuance, and beginning during the winter of 2026–2027. Their request also included a proposed Polar Bear Avoidance and Interaction Plan.

The FWS met with AIDEA on August 25, 2026, to discuss the proposed project, including mobilization plans and corridors, resupply routes, and survey areas. The FWS received a revised request on September 10, 2026, and additional information on September 14, 2026. The FWS deemed the revised request dated September 10, 2026, in conjunction with the additional information from September 14, 2026, adequate and complete on September 14, 2026.

Description of Specified Activities and Specified Geographic Region

The specified activities described in the request consist of mobilization of personnel and equipment, surveys and ice checks by an advance crew, seismic acquisition, and summer cleanup activities in the Coastal Plain 1002 Area, located in Arctic National Wildlife Refuge (hereafter referred to as "Arctic NWR") in northern

Alaska (figure 1 below; AIDEA 2026). The project area will be accessed via an overground route from Deadhorse, Alaska to the Pt. Thomson facilities, then into Arctic NWR (figure 1 below; AIDEA 2026).

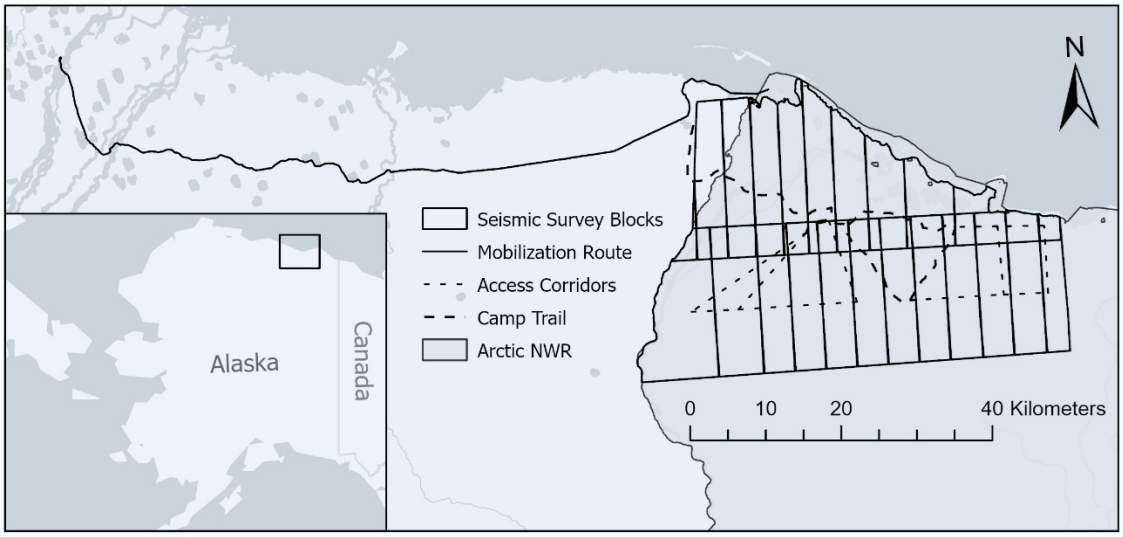


Figure 1. Specific geographic region of the proposed seismic survey in the Coast Plain 1002 Area of Arctic National Wildlife Refuge in northeast Alaska.

AIR Surveys for Maternal Polar Bear Dens

Prior to seismic survey operations, AIDEA will conduct and/or obtain the results of two aerial infrared (AIR) surveys of polar bear maternal denning habitat within the impact area, and up to 1.6 kilometers (km; 1 mile [mi]) from any proposed human activity. The first survey would be flown between November 25 and December 25 and the second survey would occur between December 15 and January 15. A minimum of 24 hours would be required between completion of the previous AIR survey and beginning a new AIR survey. The AIR surveys will be flown between an altitude of 244 meters (m) (800 feet [ft]) and 457 m (1,500 ft) using a fixed-wing aircraft originating from Deadhorse Airport. Prior to initiation of AIR surveys, AIDEA will use a modeling framework called SnowDens, as described in Liston et al. (2025), to simulate snow accumulation with contemporary weather data.

Overland Access and Trail Establishment

Seismic survey personnel and equipment will travel across state-owned and leased land after tundra travel has been authorized by the Alaska Department of Natural Resources (ADNR). Travel inside the Arctic NWR will be guided by the 2025 Coastal Plain Oil and Gas Leasing Program Record of Decision Required Operating Procedures. These procedures require soil temperatures of 23 degrees Fahrenheit or lower at 30.5 cm (12 in) below the tundra surface and an average of 22.9 cm (9 in) of cumulative snow depth or 7.6 cm (3 in) of snow above the highest tussock along the path of travel. Personnel and equipment will travel over a route from Deadhorse, Alaska to the Pt. Thomson development. Past Pt. Thomson, crews will establish a packed snow trail to access seismic areas.

Approximately 2 weeks prior to mobilization of personnel and equipment, an advance crew will perform surveys in the travel route and seismic survey areas to measure ice integrity, identify low-snow areas, and map a trail for the main crews to follow. The advance crew will mobilize no earlier than January 10th, or upon the opening of winter tundra travel, whichever occurs later. This crew will use camp trailers, fuelers, Steigers (tractors), Tuckers (industrial snow machines), and support trailers. Tracked vehicles will have vehicle-mounted infrared devices to scan tributary crossings for potential polar bear dens within defined denning habitat.

Mobilization and Camp Facilities

Seismic camp facilities and crews will mobilize shortly after the advance crew has delineated a route. Up to two 180-person-camp seismic crews may be supported in any given winter season to conduct seismic programs within the project area. Equipment will be staged at existing facilities in Deadhorse. Camp equipment will include long-haul fuel tractors, remote fuelers, water makers, an incinerator, a resupply and survival sleigh, tractors, loaders, and Tuckers. Camp locations are selected based on topography and snow conditions and may remain in place for up to 7 days before moving. Typically, a

camp may move 1.6 – 3.2 km (1 – 2 mi) every 5 –7 days, or four to six moves per month. The camp will generally remain in the center of the active seismic survey area.

Temporary Airstrips and Aircraft Support

Aircraft will be used to access camp locations throughout the survey period. Aircraft may use the Deadhorse, Pt Thomson, or Kaktovik airstrips, and will develop temporary airstrips within the survey area. The advanced scouting crew will identify any lakes or tundra locations that can be used to construct a temporary airstrip. Airstrips will be developed on grounded, frozen lakes or tundra in areas with adequate space for aircraft. They will have a footprint of approximately 22.8 – 30.5 m (75 – 100 ft) wide and 701–1,066 m (2,300–3,500 ft) long for aircraft to land. Tundra airstrips will be sited on naturally level ground groomed with additional snow. Snow will not be removed from areas identified as polar bear denning habitat to create level airstrips. On ice, airstrip construction will require a rubber tracked Steiger with a blade to clear a level surface. Black bags filled with snow and lighting will delineate the edge of the landing strip. Approximately two trips per week are anticipated, or as operations require. Flights will transit at an altitude greater than 457 m (1,500 ft) as weather and safety conditions allow. Once the camp is moved, the airstrip will no longer be maintained by the crew.

Seismic Program

Seismic surveys using vibroseis will be conducted using 12 rubber-tracked vibroseis vehicles and 37,500 wireless autonomous recording devices (nodes/geophones). First, the geophones (receivers) will be placed at receiver points marked by the advance crew. Up to 48 lines of receivers can be placed at any given time, with 40 of those lines active. Vibrator source points will be oriented between 12.6 m (41.25 ft) to 61 m (200 ft) from the nearest receiver point. The vibrators will move to the beginning of a seismic survey lines and vibrating in synchrony, each exerting 64,000 pounds of peak force on the ground. The method of acquisition for this project will be source-driven shooting with

multiple vibrators collecting data at the same time, but only a single vibrator is required to travel down any source line, reducing the project's footprint.

Operations will continue for 24 hours per workday and are based on two 12-hour shifts. Approximately 5–7 days are required to set out equipment in each section with the camp located in the center of the spread. During acquisition, camps are expected to be occupied by approximately 160–180 people.

Summer Cleanup

After all the snow is gone in July or August, AIDEA will perform helicopter flyovers of the survey area looking for debris that may have been left behind. The cleanup crew will also inspect all camp locations, any area that had an unplanned release or tundra disturbance, and each source and receiver line. This activity will occur over approximately 15 days, including possible weather days. Each survey day will require approximately 161 km (100 mi) of flights, traveling below 305 m (1,000 ft) above ground level, and will include 15–20 landings.

Description of Marine Mammals in the Specified Geographic Region

Polar bears are the only species of marine mammal managed by the FWS likely to be found within the specified geographic region. Information on range, stocks, biology, and climate change impacts on polar bears can be found in appendix A of the supplemental information (available as described above in **ADDRESSES**).

Potential Impacts of the Specified Activities on Marine Mammals

Impacts of Surface Activities on Polar Bears

Disturbance impacts on polar bears will be influenced by the type, duration, intensity, timing, and location of the source of disturbance. The noises, sights, and smells produced by these activities could elicit variable responses from polar bears, ranging from avoidance to attraction. When disturbed by noise, animals may respond behaviorally by walking, running, or swimming away from a noise source, or

physiologically via increased heart rates or hormonal stress responses (Harms et al. 1997; Tempel and Gutierrez 2003). However, individual response to noise disturbance can be based on previous interactions, sex, age, and maternal status (Anderson and Aars 2008; Dyck and Baydack 2004). Noise and odors could also potentially attract polar bears to work areas. Attracting polar bears to these locations could result in human-polar bear interactions, incidental harassment, and/or intentional take (which is not authorized via an IHA) by hazing or defense of human life. AIDEA's request for an IHA includes mitigation measures to manage attractants in work areas and reduce the risk of human-polar bear interactions.

Human-Polar Bear Interactions

From mid-July to mid-November, SBS polar bears can be found in large numbers and high densities on barrier islands, along the coastline, and in the nearshore waters of the Beaufort Sea, particularly on and around Barter and Cross Islands (Wilson et al. 2017). This distribution leads to a significantly higher number of human-polar bear interactions on land and at offshore structures during the open-water season than other times of the year. Polar bears that remain on the multi-year pack ice are not typically present in the ice-free areas where vessel traffic occurs, as barges and vessels associated with industry activities travel in open water and avoid large ice floes.

On land, most polar bear observations occur within 2 km (1.2 mi) of the coastline based on polar bear monitoring reports from the neighboring North Slope area. Facilities within the offshore and coastal areas are more likely to be approached by polar bears, and they may act as physical barriers to polar bear movements. However, polar bears have frequently been observed crossing existing roads and causeways, and they appear to traverse the human-developed areas as easily as the undeveloped areas based on monitoring reports. Further, the specified activities described in AIDEA's request are

temporary and would therefore have fewer opportunities for polar bear encounters than permanent infrastructure.

