



# Polar Bear News 2011-2012

## A note from project leader Terry DeBruyn

*Polar bear conservation matters. And it works. It matters not just for the perpetuation of the polar bear, but to the preservation of the Native Alaskan way of life. It works because of the efforts of the Alaskan Conservation Community—non-governmental organizations like the World Wildlife Fund and the Defenders of Wildlife; units of government like the North Slope Borough; Native organizations like the Alaska Nanuuk Commission; agencies like the US Geological Survey, the US Fish and Wildlife Service, and the Alaska Department of Fish & Game; and every day folks coming together to focus on*



*finding common ground and figuring out what can be done to further polar bear conservation.*

*As you look through these pages, keep in mind the Community that is necessary to affect polar bear conservation. That Community—including you, will be even more important and necessary as we seek common ground to deal with polar bear issues brought about by a changing climate.*

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## Polar Bear Management in Alaska

### Polar Bear Management in Alaska

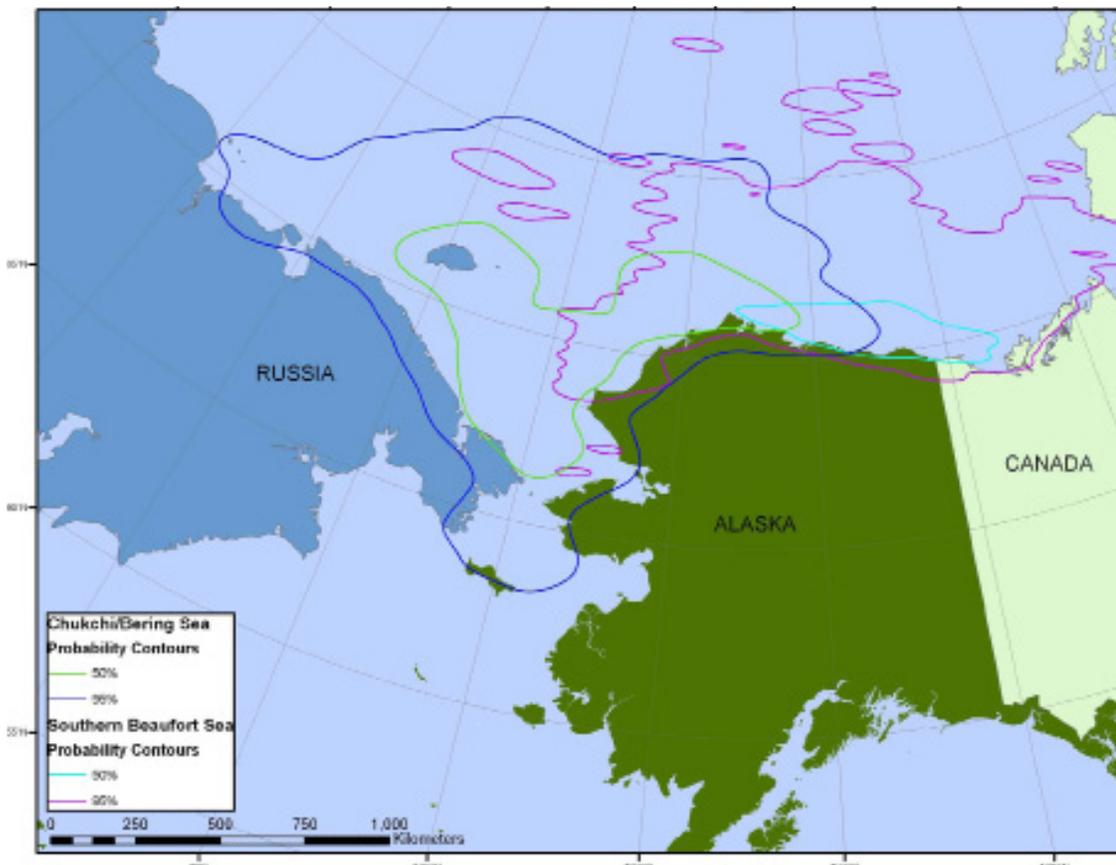
The US Fish and Wildlife Service (FWS) has primary management responsibility for polar bears in Alaska. The objective of the FWS polar bear program is to ensure that polar bear populations in Alaska continue to be healthy, functioning components of the Bering, Chukchi, and Beaufort sea ecosystems. The FWS's conservation activity is largely mandated by the Marine Mammal Protection Act (MMPA) and more recently, by the Endangered Species Act (ESA). The US is also a member

of several international treaties that call for coordinated polar bear conservation.

An important part of polar bear conservation is co-management with Alaska Natives who live in polar bear habitat and harvest polar bears for subsistence purposes. The Alaska Nanuuq Commission is FWS's primary co-management partner and was formed in 1994 to represent villages in Northern and Northwestern Alaska on matters concerning the conservation and sustainable subsistence use of polar bears.



*Polar bears occur throughout the circumpolar Arctic and are divided into 19 populations based on movement patterns, genetics, and ecology.*



*The two polar bear stocks (or populations) shared with Alaska: the Chukchi/Bering Sea (also known as Alaska-Chukotka) stock and the Southern Beaufort Sea stock. This map shows 50% and 95% use areas for each population.*

Another important part of polar bear conservation is having reliable scientific information on which to base sound management. The FWS works in partnership with the US Geological Survey (USGS), the agency primarily responsible for conducting polar bear research in Alaska. For decades, USGS's Alaska Science Center has provided critical scientific information that has been used as a basis for management decisions.

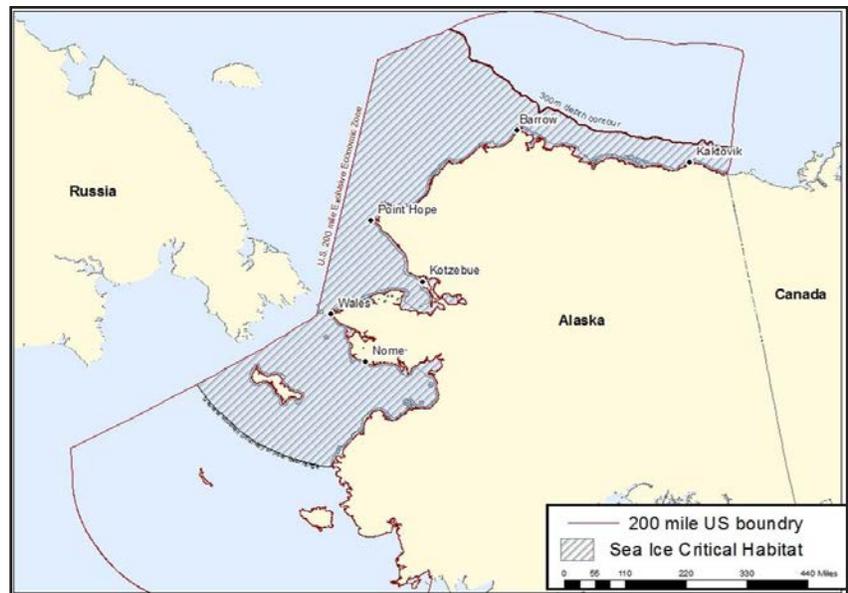
## Management in Alaska & Critical Habitat

Currently, 19 polar bear populations are recognized throughout the circumpolar Arctic. Based on movement data and genetic analyses, Alaska's polar bears are divided into two stocks or populations: the southern Beaufort Sea (SB) stock, shared with Canada, and the Alaska-Chukotka (AC) stock, shared with Russia. The SB stock of polar bears was most recently estimated at 1,526 bears and thought to be declining due to loss of sea ice. At present, we do not have a reliable population size estimate for the AC population of polar bears; loss of sea ice habitat and potentially unsustainable levels of human caused mortality in Alaska and Russia are the main issues of concern for this population.

The purpose of this newsletter is to provide current information regarding polar bear research and monitoring studies, and on-going management activities.

### Critical Habitat

On December 7, 2010, the US Fish and Wildlife Service (FWS) published a Federal Register notice designating critical habitat for the polar bear (75 FR 76086), as required for species listed under the Endangered Species Act (ESA). This took effect January 6, 2011. This designation requires that



*Designated polar bear sea-ice critical habitat.*

federal agencies that undertake, fund, or permit activities that may affect critical habitat are required to consult with FWS to ensure that such actions do not adversely modify or destroy designated critical habitat. Nonfederal entities, including private landowners, will only be affected when a federal nexus exists, including federal funding, permitting or authorization. The designation of critical habitat under the ESA does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation areas. It does not allow government or the public access to private lands. Subsistence activities are not limited in areas of critical habitat. All man made structures in existence at the time the Final Rule took effect on January 6, 2011 were excluded from the critical

habitat designation.