A larger percentage of SBS polar bears are spending more time on land during the open-water season, which may increase the likelihood of human-polar bear interactions (Atwood et al. 2016; Kellner et al. 2023; Rode et al. 2022). It is likely human-polar bear interactions will occur at some point during the specified activities. In their request, AIDEA has submitted a human–polar bear interaction plan, attractant management plan, and monitoring plan for polar bears. These plans and requirements are designed to reduce human-polar bear interactions and minimize the risks to polar bears and humans when interactions occur. Interaction plans detail how to respond to the presence of polar bears, the chain of command and communication, and required training for personnel. Attractant (e.g., human food, garbage) management plans can prevent polar bears from associating humans with food, which mitigates the risk of human-polar bear interactions (Atwood and Wilder 2021). Information gained from monitoring polar bears near industrial infrastructure can be useful for better understanding polar bear distribution, behavior, and interactions with humans. Tools that may be used to facilitate detection and monitoring of polar bears include bear monitors, thermal cameras, and remotely operated cameras.

Effects of Aircraft Activities on Polar Bears

The Federal Aviation Administration tests aircraft-produced sound measured from 50 hertz (Hz) to 10 kilohertz (kHz) (Healy 1974). At frequencies centered at 5 kHz, jets flying at 300 m (984 ft) produced 1/3 octave band noise levels of 84 to 124 decibels (dB), propeller-driven aircraft produced 75 to 90 dB, and helicopters produced 60 to 70 dB (Richardson et al. 1995). Thus, the frequency and level of airborne sounds typically produced by aircraft are unlikely to cause either temporary or permanent impairment to

polar bear hearing unless polar bears are very close to the sound source (Southall et al. 2019).

Although neither temporary nor permanent hearing impairment is anticipated during the specified activities, impacts from aircraft overflights have the potential to elicit biologically significant behavioral responses from polar bears. Exposure to aircraft overflights is expected to result in short-term behavior changes, such as walking, running, or ceasing to rest and, therefore, has the potential to be energetically costly. Quigley et al. (2022 and 2024) conducted intentional aircraft overflights above polar bears to determine their responses to overflights. Researchers approached polar bears repeatedly at decreasing altitudes with an average flight altitude of 143 m (469 ft). Polar bears exhibited biologically meaningful behavioral responses during 66.6 percent of experimental overflights. These behavioral responses were significantly correlated with the aircraft's altitude, the bear's location (e.g., coastline, barrier island), and the bear's activity at the time of the encounter. In a separate study, polar bears associated with dens were exposed to aircraft flying at altitudes of 150 m (492 ft) or less and exhibited various responses that ranged from increased head movement and observation of the disturbance to the initiation of rapid movement and/or den abandonment (Larson et al. 2020). Aircraft activities can impact polar bears across all seasons; however, aircraft have a greater potential to disturb both individuals and groups of polar bears on land during the summer and fall. These onshore polar bears are primarily fasting or seeking alternative terrestrial foods (Cherry et al. 2009; Griffen et al. 2022), and polar bear responses to aircraft overflights may result in metabolic costs to limited energy reserves. To reduce potential disturbance of polar bears during aircraft activities, AIDEA's request incorporates mitigation measures, such as minimum flight altitudes over polar bears and their frequently used areas and flight restrictions around known polar bear aggregations, to be conducted when safe to perform these operations during aircraft activities.

Effects to Denning Polar Bears

Known or suspected polar bear dens, discovered opportunistically and/or during planned surveys for tracking marked polar bears and detecting polar bear dens, are monitored by the FWS. However, these sites are only a small percentage of the total active polar bear dens for the SBS stock in any given year. Each year, letters of authorization and IHA holders coordinate with the FWS to conduct surveys to attempt to determine the location of known or suspected polar bear dens and denning habitat within one mile of human activity. If a known or suspected den site is located, AIDEA will immediately consult with the FWS. AIDEA will create a 1.6 km (1 mi) exclusionary zone around any putative dens located.

The responses of denning polar bears to disturbance and the consequences of these responses can vary throughout the denning process, which entails four stages: den establishment, early denning, late denning, and post-emergence; definitions and descriptions are provided by Woodruff et al. (2022a) and are also located in the 2021–2026 Beaufort Sea Incidental Take Regulations (ITR) (86 FR 42982, August 5, 2021; revised 90 FR 27398, June 26, 2025). The probability that denning polar bears will be disturbed by nearby seismic activities and the polar bears' resulting responses to disturbance (e.g., den abandonment, early emergence from the den, or early departure from the den site) varies by denning stage (a summary of this information is available in supplemental information on https://www.regulations.gov in Docket No. FWS–R7–ES–2026–4357).

Impacts of the Specified Activities on Polar Bear Prey Species

Information on the potential impacts of the specified activities on polar bear prey species can be found in the supplemental information to this document (available as described in **ADDRESSES**).

Estimated Take

Definitions of Incidental Take Under the Marine Mammal Protection Act

Below we provide definitions of three types of take of polar bears. The FWS does not anticipate lethal take as a part of this proposed IHA; however, the definitions of the three take types are provided for context and background.

Lethal Take

Human activity may result in biologically significant impacts to polar bears. In the most serious interactions (e.g., vehicle collision, running over an unknown den causing its collapse), human actions can result in the mortality of polar bears. We also note that in the past, while not considered incidental, polar bears have been killed in situations where there is an imminent threat to human life. Polar bears have also been accidentally killed during efforts to deter polar bears from a work area for safety and have died from direct chemical exposure (81 FR 52276, August 5, 2016). If unintentional disturbance of a female polar bear by human activity during the denning season caused the female to abandon her cubs in the den before the cubs can survive on their own, incidental lethal take of polar bear cubs would occur.

Level A Harassment

Human activity may result in the injury of polar bears. Level A harassment, for nonmilitary readiness activities, is defined as any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild.

Numerous actions can cause take by Level A harassment of polar bear cubs during the denning period, such as creating a disturbance that separates mothers from dependent cubs (Amstrup 2003), inducing early den emergence during the late denning period (Amstrup and Gardner 1994; Rode et al. 2018), instigating early departure from the den site during the post-emergence period (Andersen et al. 2024), or repeatedly interrupting the nursing or resting of cubs to the extent that it impacts the cubs' body

condition.

Level B Harassment

Level B harassment for nonmilitary readiness activities means any act of pursuit, torment, or annoyance that has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, feeding, or sheltering. Changes in behavior that disrupt biologically significant behaviors or activities for the affected animal are indicative of take by Level B harassment under the MMPA. Such reactions include, but are not limited to, the following:

- Fleeing (running or swimming away from a human or a human activity);
- Displaying stress-related behavior such as jaw or lip-popping, front leg stomping, vocalizations, circling, intense staring, or salivating;
- Abandoning or avoiding preferred movement corridors such as ice floes, leads, polynyas, a segment of coastline, or barrier islands;
- Using a longer or more difficult route of travel instead of the intended path;
- Interrupting breeding, sheltering, or feeding;
- Moving away at a fast pace (adult) and cubs struggling to keep up;
- Temporary, short-term cessation of nursing or resting (cubs);
- Ceasing to rest repeatedly or for a prolonged period (adults);
- Loss of hunting opportunity due to disturbance of prey; or
- Interruption in normal denning behavior that does not cause injury, den abandonment, or early departure of the female with cubs from the den site.

This list is not meant to encompass all possible behaviors; other behavioral responses may be indicative of take by Level B harassment. Relatively minor changes in behavior such as the animal raising its head or temporarily changing its direction of travel

are not likely to disrupt biologically important behavioral patterns, and the FWS does not view such minor changes in behavior as indicative of a take by Level B harassment. It is also important to note that eliciting behavioral responses that equate to take by Level B harassment repeatedly may result in Level A harassment.

Impacts of Surface Activities

We analyzed take by Level B harassment for polar bears that may potentially be encountered and impacted during AIDEA's mobilization, seismic survey, and summer cleanup activities within the specified geographic region.

Impact Area

To assess the area of potential impact from the project activities, we calculate the area affected by project activities where harassment is possible. We refer to this area as an impact area. Behavioral response rates of polar bears to disturbances are highly variable, and data to support the relationship between distance to polar bears and disturbance are limited. Dyck and Baydack (2004) found sex-based differences in the frequencies of vigilance bouts, which involves an animal raising its head to visually scan its surroundings, by polar bears in the presence of vehicles on the tundra. However, in their summary of polar bear behavioral response to ice-breaking vessels in the Chukchi Sea, Smultea et al. (2016) found no difference between reactions of males, females with cubs, or females without cubs. During the FWS's coastal aerial surveys, 99 percent of polar bears that responded in a way that indicated possible Level B harassment (polar bears that were running when detected or began to run or swim in response to the aircraft) did so within 1.6 km (1 mi), as measured from the ninetieth percentile horizontal detection distance from the flight line. Similarly, Andersen and Aars (2008) found that female polar bears with cubs (the most conservative group observed) began to walk or run away from approaching snowmobiles at a mean distance of 1,534 m (0.95 mi). To understand the rate at which human interactions result in potential polar bear behavioral

disturbances, the FWS examined a dataset of polar bear encounter records from the neighboring North Slope industrial area that were submitted from 2014–2024. The dataset included 2,891 encounter records, totaling 4,440 polar bears. In this dataset, most human-polar bear interactions that resulted in potential polar bear behavioral disturbance occurred within 805 m (.5 mi). However, the dataset included records where disturbance occurred past 805 m (.5 mi). Further, the ability to detect polar bears decreases with distance, creating the possibility of unobserved disturbance at greater distance, albeit at lower rates than expected for closer encounters. Thus, while we understand more polar bear disturbance events occur within 805 m (.5 mi) of human activity, the current literature and best available scientific evidence suggests that the use of a 1.6-km (1.0-mi) impact area will encompass nearly all surface polar bear harassment events.

Correction for Increased Bear Density in the Project Area

Distribution patterns of polar bears along the coast of the SBS were estimated by Wilson et al. (2017) using a Bayesian hierarchical model based on 14 years of aerial surveys in late summer and early fall. The model estimated 140 polar bears per week along the coastline (a measurement that included barrier islands), with the highest density occurring on Barter Island, which is within the project area. In order to correct the encounter rates for the higher density of polar bears in this area, we calculated the proportional relationship between bear density in the North Slope area and the project area. Wilson et al. (2017) divided the coastline into 10 equally sized grids. The North Slope area for which the above encounter rates are calculated falls within grids 4–7, and the seismic survey project area falls within grids 8 and 9. Wilson et al. (2017) found 40 percent of the bears along the coastline were estimated to occur in grids 4–7, and 40 percent were estimated to occur in grids 8 and 9. When accounting for the length of coastline in these segments, we found the number of bears in grids 8 and 9 to be 2.33 times higher than the number of bears in grids 4–7. We therefore multiplied the North

Slope coastal and inland encounter rates described above by 2.33 during the open-water and ice seasons.