Critical habitat is defined under the ESA as areas that are essential for the conservation of the species. For polar bears, the final designation of critical habitat included three classifications: barrier island habitat; sea ice habitat; and terrestrial denning habitat. Now that the Final Rule is in effect, human activities that have a federal nexus in critical habitat areas will need to be reviewed by FWS to ensure that the proposed activity does not adversely affect the species. Detailed maps of critical habitat areas are available at <http://alaska.fws.gov/fisheries/mmm/polarbear/criticalhabitat.htm>. For more information please contact the Marine Mammal Management office at 1-800-362-5148.

Under the ESA, "critical habitat" is an area that contains habitat features essential for the conservation of a threatened or endangered species and which may require special management considerations. A critical habitat designation does not set up a preserve or refuge, and does not affect subsistence harvest.

## Polar Bear Conservation/ Recovery Plan

### Polar Bear Conservation/ Recovery Plan

In 2008 the US Fish and Wildlife Service (FWS) listed polar bears as threatened throughout their global range under the Endangered Species Act (ESA), largely as a result of projected declines in their sea ice habitat associated with global warming. Both polar bear numbers and their range are projected to decrease into the foreseeable future. In compliance with the requirements of the Marine Mammal Protection Act and the ESA, the FWS is developing a Conservation/Recovery Plan for polar bears to help guide management and research activities into the future.

Our work on the Conservation/ Recovery Plan builds upon several efforts that have shaped FWS's conservation and management program to date including our 1994 Polar Bear Conservation Plan, the 2008 ESA listing, and extensive collaboration with our conservation partners. The 1994 Conservation Plan, which was developed in collaboration with our conservation partners, identified key actions that were needed to address threats to polar bears at that time. Actions put into place as a result of this plan, included establishing the US-Russia Agreement to manage the Alaska-Chukotka polar bear population and establishment of the Alaska Nanuq Commission to effectively co-manage polar bears with our Native partners. The 2008 listing provided a further comprehensive analysis

of the threats to polar bears based on the best available science, extensive peer review by experts in the field, and significant process of public review and comment. We are fortunate to have both the 2008 listing and the 1994 Conservation Plan to build on for our current Conservation/Recovery Plan.

We recognize that an effective plan will require close cooperation with our conservation partners in terms of both planning and implementation, especially those living in close proximity with polar bears on the landscape. Because of this, we have purposely chosen a way to develop our plan that would engage our conservation partners early in the process, and will allow for broader participation than a traditional recovery team would allow. Our first steps have been to revise the threats assessment from the 2008 listing, based on best available

information, and to engage our conservation partners in the planning process through a series of open public workshops to gather additional information and suggestions for polar bear conservation. To date, we have held four public workshops:

- a. Oct 29, 2010- introduction to the planning process, and discussion of revised threats assessment
- b. Jan 21, 2011- climate change
- c. Feb 8, 2011- human removals
- d. Aug 25-26, 2011- developing objective measureable criteria to determine at what point the FWS could remove polar bears from the ESA list, or conversely, up-list to endangered status.

We have also provided two opportunities for our partners to review drafts of the plan, and are working to incorporate comments received.

The next step is to convene a group of invited experts in spring



*Diminishing sea ice is a threat to polar bears.*

2012 at a technical workshop to further develop the plan, utilizing the extensive input we received at our public workshops. Participants will include the North Slope Borough, the State of Alaska, members of the FWS and USGS polar bear teams, and others.

Our conservation partners will have further opportunity to comment on drafts of the plan over the next year. We will continue to work with our partners to develop a final plan that will serve as a collaborative, prioritized guide to polar bear research and management efforts into the future, for both the FWS and for our conservation partners. By ensuring that management strategies are threats-based, scientifically sound, and based on collaborative efforts with our partners, the FWS will help ensure that available resources are most effectively used for polar bear conservation. If you would like more information, please contact Jim Wilder at [James\\_Wilder@fws.gov](mailto:James_Wilder@fws.gov) or 907-786-3378.

### Polar Bear Range States Update

The contracting parties to the 1973 Polar Bear Agreement (the Range States; Canada, the United States, Greenland, Russia, and Norway) met in Iqaluit, Nunavut, Canada from 24 – 26 October 2011.

### What made this track?



The purpose of the meeting was to provide an update on the conservation status of polar bears and their habitat throughout their range, to present draft “national action plans” for polar bear conservation from each Range State, and to discuss development of a collaborative Range State/Circumpolar Action Plan for polar bears.

In 2009, the Range States agreed to initiate a process that would lead to a coordinated approach to polar bear conservation and management strategies throughout the polar bears’ range, in light of the growing concern over polar bear conservation in relation to climate change and other threats.