Estimated Harassment

We estimated Level B harassment using the spatio-temporally specific encounter rates described above and temporally specific harassment rates derived in the 2026–2031 Beaufort Sea ITR (91 FR 66204, October 19, 2026) in conjunction with the specified project activity information. These harassment rates were developed specifically for the SBS polar bear population in the neighboring North Slope area. However, due to similarity in habitat type and close proximity to region where the harassment rates were derived, we believe they are applicable to this project as well. We did not find the incorporation of the rate of repeated encounters (i.e., the "repeat bear" rate) into our estimates to be needed because the specified activities are highly mobile, and the repeat bear rates were developed using stationary locations.

Table 1—Definitions of variables used in harassment estimates of polar bears on the coast of the North Slope of Alaska

Variable	Definition
B_{es}	bears encountered in an impact area for the entire season
a_c	coastal exposure area
a_i	inland exposure area
r_o	occupancy rate
e_{co}	coastal open water season bear-encounter rate in bears/season
e_{io}	inland open water season bear-encounter rate in bears/season
e_{ci}	coastal ice season bear-encounter rate in bears/season
e_{ii}	inland ice season bear-encounter rate in bears/season
t_i	ice season harassment rate
B_t	number of estimated Level B harassment events

Table 1 provides the definition for each variable used in the formulas to calculate the number of potential harassment events. The variables defined in table 1 above were used in a series of formulas to ultimately estimate the total harassment from surface-level interactions. Encounter rates were originally calculated as polar bears encountered per

square km per season. As a part of AIDEA's request, they provided the FWS with digital geospatial files that included the dates of occupancy for mobilization routes, a camp trail, access routes, and each seismic survey block (i.e., rate of occupancy [r_o] for each individual structure component). Using the buffer tool in ArcGIS Pro, we created a spatial file of a 1.6-km (1-mi) buffer around all areas of impact. We created impact footprints for individual dates throughout the survey period (e.g., impact area for January 10, January 11, etc.). All impact areas were assumed to have 50 percent of the footprint occupied at any point in the season. The areas of impact were then clipped by coastal and inland zone geospatial files to determine the coastal areas of impact (a_c) and inland areas of impact (a_i) for each occupancy bin. This process was repeated for both seasons (ice season and open-water [ice-free] season).

Impact areas were multiplied by the appropriate encounter rate to obtain the number of polar bears expected to be encountered in the impact area per season (B_{es}). Equation 1 provides an example of the calculation of polar bears encountered in the ice season for an impact area in the coastal zone.

$$B_{es} = a_c * e_{ci}$$

Equation 1

To generate the number of estimated Level B harassments for each area of interest, we multiplied the number of polar bears in the area of interest per season by the proportion of the season the area is occupied, the rate of occupancy, and the harassment rate (equation 2).

$$B_t = B_{es} * S_p * r_o * t_i$$

Equation 2

Using the approaches described above, we estimated the total number of surface polar bears expected to be harassed through surface interactions during the proposed IHA period as four bears.

Impacts of Aircraft Activities

Polar bears in the project area will likely be exposed to the visual and auditory stimulation associated with the applicant's fixed-wing and helicopter activities; however, these impacts are likely to be minimal and short-term. Aircraft activities may cause disruptions in the normal behavioral patterns of polar bears as either an auditory or visual stimulus, thereby resulting in incidental Level B harassment. To reduce the likelihood that polar bears are disturbed by aircraft, AIDEA would implement mitigation measures, such as minimum flight altitudes over polar bears and restrictions on sudden changes to aircraft movements and direction, if this authorization is finalized. Once mitigated, such disturbances are expected to have no more than short-term, temporary, and minor impacts on individual polar bears.

Estimating Harassment Rates of Aircraft Activities

Harassment rates during aircraft activities were estimated using results from studies of fixed-wing aircraft and helicopter overflights (Quigley 2022; Quigley et al. 2024). In these studies, aerial searches along the northern coast of Alaska between Point Barrow and the western Canadian border were flown and polar bears were approached at different altitudes. Polar bears that did not exhibit behavioral changes consistent with harassment were then re-approached at progressively lower altitudes, reaching as low as 38 m (100 ft). Researchers recorded behavioral changes during these approaches and evaluated if and when Level B harassment occurred. Covariates examined were polar bear location ("barrier island" or "mainland"), initial behavior ("active" or "inactive"), group size, whether the polar bear belonged to a family group, and the number of previous overflights (i.e., how many times the group was re-approached to elicit a

behavioral change). A Bayesian imputation approach accounted for polar bears that exhibited a behavioral change consistent with harassment on their first approach, thus lacking an identified altitude at which no harassment occurred due to a lack of a "non-harassment" observation. Their final model included location, activity level, and the number of previous overflights as predictors of the altitude at which a polar bear was harassed. For our aircraft impacts analysis, we used harassment rates estimated for active polar bears observed on barrier islands, as they had the highest rates of harassment. We further assumed that no previous overflights were conducted.

We provide harassment rates for the following five categories of flights: take-offs, landings, low-altitude flights (defined as those between 122 m [400 ft] and 305 m [1,000 ft] altitude), mid-altitude flights (defined as those between 305 m [1,000 ft] and 457 m [1,500 ft] altitude), and high-altitude flights (defined as those between 457 m [1,500 ft] and 610 m [2,000 ft] altitude). Harassment rates were assigned to each of these flight categories using the harassment rate for the lowest altitude in the category (e.g., for low-altitude flights, the harassment rate estimated for 122 m [400 ft] was used). This binning method of using the lowest altitude harassment rate in the bin allowed our estimates to be inclusive of possible changes in altitude due to variable flight conditions (table 2).

Table 2—Harassment rates for the five categories of flights for fixed-wing aircraft and helicopter overflights

Flight Category	**Fixed-Wing**	**Helicopter**
Take-offs	0.99	>0.99
Landings	0.99	>0.99
Low-Altitude Flights (122–305 m)	0.86	>0.99
Mid-Altitude Flights (305–457 m)	0.03	0.82
High-Altitude Flights (457–610 m)	<0.01	0.05
NOTE: The rates in this table are based on Quigley et al. (2024). We used the harassment rate associated with 30 m (100 ft) for take-offs and landings.		

Impact Area

For each category of the flight path (i.e., take-off, low-altitude travel, mid-altitude

travel, high-altitude travel, and landing), we calculated an impact area and duration of impact using flight hours provided in AIDEA's request or the longest potential flight path within the seismic survey area. We used flight logs available through FlightAware (https://www.flightaware.com/), a website that maintains flight logs in the public domain, to estimate impact areas and flight hours for take-offs and landings. We estimated a take-off linear distance of 2.41 km (1.5 mi) that would be impacted for 10 minutes. We estimated a landing linear distance of 4.83 km (3 mi) per 305 m (1,000 ft) of flight altitude that would be impacted for 10 minutes per landing. To estimate the impact area of traveling segments, we subtracted the take-off and landing segments from the total length of the flight path. The duration of impact for traveling flights was calculated using the length of the flight and a conservative flight speed of 129 km per hour (80 mi per hour), which was approximately 1.5 minutes per 3.22 km (2 mi) of the flight path.

All take-offs, landings, and traveling segments were then spatially referenced to determine whether they were within the coastal or inland zones. The coastal zone is defined as the offshore and onshore areas within 2 km (1.2 mi) of the coastline, and the inland zone is defined as the onshore area greater than 2 km (1.2 mi) from the coastline. If no location or flight hour information was provided, flight paths were approximated based on the information provided in AIDEA's request. All flight paths were buffered by 1.6 km (1 mi), which is consistent with aircraft surveys conducted by the FWS and U.S. Geological Survey (USGS) between August and October during most years from 2000 to 2014 (Schliebe et al. 2008; Atwood et al. 2015; Wilson et al. 2017). In these surveys, 99 percent of groups of polar bears that exhibited behavioral responses consistent with Level B harassment were observed within 1.6 km (1 mi) of the aircraft.

Table 3—Seasonal polar bear encounter rates by zone

Coastal Zone Encounter Rates	
Open Water Season (July 1 – November 30)	4.22 bears / km^2
Ice Season (December 1 – June 30)	0.30 bears / km^2

Inland Zone Encounter Rates
Open Water Season (July 1 – November 30) ……...0.05 bears / km^2
Open-Water Season (December 1 – June 30) ….....…0.02 bears / km^2

Harassment Rates
Open Water Season (July 1 – November 30)…….…..…….....…0.12
Ice Season (December 1 – June 30)……...…0.20

To calculate the total number of Level B harassment events estimated to occur due to the specified activities, we calculated the number of flight hours for each flight category (i.e., take-offs, low-altitude travel, mid-altitude travel, high-altitude travel, and landings) for each zone and season combination. These values were then used to calculate the proportion of the season that aircraft occupied their impact areas (i.e., take-off area, landing area, or traveling segment impact areas). This proportion-of-season metric is equivalent to the occupancy rate (r_o) generated for surface-level interaction harassment estimates. The total impact area for each of the flight categories was multiplied by the zone and season-specific polar bear encounter rate to determine the number of polar bears expected in that area for the season (i.e., $B_{es,}$ as seen in equation 1). This number was then multiplied by the proportion of the season to determine the number of polar bears expected in that area when flights are occurring, which was then multiplied by the appropriate harassment rate based on flight altitude to estimate the number of polar bears that may be harassed as a result of the flights (as seen in equation 2).

Estimated Harassment

Using the approaches described above, we estimated the total number of surface polar bears expected to be harassed by the aircraft activities during the proposed IHA period as a total of two bears, including one bear during the winter and one bear during the summer aircraft activities.

Impacts to Denning Bears

We simulated dens across the entire land portion of the SBS subpopulation range in Alaska on areas identified as potential denning habitat using the method of Durner and Atwood (2018) on available USGS Interferometric Synthetic Aperture Radar (IFSAR) generated Digital Terrain Model (DTM) data across the entire SBS region. To simulate dens on the landscape, we relied on the estimated number of dens in four different regions of northern Alaska provided by Patil et al. (2022). These included the National Petroleum Reserve in Alaska (NPRA), the area between the Colville and Canning rivers (CC region), the Arctic NWR 1002 area, and "Other", which is comprised of the SBS region outside these three main regions. The mean estimated number of dens in each region during a given winter were as follows: 12 dens (95 percent confidence interval [CI]: 3 – 26) in the NPRA, 25 dens (11–47) in the CC region, 14 dens (5–30) in Arctic NWR 1002 area, and 15 dens (5–32) in "Other." We further broke down Patil et al. (2022)'s "Other" count using empirical proportions from the USGS polar bear den catalog (Durner et al. 2020), to represent dens to the west and south of NPRA, dens in non-1002 areas of the Arctic NWR, and the Canadian portion of the SBS region, the latter not used in any subsequent analyses. For each iteration of the model (described below), we drew a random sample from a gamma distribution for each of the regions based on the above parameter estimates, which allowed uncertainty in the number of dens in each area to be perpetuated through the modeling process. Specifically, we used the method of moments (Hobbs and Hooten 2015) to develop the shape and rate parameters for the gamma distributions as follows: NPRA ($12^2/5.8^2$,$12/5.8^2$), CC ($25^2/9.5^2$,$25/9.5^2$), Arctic NWR 1002 area ($14^2/6.3^2$,$14/6.3^2$), and "Other" ($15.1^2/7^2$,$15.1/7^2$).