The Range States recognized that action plans should be developed at the national level first, leading to the development of a comprehensive circumpolar action plan that addresses polar bear conservation range-wide. The Range States agreed that the circumpolar action plan will be informed by science, traditional ecological knowledge, and will focus on opportunities for collaboration across the range of the polar bear. The US Polar Bear Conservation/ Recovery Plan (see Polar Bear Conservation/ Recovery Plan section above), currently under development by the FWS and our conservation partners, will be the US contribution to this international conservation effort.



*Adult female with her two cubs-of-the-year.*

## Monitoring System for Polar Bear–Human Interactions

### Monitoring System for Polar Bear–Human Interactions

When the Range States met in Tromsø, Norway in March 2009 they recognized the need to address increasing human-polar bear interactions resulting from expanding human populations, industrial development, tourism, and a potential increase in the proportion of nutritionally stressed bears on land due to retreating sea ice. In response to this issue, the Range States identified the need for a system to compile data on bear-human interactions so that scientifically-based strategies can be developed to manage such interactions. They further agreed on the need to strengthen and standardize monitoring and recording of bear-human interactions throughout the range of polar bears. The US and Norway were tasked with leading an effort, in collaboration with polar bear experts and managers from the other

parties, to implement a system to effectively catalogue human-polar bear interactions.

To date, the US and Norway have collaborated on refining a database, referred to as the Polar Bear-Human Information Management System (PBHIMS), to catalogue all data on bear-human interactions. The current version of the database was presented at the Range States' meeting in Iqaluit in October 2011. By the next Range States meeting in 2013, the five polar bear countries intend to adopt a strategy for implementing the database within each country, for annual



*The Range States: Canada, the United States, Greenland, Russia, and Norway.*

reporting and analysis of bear-human interaction data, to develop an online system for entering and reporting the data. This database will provide polar bear managers with critical information needed to conserve polar bear populations by reducing lethal take associated with bear-human interactions. For more information please contact James Wilder at 907-786-3378 or James\_Wilder@fws.gov.



*Polar bears rely on sea ice for hunting, feeding, denning, and breeding.*

### US-Russia Agreement

Implementation of the *Agreement Between the United States of America and the Russian Federation on the Conservation and Management of the Alaska-Chukotka Polar Bear Population* continued in 2011 with a scientific working group and Joint Commission meeting July 27-29 in Moscow. The US-Russia Commission affirmed that a quota of 58 polar bears per year will be shared between the two countries. This quota, established in June 2010, protects the ability of Native peoples of Chukotka and Alaska to take polar bears for traditional subsistence purposes while helping to ensure that polar bear harvest is sustainable. The Commission affirmed the full participation of Native peoples in the conservation of the Alaska-Chukotka population and recognized the continued importance of traditional ecological knowledge.

The Commission also confirmed a change in the membership of



*US- Russia Commissioners from left to right: Sergey Kavry, Amirkhan Amirkhanov, Geoff Haskett, and Charlie Brower (alternate Commissioner for Charlie Johnson).*

the scientific working group to include two Native representatives for each country. They also voted to support adoption of a multiyear quota system to manage polar bear harvest in the US.

Russia does not currently have plans to implement their portion of the joint quota. A timeframe for developing a harvest management plan in Russia also has not been identified. A draft harvest management plan developed for the US portion of the quota by the Alaska Nanuuq Commission and the US Fish and Wildlife Service was

presented to the Commission. The FWS is continuing to move forward with development of the harvest management plan to comply with the US obligations under the agreement. More information on the plan is provided in the following section.

The next scientific working group and Commission meetings are tentatively scheduled to be held in March and July, 2012 respectively, in Anchorage. The scientific working group's primary task will be to develop a joint US-Russia research plan.

### US-Russia Agreement Summary

The US-Russia polar bear treaty applies to management of polar bears in villages in the Chukchi Sea and northern Bering Seas to the west and south of Point Lay, including Point Lay. Wainwright will continue to be managed with the Southern Beaufort Sea population. Over the next year, the US Fish and Wildlife Service (FWS) will work with the Alaska Nanuuq Commission (ANC) and local communities to figure out how to implement the harvest. Local communities are encouraged to provide input into this process by contacting their local ANC Commissioner or the ANC office in Nome at 907-443-5044 ([www.nanuuq.info](http://www.nanuuq.info)) or the FWS Marine Mammals Management program at 1-800-362-5148.