To inform where dens are most likely to occur on the landscape, we developed a kernel density map by using known den locations in northern Alaska identified either by GPS-collared polar bears or through systematic surveys for denning polar bears (Durner

et al. 2020). To approximate the distribution of dens, we used a scaled adaptive kernel density estimator applied to n observed den locations, which took the form

$$f(s) \propto \theta n \sum \text{nik}(s - \text{sih}(s)) \quad f\boldsymbol{s} \propto \theta n \sum ink\boldsymbol{s} - \boldsymbol{si}hs$$

where the adaptive bandwidth

$$h(s) = (\beta 0 + \beta 1 I(\text{si} \in M) I(s \in M)) \beta 2 \quad h\boldsymbol{s} = \beta 0 + \beta 1 I\boldsymbol{s}i \in \mathcal{M} I\boldsymbol{s} \in \mathcal{M} \beta 2$$

for the location of the i^{th} den and each location $\boldsymbol{s}$ in the study area. The indicator functions allowed the bandwidth to vary abruptly between the mainland $\mathcal{M}$ and barrier islands. The parameters

$$\theta, \beta 0, \beta 1, \beta 2 \quad \theta, \beta 0, \beta 1, \beta 2$$

were chosen so that the density estimate approximated the observed density of dens and our understanding of likely den locations in areas with low sampling effort.

To simulate dens on the landscape, we first created a systematic grid of points every 50 m (164 ft) across the entire SBS region, retaining only those points that fell within potential den habitat. Each point was assigned probability based on the kernel density map described above. For each region or subregions outlined above with an assigned den count, probabilities for all points were then renormalized respectively within each. We then randomly assigned dens using a multinomial distribution based on relative probabilities and den counts for each region or subregion outlined above.

For each simulated den, we assigned dates of key denning events: den entrance, birth of cubs, when cubs reached 60 days of age, den emergence, and departure from the den site after emergence. These represent the chronology of each den under undisturbed conditions.

We selected the entrance date for each den from a normal distribution parameterized by entrance dates of radio-collared polar bears in the SBS stock that denned on land included in Rode et al. (2018) and published in USGS (2018; n=52, mean=November 11, standard deviation [SD]=18 days); we truncated this distribution to ensure that all simulated dates occurred within the range of observed values (i.e., September 12 to December 22).

We selected a date of birth for each litter from a normal distribution with a mean birth date of December 15 and an SD of 10 days. We then restricted random samples of birth dates to occur between December 1 and January 15, which is believed to be the period of time when most cubs are born (Messier et al. 1994, Van de Velde et al. 2003).

We selected the emergence date as a random draw from an asymmetric Laplace distribution with parameters μ=82.5, σ=4.11, and p=0.81 estimated from the empirical emergence dates ($n=72$) in Andersen et al. (2024) and Rode et al. (2018; but published in USGS [2018]) of radio-collared polar bears in the SBS subpopulation that denned on land using the mleALD function from package 'ald' (Galarzar and Lachos 2018) in program R (R Core Development Team). We constrained simulated emergence dates to occur within the range of observed emergence dates (January 9 to April 9) and not to occur prior to cubs reaching an age of 60 days.

Finally, we assigned the number of days each family group spent at the den site post-emergence based on values reported in Andersen et al. (2024), which estimated time spent at the den site based on temperature and movement data for dens undisturbed by human activity (n = 20). Specifically, we used the mean (6.25) and SD (7.25) of the dens monitored in these studies to parameterize a gamma distribution using the method of moments (Hobbs and Hooten 2015) with a shape parameter equal to $6.25^2/7.25^2$ and a

rate parameter equal to $6.25/7.25^2$; we selected a post-emergence, pre-departure time for each den from this distribution.

Additionally, we assigned each den a litter size by drawing the number of cubs from a multinomial distribution with probabilities derived from litter sizes (n = 43 litters) reported in Smith et al. (2007, 2010, 2013), Robinson (2014), case studies where the number of cubs were observed at the den site and a sample from one GPS tagged bear that had a camera monitoring its den prior to emergence. Because there is some probability that a female naturally emerges with 0 cubs, we also wanted to ensure this scenario was captured. It is difficult to parameterize the probability of litter size equal to 0 because it is rarely observed. We therefore assumed that dens in the USGS (2018) dataset that had denning durations less than the shortest den duration where a female was later observed with cubs (i.e., 79 days) had a litter size of 0. Only 3 polar bears in the USGS (2018) data met these criteria, leading to an assumed probability of a litter size of 0 at emergence being 0.069. We therefore assigned the probability of 0, 1, 2, or 3 cubs as 0.069, 0.232, 0.628, and 0.070, respectively.

AIR Surveys

We assumed that all operational and transit areas that will be utilized during denning season would have two AIR surveys flown prior to beginning any operations (figure 1). The first survey would occur between December 1 and December 25, 2026, and the second survey between December 15, 2026, and January 15, 2027, with a minimum of 24 hours between surveys. During each iteration of the model, each AIR survey was randomly assigned a probability of detecting dens using detection probabilities previously described in the 2026–2031 Beaufort Sea ITR (91 FR 66204, October 19, 2026)

Model Implementation

For each iteration of the model, we first determined which dens were exposed to

the specified activities. Dens that were simulated to be within 805 m (2,641 ft) of human activity could be disturbed during all denning periods, while dens within 806–1610 m (2,644–5,282 ft) of human activity could only be disturbed during the den establishment, late denning, and post-emergence periods. Dens detected during AIR survey were excluded if activity did not occur prior to AIR survey. We identified the stage in the denning period when the exposure occurred based on the date range of the activities the den was exposed to: den establishment (i.e., initial entrance into den until cubs are born), early denning (i.e., birth of cubs until they are 60 days old), late denning (i.e., date cubs are 60 days old until den emergence) and post-emergence (i.e., the date of den emergence until permanent departure from the den site). We then determined whether the exposure elicited a response by the denning polar bear based on probabilities derived from the reviewed case studies (Woodruff et al. 2022a), which were updated with data from the dens monitored from 2022 to 2025 using the methods described in Woodruff et al. (2022a).

Specifically, we divided the number of cases that documented responses associated with either a Level B harassment (i.e., potential to cause a disruption of behavioral patterns), Level A harassment (i.e., potential to injure an animal), or lethal take (e.g., cub abandonment) of polar bears by the total number of cases with that combination of period and exposure type (table 4 below). Level B harassment was applicable to both adults and cubs, if present, whereas Level A harassment and lethal take were applicable to only cubs. AIR surveys were not considered to be a source of potential impact. In thousands of hours of AIR surveys conducted in northern Alaska over the last decade, we are not aware of a single instance of a polar bear abandoning its den during the early denning period due to an AIR survey overflight. These responses would be readily observable on the thermal cameras, and the fact that none have been observed indicates that den abandonment very likely does not occur given the brief duration of the

aircraft overflight as well as the distance and altitude of the aircraft from the den site. Recent peer-reviewed research further supports the model assumption that AIR surveys are not a source of harassment (Quigley et al. 2024).

For dens exposed to activity, we used a multinomial distribution with the probabilities of different levels of take for that period (table 4 below) to determine whether a den was disturbed or not. If a den abandonment was simulated to occur, a den was not allowed to be disturbed again during the subsequent denning periods because the outcome of that denning event was already determined.

The level of impact associated with a disturbance varied according to the severity and timing of the exposure (table 4 below). Exposures that resulted in emergence from dens prior to cubs reaching 60 days of age were considered a den abandonment that results in the lethal take of cubs. If an exposure resulted in a Level A harassment during the late denning period, we first assigned that den a new random emergence date from a uniform distribution that ranged between the first date of exposure during the late denning period and the original den emergence date. We then determined whether that den was disturbed during the post-emergence period, but the probability of disturbance was dependent on whether or not a den was disturbed (i.e., Level A harassment) during the late denning period (table 4 below). If an exposure resulted in a Level A harassment during the post-emergence period, we assigned the den a new time spent at the den site post-emergence from a uniform distribution that ranged from 0 to the original simulated time at the den post-emergence.

Recent research suggests that litter survival is related to the date of den emergence and time spent at the den post-emergence (Andersen et al. 2024), with litters having higher survival rates the later they emerge in the spring, and the longer they spend at the den site after emergence. To determine if dens that were disturbed during the late

denning and/or post-emergence period(s) experienced Level A harassment, we relied on estimates of litter survival in the spring following den emergence, derived from the analysis of empirical data on the dates of emergence from the den and departure from the den site (Andersen et al. 2024). These estimates are dependent on the date of emergence and time spent at the den site post-emergence. For each den disturbed during the late denning and/or post-emergence periods, we obtained a random sample of regression coefficients from the posterior distribution and calculated the probability of a litter surviving into the spring post-emergence with the following equation:

$$logit(\boldsymbol{s}) = \beta_0 + \beta_1 emerge + \beta_2 depart$$

Equation 3

where ***s*** is the probability of at least one cub being alive in the spring post-emergence, β_0 is the intercept coefficient, β_1 is the coefficient associated with the Julian date of emergence (*emerge*), and β_2 is the coefficient associated with the number of days the family group stayed at the den site post-emergence before departing (*depart*). These probabilities are based on estimates of litter survival derived from the analysis of empirical data on the dates of emergence from the den and departure from the den site (Andersen et al. 2024).

We developed the code to run this model in the program R (R Core Development Team 2020) and ran 10,000 iterations of the model (i.e., Monte Carlo simulation) to derive the estimated number of dens disturbed and associated levels of harassment. We then determined the number of cubs that would experience den abandonment, Level A harassment, and Level B harassment, and the number of females that would experience Level B harassment. Table 4 shows the probability of an exposure resulting in the types of harassment of denning polar bears.

Table 4 – Probability that an exposure elicited a response by denning polar bears that would result in Level B harassment, Level A harassment, lethal take, or no take

Denning Period	None (sow or cub(s))	Level B (sow)	Level B (cub(s))	Level A (cub(s))	Den Abandonment (cub(s))
Den Establishment	0.818	0.182	0.000	0.000	0.000
Early Denning	0.941	0.059	0.000	0.000	0.059
Late Denning	0.711	0.289	0.000	0.289	0.000
Post Emergence-Previously Undisturbed Den	0.000	1.000	0.280	0.720	0.000
Post Emergence-Previously Disturbed Den	0.000	1.000	0.700	0.300	0.000

NOTE: Level B harassment was applicable to both adults and cubs, if present; Level A harassment and lethal take were applicable to cubs only and were not possible during the den establishment period, which ended with the birth of the cubs. During the early denning period, there was no Level A harassment for cubs, only lethal take. We provide two sets of take probabilities for the post-emergence period. The first (Post-emergence–Undisturbed) is the set of probabilities when a den has not been disturbed during the late denning period. The second (Post-emergence–Disturbed) is the set of probabilities for a den that was disturbed during the late denning period (Rode et al. 2018; Andersen et al. 2024).

Estimated Harassment

We estimated 8.0 (median=8; 95 percent CI: 2-16) land-based dens in the area of specified activity in AIDEA's request and within a 1.6-km (1-mi) buffer of the activities. Estimates for different levels of take are presented in table 5 below. The distributions of simulated Level A harassments as well as lethal takes due to den abandonment were non-normal and heavily skewed, as indicated by markedly different mean and median values. The heavily skewed nature of these distributions has led to a mean value that is not representative of the most common model result. Thus, when reporting estimates associated with this analysis, we provide the median value.

Table 5—Results of the den disturbance model for proposed activity.

Level of Harassment/Take	Estimates*			
	Probability	Mean	Median	95% CI
Level B Harassment	0.873	4.415	4	0 – 14
Level A Harassment	0.753	3.034	2	0 – 11
Lethal Take	0.15	0.287	0	0 – 2

NOTE: *Estimates are provided for the probability, mean, median, and 95 percent Confidence Intervals (CI) for Level B harassment, Level A harassment, and Lethal take. The probabilities represent the probability of ≥1 take of a bear occurring during a given winter.

Critical Assumptions

To conduct this analysis and estimate the potential amount of Level B harassment, Level A harassment, and lethal take, we made several critical assumptions.

Our estimates do not account for variable responses by polar bear age and sex; however, sensitivity of denning polar bears was incorporated into the analysis. The available information suggests that polar bears are generally resilient to low levels of disturbance. Females with dependent young and juvenile polar bears are physiologically the most sensitive (Andersen and Aars 2008) and most likely to experience harassment from disturbance. Not enough information on composition of the SBS polar bear stock in the specified project area is available to incorporate individual variability based on age and sex or to predict its influence on harassment estimates. Our estimates are derived from a variety of sample populations with various age and sex structures, and we assume the exposed population will have a similar composition, and that, therefore, the response rates are applicable.

The estimates of behavioral response presented here do not account for potential individual movements of animals in response to the specified activities that would alter the density of polar bears in or near the project area. Not enough information is available about the movement of polar bears in response to specific disturbances to refine the assumption that their density does not change.

Polar bears create maternal dens on sea ice as well as on land. The den simulation used in our analysis does not simulate dens on the sea ice. However, the specified

activities will be conducted entirely on land and only a small percentage of the activities will occur within 1.6 km (1 mi) of the coastline, and these activities will occur later in the denning season. Therefore, the impact of the activities will be primarily limited to land-based dens within 1.6 km (1 mi) of the project impact areas used during denning season. Additionally, this impact area will be surveyed during AIR surveys to mitigate impacts on denning polar bears.

For the purposes of the above analyses and estimates of take by Level B and Level A harassment, and the risks of lethal take, we assumed that all areas within the specified project area (figure 1) would have human activity at some point during the denning season. This assumption results in an estimate of take for the 1-year IHA period that accounts for all possible operational scenarios.

Sum of Harassment from All Sources

Our analyses quantified the total number Level B harassment, Level A harassment, and lethal take potential to result from AIDEA's specified activities. We evaluated three potential sources of harassment/take, including surface interactions, aircraft overflights, and den disturbance of sows and/or cubs in our analyses. A summary of total estimated take via Level B and Level A harassment during the project by source is provided in table 6. We do not anticipate lethal take to occur due to the low probability of lethal take (0.15) and a median of zero. Our estimates account for the mitigative benefit of maternal den surveys, which are intended to identify dens before disturbance may occur, a 1.6 km operational exclusion zone around all identified dens, and the very low probability of den abandonment (less than 6 percent; table 4 above).

Table 6—Total estimated takes by harassment of polar bears, by source

Source and type of harassment	Number of Estimated Takes by Level B Harassment	Number of Estimated Takes by Level A Harassment
Bears on the surface–winter	4	0
Aircraft activities–summer	1	0
Aircraft activities–winter	1	0

Denning Bears	4	2
Total	10	2

We recognize the limitations of our predictive models and take estimates that significantly exceed historical data collected over decades of similar oil and gas activity on Alaska's North Slope (outside the specific geographic scope of this request) as discussed in our most recent Incidental Take Regulations for year-round oil and gas industry activities in the Beaufort Sea and adjacent northern coast of Alaska (91 FR 66204, October 19, 2026). The models incorporate assumptions that attempt to strike a balance between potential overestimates and potential underestimates, but, overall, are more likely to contribute to an overestimate, rather than an underestimate, of the incidental take of polar bears. Because of these limitations and the likely overestimates of incidental take by its predictive models, this proposed IHA considers a range of qualitative factors and its predictive models altogether as the "best available scientific evidence" to support its determinations. FWS considered all information before it in line with Executive Order (E.O.) 14303, "Restoring Gold Standard Science." We recognize that, if it considered the model absent considering applicable qualitative factors, it would not be considering the "best available science."

Determinations and Findings

In proposing these findings, we considered the best available scientific information, including: the biological and behavioral characteristics of polar bears, the most recent information on polar bear distribution and abundance within the area of the specified activities, the current and expected future status of the stock (including existing and foreseeable human and natural stressors), the potential sources of disturbance caused by the project, and the potential responses of polar bears to this disturbance. In addition, we reviewed AIDEA's application, materials, information in our files and datasets, published reference materials, and we consulted with fellow species experts.

Small Numbers

For our small numbers determination, we consider whether the estimated number of polar bears to be subjected to incidental take is small relative to the population size of the species or stock.

1. The footprint of the specified activities within the specified geographic region is extremely small relative to the range of the SBS stock of polar bears. Polar bears from the SBS stock occur well beyond the boundaries of the proposed IHA region. Even when accounting for an impact area that extends one mile away from all human activity, the specified activities only overlap with 0.5 percent of the SBS stock range. As such, the IHA boundaries represent only a small subset of the potential area in which the polar bear may occur. Thus, the FWS concludes that only a small portion of the SBS polar bear stock may be present in the specified geographic region during the time of the specified activities.

2. Few dens would occur in proximity to industry activities. Our denning simulations show that on average eight dens are estimated to occur within 1 mile of the specified activities during each of the next five denning seasons. This number represents roughly 5 percent of the approximately 120 SBS polar bear dens that are established each year. The mitigation measures included in the request reduce the number of dens whose occupants are estimated to be disturbed by the specified activities to 2.8 percent of the

land-based dens and 1.4 percent of all dens in the SBS stock (figure 2, below).

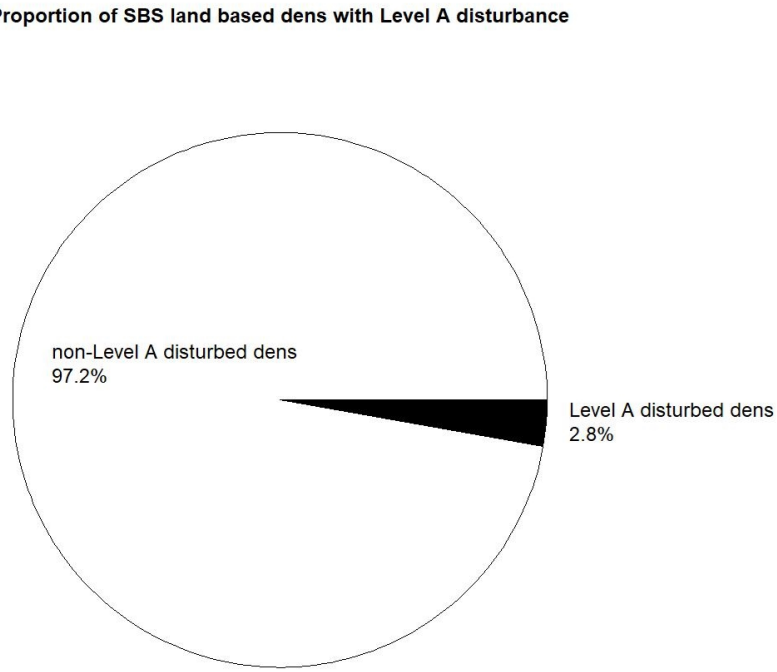


Figure 2—Proportion of SBS land-based dens whose occupants are estimated to experience Level A disturbance as a result of the specified activities. Land-based dens represent roughly half of the SBS maternal polar bear dens established each year.

3. We estimate that AIDEA's proposed specified activities in the specified geographic region will cause the take of no more than 10 polar bears by Level B harassment and 2 polar bears by Level A harassment during the 1-year period of this proposed IHA (table 6 above). Take of 12 animals is 1.32 percent of the best available estimate of the current SBS stock size of 907 animals ((12÷907) × 100 ≈ 1.32 percent) (Bromaghin et al. 2015, 2021; Atwood et al. 2020) and represents a "small number" of polar bears of that stock. The FWS released a draft stock assessment report (SAR) for the SBS polar bear population on January 2, 2025 (90 FR 114), in which the SBS polar bear stock has changed to 819 bears, largely due to a shift in the border between the SBS and North Beaufort Sea stock. Should this draft SAR be finalized, 12 bears constitute 1.47 percent of the SBS stock. These estimates indicate that the number of polar bears that would be incidentally taken is small relative to the size of the SBS stock.

Small Numbers Conclusion

We propose a finding that take of up to 12 total polar bears represents a small number of the SBS stock.

Negligible Impact

1. The number of polar bears that use the terrestrial habitat of the North Slope is small in relation to the entire SBS stock. The distribution and habitat use patterns of polar bears indicate that relatively few polar bears will occur in the specified areas of activity at any particular time and, therefore, few polar bears are likely to be affected.

2. Mitigation measures will reduce potential impacts. AIDEA has proposed, and would be required to adopt, monitoring requirements and mitigation measures designed to reduce the potential impacts of their operation on polar bears. Den detection surveys for polar bears and adaptive mitigation and management responses based on real-time monitoring information will be used to avoid or minimize interactions with polar bears and, therefore, limit potential disturbance of these animals.

3. The majority of human-polar bear interactions will result in no effect or short-term, temporary behavioral changes. When developing estimates for Level B harassment, the FWS has determined that there is a 99 percent chance that at least 88 percent of encounters with bears on the surface in the open water season and 80 percent of encounters with bears on the surface in the ice season are expected to result in no significant change in a biologically important behavior, and we do not consider those interactions to result in a take. The remainder of encounters are anticipated to result in short-term, temporary changes in behavior that are indicative of Level B harassment of the animal.

4. Estimated Level A harassments will not alter the distribution of cub survival probabilities for the SBS stock. We estimate two cubs may experience Level A harassment as a result of the specified activities. The impact of these estimated

harassment events can be quantified by first evaluating the estimated survival consequence to individual cubs and then estimating associated changes in overall survival rates for the stock. Lacking data regarding individual cub survival, we conduct this analysis using the metric of litter survival, which has been estimated by relevant empirical studies (Rode et al. 2018, Andersen et al 2024). While the metric does not account for partial litter loss (because a sow observed with one cub in the spring is assumed to have had an original litter size of one cub), it also cannot account for natural litter sizes of zero (because a sow observed with no cubs in spring is assumed to have lost a litter). Because this metric represents the best available information, and because it is not biased in only one direction, we feel it is the most appropriate available metric to reflect potential impacts to cub survival.