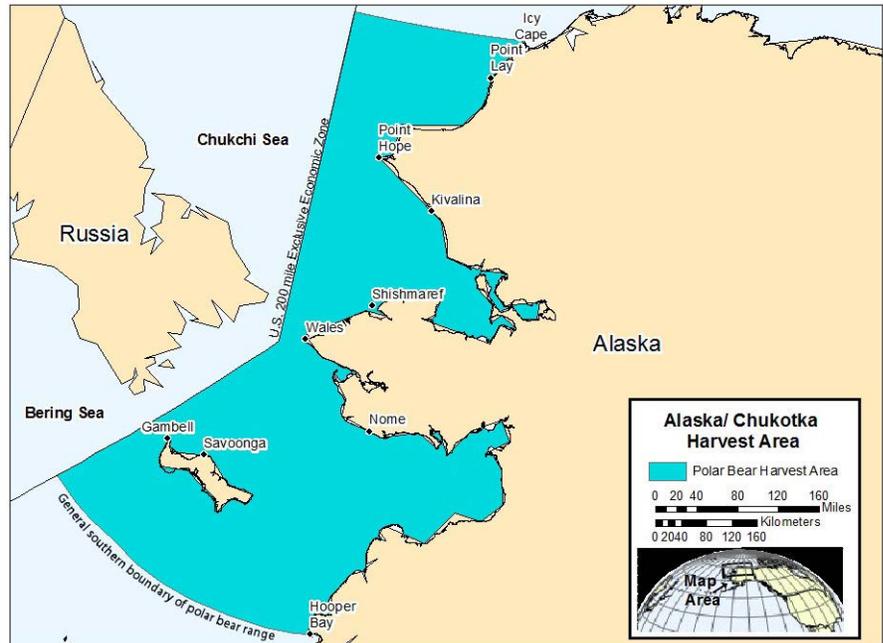
## Harvest Management Plan for the Chukchi Sea Region

### Harvest Management Plan for the Chukchi Sea Region

In 2011, the FWS assisted the Alaska Nanuq Commission (ANC) leadership with developing a draft Harvest Management Plan (HMP) for polar bears in the Chukchi region. The HMP will implement the new harvest limit of up to 29 polar bears per year, of which no more than one third can be female. This limit represents one half of the total harvest limit of 58 bears per year, to be shared equally between the U.S. and Russia, which was decided in June 2010 by the Commissioners of the US-Russia Bilateral Agreement (see section on the US-Russia Agreement), which include governmental and Native representatives from both countries. The HMP will go into effect in January 2013 and will apply to the communities in western Alaska that harvest polar bears and are located south of Icy Cape, Alaska (e.g., the community of Point Lay and others to the south). Until January 2013, polar bear harvest in western Alaska continues as currently managed under the Marine Mammal Protection Act, which includes the requirement that hunters report and tag harvested polar bears within 30 days with their local tagger.

The broad goals of the HMP are as follows:

- To ensure that human-caused mortality does not



*The US polar bear harvest area managed under the US-Russia Agreement.*

compromise the ability of the Alaska-Chukotka (AC) polar bear population to remain a sustainable, healthy and functioning component of the Chukchi and Bering Sea ecosystems.

- To implement a management approach that simultaneously meets the subsistence and cultural needs and preferences of hunters, and is consistent with the US-Russia Agreement, the 1973 Agreement for the Conservation of Polar Bears, MMPA, ESA, and policies of the FWS.
- To provide subsistence hunters the continued opportunity to harvest polar bears in accordance with traditional uses and to safeguard this opportunity for future generations.
- To place a sustainable upper limit on harvest from the AC polar bear population. The limit is intended as a

conservation measure to keep the harvest within established limits, not to maximize the subsistence harvest.

- To provide a structured approach to harvest management for the AC population, including outreach, monitoring, and enforcement through co-management by the ANC, FWS, and communities.
- To provide for the collection of scientific data and samples from harvested polar bears and to facilitate the collection of Traditional Ecological Knowledge (TEK), to inform management decisions made by the US-Russia Polar Bear Commission.