The denning analysis model allows us to compare the probability of litter survival using both the undisturbed and disturbed (if applicable) emergence and departure dates of simulated dens. With this information, we can estimate the average decrease in survival probability that can be attributed to simulated industry disturbance. The mean probability of litter survival for dens experiencing Level A harassment decreased 11 percent after simulated disturbance (pre-disturbance 85.4 percent, post-disturbance 75.3 percent).

When examining the potential impact of two Level A harassment events at the stock level, we consider the low percentage of SBS dens with cubs that the model anticipates will experience Level A harassment. Given that 2.8 percent of land-based dens within the SBS stock are anticipated to experience Level A harassment in any year, the 11 percent decrease does not alter or shift the overall survival probability distribution for the SBS stock (figure 3, below). Further, if we examine the distribution of survival rates for the entire land-based SBS stock, counting for potential decrease in survival due to both potential Level A harassment and potential lethal take via den abandonment

(which is not anticipated), we see no more than a minor change in distribution, as is illustrated by the similarities of the graphs in figure 3.

Further, it is important to acknowledge that roughly half of SBS polar bear dens are not found on land, but rather on sea ice, and would not overlap spatially with the specified activities.

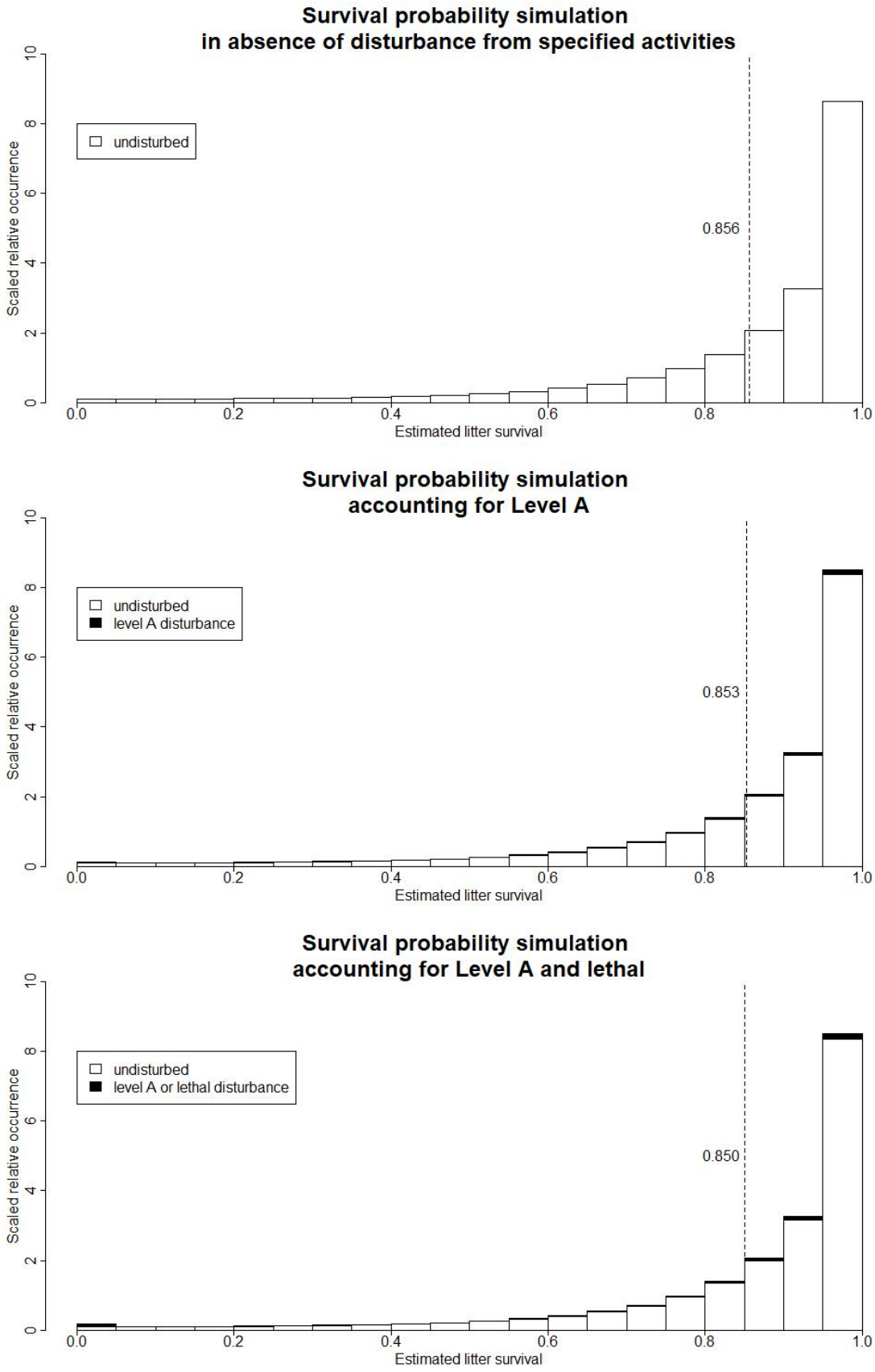


Figure 3– Litter survival probability distributions for the annual land-based dens of the SBS polar bear stock. The X-axes of these graphs depict the simulated probability that one or more cubs from a litter will be alive in the spring, and the Y-axes of these graphs

depict the relative occurrence of the survival probabilities in our simulations. (Top plot: Survival probabilities simulated with no disturbance from industry. Bottom plot: Survival probabilities simulated with estimated Level A harassment from industry activities.)

5. Lethal take via den abandonment is rare within the Southern Beaufort Sea stock. Records of den abandonment in the oilfield are rare—the FWS has only one account of potential den abandonment within the 13 case studies used to develop early denning period disturbance rates. Thus, if there is an unidentified den in the operational area, the probability of her abandoning her den in response to human disturbance is very low (less than 6 percent). Applying the denning model, the greatest annual simulated probability of lethal take throughout the proposed IHA is 0.15. The median number of lethal takes was zero. These results, coupled with the mitigative measures of maternal den surveys, a 1.6 km (1 mi) operational exclusion zone around all identified dens, and personnel training and monitoring, in addition to the very low rate of potential den abandonment support our finding that lethal take due to sow abandonment of the den and litter during the early denning period is unlikely.

6. Mitigation measures significantly reduce the potential for running over a den. While the specified activities entail considerable vehicle travel throughout the tundra in previously unimpacted areas, the inclusion of mitigation measures will significantly reduce the probability of running over a den. All identified denning habitat (Durner and Atwood 2018) will be buffered from all operations by 100 m (328 ft), and areas with slopes of 10–15 degrees will be buffered from source locations (vibroses trucks) by 25 m (82 ft). By excluding these areas from travel, the only dens that could be run over would be those located in areas not currently identified as polar bear denning habitat, which would be rare (Durner and Atwood 2018).

7. We do not anticipate that loss of a cub or litter will adversely affect annual recruitment rates at the population level. Under the proposed IHA, anticipated incidental

Level A harassment only involves cubs during the denning period. Impacts to denning females, the demographic group most important to annual recruitment, would only involve take by Level B harassment. Therefore, the immediate number of potentially available reproductive females that would contribute to recruitment for the SBS stock would remain unaffected if a den disturbance were to result in the mortality of the cubs. If a den disturbance were to result in the mortality of the entire litter, the female would be available to breed during the next mating season and produce another litter during the next denning season.

Cubs inherently cannot contribute to annual rates of recruitment until they have reached sexual maturity because in wildlife biology the concept of recruitment speaks to individuals entering the reproductive population. Further, while adult male bears would contribute to the overall number of individuals in the population, they do not contribute significantly to annual rates of recruitment. While a very small decrease in the number of males in a breeding population may be a concern if the stock was at risk of inbreeding depression or Allee effects (e.g., decrease in population size or individual fitness in response to low population density), this is not the case in the SBS stock. Female cubs have the opportunity to reach sexual maturity and contribute to annual recruitment; however, natural rates of survival fluctuate in the SBS stock. Death of one female cub less than once per year is within the natural variability found within the SBS stock and cannot be reasonably expected to cause an adverse impact on annual rates of recruitment.

Based on the low percentage of SBS stock polar bears potentially being removed from the stock even if den disturbance were to result in the mortality of the cubs, and the expectation that the number of potentially available reproductive females that would contribute to recruitment would be unaffected by den disturbance, the FWS does not anticipate that the loss of a cub or litter would adversely affect annual recruitment rates at the population level for the SBS stock of polar bears.

We reviewed the effects of industry activities on polar bears, including impacts from surface interactions, aircraft overflights, and den disturbance. Based on our review of these potential impacts, past monitoring reports, and the biology and natural history of polar bears, we conclude that any incidental take reasonably likely to occur as a result of specified activities would be limited to short-term behavioral disturbances and temporary reductions in fitness that would not affect the rates of recruitment or survival for the SBS stock of polar bears.

The FWS has analyzed the potential impact of the proposed taking in light of other factors affecting SBS polar bears, including, but not limited to, subsistence harvest and other human-caused removals. As we gain a better understanding of these and other effects, we will incorporate the information in future authorizations. While a variety of ongoing factors pose significant challenges to SBS polar bears, we do not expect them to influence the degree of impacts (i.e., short-term behavioral responses and temporary reductions in fitness) resulting from the specified activities or incidental harassment to be authorized over the next 5 years under the proposed incidental take regulations.

Our analysis indicates that the impacts of these specified activities over one year cannot be reasonably expected to, and are not reasonably likely to, adversely affect the SBS stock of polar bears through effects on annual rates of recruitment or survival. Similarly, the estimated impacts described in AIDEA's request, cannot be reasonably expected to, and are not reasonably likely to, adversely affect the SBS stock of polar bears through effects on annual rates of recruitment or survival. We preliminarily find that the total of the taking will have no more than a negligible impact on the SBS stock of polar bears.

Impact on Subsistence Use

Based on past community consultations, locations of hunting areas, the lack of

anticipated overlap of hunting areas and project activities, and the best scientific information available, including monitoring data from similar activities, we propose a finding that take caused by mobilization, seismic survey, and summer cleanup activities in the project area will not have an unmitigable adverse impact on the availability of polar bears for taking for subsistence uses during the proposed timeframe.

While polar bears represent a small portion, in terms of the number of animals, of the total subsistence harvest for the Kaktovik community, their harvest is important to Alaska Natives. AIDEA would coordinate with the Village of Kaktovik to mitigate potential conflict with subsistence hunting. They will hold a meeting with the Village prior to the commencement of the planned activities and document any discussions of potential conflict. AIDEA will make reasonable efforts to ensure that activities do not interfere with subsistence hunting and that adverse effects on the availability of polar bears are minimized. AIDEA will also employ subsistence representatives for each shift to avoid disruptions to subsistence users and resources. Should such a concern be voiced, development of a plan of cooperation (POC), which must identify measures to minimize any adverse effects on polar bears, will be required. The POC will ensure that project activities will not have an unmitigable adverse impact on the availability of the species or stock for subsistence uses. This POC must provide the procedures addressing how AIDEA will work with the affected Alaska Native communities and what actions will be taken to avoid interference with subsistence hunting of polar bears, as warranted.

The FWS has not received any reports and is not aware of information that indicates that polar bears are being or will be deterred from hunting areas or impacted in any way that diminishes their availability for subsistence use by mobilization, seismic survey, and summer cleanup activities.

Least Practicable Adverse Impact

We evaluated the practicability and effectiveness of mitigation measures based on the nature, scope, and timing of the specified activities, the best available scientific information, and monitoring data during AIDEA's activities in the specified geographic region. We propose a finding that the mitigation measures included within AIDEA's request will ensure least practicable adverse impacts on polar bears (AIDEA 2026).

Polar bear den surveys at the beginning of the winter season, the resulting 1.6-km (1-mi) operational exclusion zone around any known polar bear dens, and restrictions on the timing and types of activities in the vicinity of dens will ensure that impacts to denning female polar bears and their cubs are minimized during this critical period. Minimum flight elevations over polar bear areas and flight restrictions around observed polar bears and known polar bear dens will reduce the potential for aircraft disturbing polar bears. Finally, AIDEA will implement mitigation measures to prevent the presence and impact of attractants in camps such as the use of wildlife-resistant waste receptacles, daily food waste incineration, and storing hazardous materials in drums or other secure containers. These measures are outlined in a polar bear interaction plan that was developed in coordination with the FWS and is part of AIDEA's application for this IHA. Based on the information we currently have regarding den and aircraft disturbance and polar bear attractants, we concluded that the mitigation measures outlined in AIDEA's request (AIDEA 2026) and incorporated into this authorization will minimize impacts from the mobilization, seismic survey, and summer cleanup activities to the extent practicable.

Several mitigation measures were considered but determined to be not practicable. These measures are listed below:

- *Grounding all flights if they must fly below 457 m (1,500 ft)* —Requiring all aircraft to maintain an altitude of 457 m (1,500 ft) at all times is not practicable as some operations may require flying below 457 m (1,500 ft) to perform necessary inspections or

maintain safety of flight crew. Aircraft are required to fly above 457 m (1,500 ft) at all times within 805 m (0.5 mi) of an observed polar bear unless there is an emergency.

- *One-mile buffer around all known polar bear denning habitat*—One-mile (1.6-km) buffer around all known polar bear denning habitat is not practicable as much of AIDEA's proposed project area occurs within 1.6 km (1 mi) of denning habitat; thus, to exclude all areas within 1.6 km (1 mi) of denning habitat would preclude the planned activities from occurring.

- *Prohibition of driving over all high relief areas, embankments, or stream and river crossings*—AIDEA has committed to a 100-m (330-ft) buffer on each side of defined denning critical habitat (16-degree slope and height of 1.6 m [5.2 ft]), and a 25-m (82.5-ft) buffer on slopes of 10–15 degrees for all source points, which encompasses most high relief areas and embankments. However, streams and rivers occur throughout the project area, and not all streams and rivers have the slope necessary to support the snow drifts required by denning sows. To completely avoid these types of areas would likely cause personnel to drive further away from established operational areas and unnecessarily create additional safety concerns.

- *Use of a broader definition of "denning habitat" for operational offsets*—There is no available data to support broadening the defining features of denning habitat beyond that established by the USGS. However, AIDEA has committed to using SnowDens to model snow drift accumulation across the project area to further identify areas of potential denning habitat.

- *Establishment of corridors for sow and cub transit to the sea ice*—As there is no data to support the existence of natural transit corridors to the sea ice, establishment of corridors in the IHA area would be highly speculative. Therefore, there would be no mitigative benefit realized by their establishment.

- *Require all activities to cease if a polar bear is injured or killed until an investigation is completed*—The FWS has incorporated reporting requirements into this proposed authorization for all polar bear interactions. While it may aid in any subsequent investigation, ceasing all activities may not be practicable or safe and, thus, will not be mandated.

- *Require use of den detection dogs*—It is not practicable or safe to require scent-trained dogs to detect dens due to the large spatial extent that would need to be surveyed within activity areas.

- *Require the use of handheld or vehicle-mounted Forward Looking Infrared (FLIR)*—AIR has been found to be four times more effective at detecting dens versus ground-based FLIR (handheld or vehicle-mounted FLIR) due to impacts of blowing snow on detection. AIDEA has incorporated into their mitigation measures the use of handheld or vehicle-mounted FLIR when transiting major drainages and denning critical habitat, but it is not practicable to use the equipment during all transit.

- *Construct safety gates, fences, and enclosures to prevent polar bears from accessing facilities*—This project will require no permanent facility/structures and encompasses a large area. Construction and deconstruction of barriers for a moving camp would increase potential human-polar bear interactions and impacts to polar bear habitat.

- *Employ protected species observers (PSOs) for monitoring, recording, reporting, and implementing mitigation measures*—All personnel will be trained in wildlife observation. Monitoring, recording, reporting measures are described in the IHA application. If personnel cannot be observant and detect bears, dedicated bear guards would be used (refer to the IHA application). A 360-degree visual survey of the access routes and any locations within sight of the coast will be completed during aviation, and if any marine mammals are observed within 0.8 km (0.5 mi), the fixed wing aircraft or helicopter would not land or continue inspections and would leave the area.

- *Avoid areas of high-density polar bear use (e.g., barrier islands and coastline) including for the establishment of camps and pads*—While mobilization routes will traverse high-density polar bear denning habitat areas throughout the denning season, AIDEA has designed their seismic survey to focus on lower denning density areas in the early denning season, arriving in coastal areas in late March and April when many polar bears have emerged and departed from their den locations.

- *Avoid predominantly coastal routes for flight pathways*—AIDEA will use direct routes to and from their planned locations to avoid disturbance in coastal areas. However, seismic survey areas do overlap the coast and therefore stickpicking operations must occur in those areas.

- *Restrict activity and travel over polar bear denning habitat to eliminate or lessen risk of den collapse*—This project has activities that will travel over potential polar bear denning habitat. AIDEA has committed to multiple effective mitigation measures to minimize their potential impacts to polar bear denning habitat and reduce to chance of den collapse. Therefore, we believe that the probability of this project's activities causing a den collapse is near zero and additional mitigation measures would not further reduce the probability.

Required Determinations

National Environmental Policy Act (NEPA)

We have prepared a draft environmental assessment in accordance with the NEPA (42 U.S.C. 4321 et seq.). We have preliminarily concluded that authorizing the incidental, unintentional take of 10 polar bears by Level B harassment and 2 polar bears by Level A harassment, all from the SBS stock, during the proposed harassment authorization period would not significantly affect the quality of the human environment and, thus, preparation of an environmental impact statement for this incidental harassment authorization is not required by section 102(2) of NEPA or its implementing regulations.

We are accepting comments on the draft environmental assessment as specified above in **DATES** and **ADDRESSES**.

Endangered Species Act

Under the Endangered Species Act (ESA) (16 U.S.C. 1536(a)(2)), 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. Prior to issuance of a final IHA, the FWS will complete intra-Service consultation under section 7 of the ESA on our proposed issuance of an IHA. These evaluations and findings will be made available on the FWS's website at https://ecos.fws.gov/ecp/report/biological-opinion or available upon request.

Government-to-Government Consultation

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 E.O. 13175, "Consultation and Coordination With Indian Tribal Governments," 512 DM 5— "Procedures for Consultation with Indian Tribes," 512 DM 6— "Department of the Interior Policy on Consultation with Alaska Native Claims Settlement Act Corporations," 510 FW 1— "The Service's Native American Policy," and 510 FW 2— "The Service's Alaska Native Relations Policy."

The FWS has evaluated possible effects of the specified activities on federally recognized Alaska Native Tribes and organizations. The applicant has presented a communication process, culminating in a POC if needed, with the Alaska Native organizations and communities most likely to be affected by their work. The FWS does not anticipate impacts to Alaska Native Tribes or Alaska Native Claims Settlement Act

corporations and does not anticipate requesting consultation; however, we invite continued discussion, either about the project and its impacts or about our coordination and information exchange throughout the IHA/POC process.

Paperwork Reduction Act

This authorization does not contain any new collection of information that requires approval by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). The OMB has previously approved the information collection requirements associated with IHAs and assigned OMB Control Number 1018–0194 (expired 08/31/2026, and in accordance with 5 CFR 1320.10, an agency may continue to conduct or sponsor this collection of information while the submission is pending at OMB).

Proposed Authorization

We propose to authorize, for 1 year from date of issuance, incidental take harassment of polar bears from the SBS stock for activities associated with AIDEA's mobilization, seismic survey, and summer cleanup activities in the Arctic National Wildlife Refuge in northeast Alaska. We do not anticipate any lethal take.

A. General Conditions for the IHA for AIDEA

1. Activities must be conducted in the manner described in the revised request dated September 2, 2026, (received September 10, 2026, with additional access route locations submitted September 14, 2026) for an IHA and in accordance with all applicable conditions and mitigation measures. The taking of polar bears whenever the required conditions, mitigation, monitoring, and reporting measures are not fully implemented as required by the IHA is prohibited. Failure to follow the measures specified both in the revised request and within this proposed authorization may result in the modification, suspension, or revocation of the IHA.

2. If project activities cause unauthorized take (i.e., take of 1 or more polar bears

through methods not described in the IHA), then AIDEA must take the following actions:

i. Cease its activities immediately (or reduce activities to the minimum level necessary to maintain safety);

ii. Report the details of the incident to the FWS within 48 hours; and

iii. Suspend further activities until the FWS has reviewed the circumstances and determined whether additional mitigation measures are necessary to avoid further unauthorized taking.

3. All operations managers, aircraft pilots, and vehicle operators must receive a copy of this IHA and maintain access to it for reference at all times during project work. These personnel must understand, be fully aware of, and be capable of implementing the conditions of the IHA at all times during project work.

4. This IHA will apply to activities associated with the proposed project as described in this document and in AIDEA's revised request. Changes to the proposed project without prior authorization may invalidate the IHA.

5. AIDEA's revised request is fully incorporated into this IHA unless exceptions are specifically noted herein. The revised request includes:

i. AIDEA's original *Request for an IHA*, dated August 2026 (received by the FWS August 15, 2026), which includes AIDEA's *Polar Bear Avoidance and Interaction Plan* and geospatial files;

ii. AIDEA's revised *Request for an IHA*, dated September 2, 2026 (received by the FWS September 10, 2026); and

iii. AIDEA's additional information on access routes, received September 14, 2026.

6. Operators will allow the FWS personnel or the FWS's designated representative to visit project work sites to monitor for impacts to polar bears and subsistence uses of polar bears at any time throughout project activities so long as it is

safe to do so. “Operators” are all personnel operating under AIDEA’s authority, including all contractors and subcontractors.

AIDEA must implement the following policies and procedures to avoid interactions and minimize to the greatest extent practicable any adverse impacts on polar bears, their habitat, and the availability of these marine mammals for subsistence uses.

B. General Avoidance Measures

7. AIDEA must cooperate with the FWS and other designated Federal, State, and local agencies to monitor and mitigate the impacts of activities on polar bears.

8. Trained and qualified personnel must be designated to monitor for the presence of polar bears, initiate mitigation measures, and monitor, record, and report the effects of the activities on polar bears. AIDEA must provide all operators with polar bear awareness training prior to their participation in project activities.

9. An FWS-approved polar bear safety, awareness, and interaction plan must be on file with the FWS Marine Mammal Management office and available onsite. The interaction plan must include:

i. A description of the proposed activity (i.e., a summary of the plan of operations during the proposed activity);

ii. A food, waste, and other attractants management plan;

iii. Personnel training policies, procedures, and materials;

iv. Site-specific polar bear interaction risk evaluation and mitigation measures;

v. Polar bear avoidance and encounter procedures; and

vi. Polar bear observation and reporting procedures.

10. AIDEA must contact potentially affected subsistence communities and hunter organizations to discuss potential conflicts caused by the activities and provide the FWS documentation of communications as described in *D. Measures To Reduce Impacts to Subsistence Users*.

11. *Mitigation measures for aircraft.* AIDEA must undertake the following activities to limit disturbance from aircraft activities:

i. Operators of support aircraft shall, at all times, conduct their activities at the maximum distance practicable from concentrations of polar bears.

ii. Fixed-wing aircraft and helicopter operations within the IHA area must maintain a minimum altitude of 457 m (1,500 ft) above ground level when safe and operationally possible.

iii. Under no circumstances, other than an emergency, will aircraft operate at an altitude lower than 457 m (1,500 ft) within 805 m (0.5 mi) of a polar bear observed on ice or land measured in a straight line between the polar bear and the ground directly underneath the aircraft. Helicopters may not hover or circle above such areas or within 805 m (0.5 mi) of such areas. If weather conditions or operational constraints necessitate operation of aircraft at altitudes below 457 m (1,500 ft), the operator must avoid areas of known polar bear concentrations and should take precautions to avoid flying directly over or within 805 m (0.5 mi) of these areas.

iv. Aircraft may not be operated in such a way as to separate individual polar bears from a group (i.e., two or more polar bears).

12. *Mitigation measures for winter activities*. AIDEA must undertake the following activities to limit disturbance around polar bear dens:

i. AIDEA must conduct or otherwise obtain the results of two aerial infrared (AIR) surveys of all denning habitat located within 1.6 km (1 mi) of specified activities in an attempt to identify maternal polar bear dens. The first survey must occur between December 1 and December 25, 2025, and the second survey must occur between December 15, 2025, and January 15, 2026, with at least 24 hours occurring between the completion of the first survey and the beginning of the second survey. Surveys must not be conducted during daytime or times when weather conditions significantly hinder

visibility (e.g., blowing snow, precipitation, or airborne moisture). A scientist with experience in real-time aerial infrared interpretation must be onboard during all flights. All AIR survey videos must be made available to FWS within 48 hours of survey completion.

ii. All observed or suspected polar bear dens must be reported to the FWS prior to the initiation of activities.

iii. If a suspected den site is located, AIDEA will immediately consult with the FWS to analyze the data and determine if additional surveys or mitigation measures are required. The FWS will determine whether the suspected den is to be treated as a putative den for the purposes of this IHA.

iv. Operators must observe a 1.6-km (1-mi) operational exclusion zone around all putative polar bear dens during the denning season (November–April, or until the female and cubs leave the areas). Should a suspected den be discovered within 1.6 km (1 mi) of activities, work must cease, and the FWS contacted for guidance. The FWS will evaluate these instances on a case-by-case basis to determine the appropriate action. Potential actions may range from cessation or modification of work to conducting additional monitoring, and AIDEA must comply with any additional measures specified.

v. In determining the denning habitat that requires surveys, use the den habitat map developed by the USGS. A map of potential coastal polar bear denning habitat can be found at: https://www.usgs.gov/centers/asc/science/polar-bear-maternal-denning?qt-science_center_objects=4#qt-science_center_objects.

vi. Use vehicle-mounted or handheld forward-looking infrared and thermal scopes. When transiting or entering new terrain within the project area, operators must use vehicle-mounted or handheld forward-looking infrared units and thermal scopes to enhance detection of dens and/or traveling family units (female with cubs) following den emergence. Areas along any major drainages, snow drifts greater than 1.5 m (5 ft) in

height, snow piles, and any other areas that may provide suitable snow buildup for denning polar bears during seismic surveys should be surveyed.

vii. Restrict activity in denning habitat. To reduce the risk of den disturbance, operators must restrict activity and travel that would occur over polar bear denning habitat and avoid steep terrain and areas with pressure ridges that may support polar bear dens. A 100-m (330-ft) buffer must be placed on each side of defined denning critical habitat (i.e., a 16-degree slope and height of 1.6 m [5.2 ft]) and a 25-m (82.5-ft) buffer must be placed on slopes of 10-15 degrees for all source points.

C. Monitoring

13. AIDEA must provide onsite observers and implement the FWS-approved polar bear safety, awareness, and interaction plan to apply mitigation measures, monitor the project's effects on polar bears and subsistence uses, and evaluate the effectiveness of mitigation measures.

14. Onsite observers must be present during all operations and must record all polar bear observations, identify and document potential harassment, and work with personnel to implement appropriate mitigation measures.

15. AIDEA shall cooperate with the FWS and other designated Federal, State, and local agencies to monitor the impacts of project activities on polar bears. Where information is insufficient to evaluate the potential effects of activities on polar bears and the subsistence use of this species, AIDEA may be required to participate in joint monitoring efforts to address these information needs and ensure the least practicable impact to this resource.

D. Measures to Reduce Impacts to Subsistence Users

AIDEA must conduct its activities in a manner that, to the greatest extent practicable, minimizes adverse impacts on the availability of polar bears for subsistence uses.

16. AIDEA will be required to develop an FWS-approved POC if, through community consultation, concerns are raised regarding impacts to subsistence harvest or Alaska Native Tribes and organizations.

17. If an FWS-approved POC is required, AIDEA will implement that POC.

18. Prior to conducting the work, AIDEA will take the following steps to reduce potential effects on subsistence harvest of polar bears:

i. Avoid work in areas of known polar bear subsistence harvest;

ii. Notify the Native Village of Kaktovik of the proposed project activities;

iii. Work to resolve any concerns of potentially affected Alaska Native Tribal organizations and corporations regarding the project's effects on subsistence hunting of polar bears;

iv. If any unresolved or ongoing concerns of potentially affected Alaska Native Tribal organizations and corporations remain, modify the POC in consultation with the FWS and subsistence stakeholders to address these concerns; and

v. Implement FWS-required mitigation measures that will reduce impacts to subsistence users and their resources.

E. Reporting Requirements

AIDEA must report the results of monitoring to the FWS Marine Mammals Management office via email at: FW7_mmm_reports@fws.gov.

19. *In-season monitoring reports.*

20. *Activity progress reports.* AIDEA must:

i. Notify the FWS at least 48 hours prior to the onset of activities;

ii. Provide the FWS weekly progress reports of any significant changes in activities and/or locations; and

iii. Notify the FWS within 48 hours after ending of activities.

21. *Polar bear observation reports.* AIDEA must report, within 48 hours, all observations of polar bears and potential polar bear dens during any project activities. Upon request, monitoring report data must be provided in a common electronic format (to be specified by the FWS). Information in the observation report must include, but need not be limited to:

i. Date and time of each observation;

ii. Locations of the observer and polar bears (GPS coordinates if possible);

iii. Number of polar bears;

iv. Sex and age class—adult, subadult, cub (if known);

v. Observer name and contact information;

vi. Weather, visibility, and if at sea, sea state, and sea-ice conditions at the time of observation;

vii. Estimated closest distance of polar bears from personnel and facilities;

viii. Type of work being conducted at time of sighting;

ix. Possible attractants present;

x. Polar bear behavior—initial behavior when first observed (e.g., walking, swimming, resting, etc.);

xi. Potential reaction—behavior of polar bear potentially in response to presence or activity of personnel and equipment;

xii. Description of the encounter;

xiii. Duration of the encounter; and

xiv. Mitigation actions taken.

22. *Human–polar bear interaction reports.* AIDEA must report all human–polar bear interaction incidents immediately, and not later than 48 hours after the incident. Human–polar bear interactions include:

i. Any situation in which there is a possibility for unauthorized take. For instance, when project activities exceed those included in an IHA, when a mitigation measure was required but not enacted, or when the injury or death of a polar bear occurs. Reports must include all information specified for an observation report in paragraphs (3)(i)–(xiv) of this section E, a complete detailed description of the incident, and any other actions taken.

ii. Injured, dead, or distressed polar bears that are clearly not associated with project activities (e.g., animals found outside the project area, previously wounded animals, or carcasses with moderate to advanced decomposition or scavenger damage) must also be reported to the FWS immediately, and not later than 48 hours after discovery. Photographs, video, location information, or any other available documentation must be included.

23. *Final report.* The results of monitoring and mitigation efforts identified in the marine mammal avoidance and interaction plan must be submitted to the FWS for review within 90 days of the expiration of this IHA. Upon request, final report data must be provided in a common electronic format (to be specified by the FWS). Information in the final report must include, but need not be limited to:

i. Copies of all observation reports submitted under the IHA;

ii. A summary of the observation reports;

iii. A summary of monitoring and mitigation efforts including areas, total hours, total distances, and distribution;

iv. Analysis of factors affecting the visibility and detectability of polar bears during monitoring;

v. Analysis of the effectiveness of mitigation measures;

vi. A summary and analysis of the distribution, abundance, and behavior of all polar bears observed; and

vii. Estimates of take in relation to the specified activities.

Request for Public Comments

If you wish to comment on this proposed authorization, the associated draft environmental assessment, or both documents, you may submit your comments by either of the methods described in **ADDRESSES**. Please identify whether you are commenting on the proposed authorization, draft environmental assessment, or both, make your comments as specific as possible, confine them to issues pertinent to the proposed authorization, and explain the reason for any changes you recommend. Where possible, your comments should reference the specific section or paragraph that you are addressing. The FWS will consider all comments that are received before the close of the comment period (see **DATES**). The FWS does not anticipate extending the public comment period beyond the 30 days required under section 101(a)(5)(D)(iii) of the MMPA.

Comments, including names and street addresses of respondents, will become part of the administrative record for this proposal. Before including your address, telephone number, email address, or other personal identifying information in your comment, be advised that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask us in your comments to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

Peter Fasbender,
Assistant Regional Director—Fisheries and Ecological Services, Alaska Region
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