The HMP includes provisions that are designed to be consistent with the historic patterns of polar bear harvest in western Alaska. First, it will include a multiyear quota system, which is similar to the block quota used for the

## Harvest Management Plan for the Chukchi Sea Region & Harvest Summary for Alaska

subsistence harvest of bowhead whales. Under the proposed multiyear quota system, harvest credits and debits will be carried over from year-to-year, within a five-year block. This adds flexibility and allows harvest to continue in the face of yearly variation in the availability of polar bears. For example, if a community could not harvest any polar bears in one year due to poor sea ice conditions, the saved-up credits could be used in the next year. On the other hand, if harvest in a given year is high, some debits (i.e., the loss of harvest credits) would carry over to the next year. Second, the HMP will implement a regional approach. This means that the overall quota will be divided among three regions, and that each region takes a direct role in how its harvest is conducted. This approach ensures that the entire US quota won't be used by a single community or region in any given year.

The ANC, with support of the FWS, will be primarily responsible for implementing the HMP. Several key aspects of how the HMP will work, including the details of the multiyear quota system, are currently under consideration by the ANC and its members. Starting in spring 2012, the ANC and FWS will conduct a series of visits to the communities of western Alaska that will be included under the HMP. During these visits, the draft plan will be presented to hunters, community organizations, tribal councils,

etc. The ANC and FWS will listen to ideas and concerns from stakeholders, and attempt to incorporate this feedback into a management system that protects the long-term future of polar bears, works for hunters, and is widely understood and supported.

For more information on the development of a US Harvest Management Plan, please contact the ANC at 907-443-5044, or Eric Regehr with the FWS at 907-786-3913 or e-mail [Eric\\_Regehr@fws.gov](mailto:Eric_Regehr@fws.gov).



*Polar bears have large paws which helps distribute their weight, like a snowshoe, allowing them ease of travel on snow and ice.*

### Harvest Summary for Alaska

Thanks to the assistance of local taggers in Alaska's villages, the FWS's Marking, Tagging, and Reporting Program (MTRP) tracks and obtains data and samples on polar bears harvested for subsistence purposes. Providing accurate and timely harvest data helps to ensure sustainable management

of Alaska's polar bear populations, document traditional subsistence use, and provide information for monitoring the health and status of polar bears in Alaska. This information is critical to enabling FWS to manage polar bears and human activities for continued subsistence opportunities well into the future.

The total Alaska polar bear harvest by Native subsistence hunters from June 2010 to July 2011 was 56 bears: 30 males (54%), 17 females (30%), and 9 bears of unknown sex (16%). Sixty-one percent of the polar bear harvest was from the Alaska-Chukotka population (AC) and 31% was from the Southern Beaufort Sea population (SB). The SB harvest has remained relatively consistent (~30 bears per year) for the past 30 years. This is in contrast to the AC population where the subsistence harvest of polar bear has declined by over 50% since the 1980s (mean=92/year) to the 2000s (mean=37/year). The sex ratio of total bears harvested has remained relatively consistent since 1980 at 66% males and 34% females. For more information please contact Marine Mammal Management office at 1-800-362-5148.

Harvest reporting documents the human use of and reliance upon renewable wildlife resources. Good harvest reporting can show population changes over time and helps to inform wise wildlife management decisions.

## Harvest Summary for Alaska & Polar Bear Conservation Activities at Barter Island

*Native subsistence polar bear harvest in Alaska by village for 2010/2011 harvest season. Harvest season extends from July 1, 2010 to June 30, 2011 and includes bears taken from two populations: the Southern Beaufort Sea and Alaska-Chukotka (Chukchi-Bering Seas).*

Village	Male	Female	Unknown	Total
Kaktovik	-	-	-	0
Nuiqsut	-	1	2	3
Barrow	6	3	5	14
Atqasuk	-	1	-	1
Wainwright	-	4	-	4
Point Lay	-	2	-	2
Point Hope	22	4	1	27
Kivalina	-	1	-	1
Shishmaref	1	1	1	3
Wales	1	-	-	1
Little Diomede	-	-	-	0
Savoonga	-	-	-	0
Gambell	-	-	-	0
<b>Total</b>	<b>30</b>	<b>17</b>	<b>9</b>	<b>56</b>
<b>Percent</b>	<b>(54)</b>	<b>(30)</b>	<b>(16)</b>	<b>(100)</b>

### Polar Bear Conservation Activities at Barter Island

#### Polar Bear Counts

As part of a long-term effort that was initiated in 2002, we conducted polar bear counts at Barter Island during the fall open-water period, where bear use has been increasing since the 1990s. Count information provides some insight into trends of use of the area by polar bears, and how it may be changing over time. In 2011, we monitored polar bears during September 6-October 4, and observed a minimum, maximum, and average of 18, 41, and 32 bears respectively, including eight family groups (mothers with dependent young). Lone

adult male and female bears were also observed, as well as at least one sub-adult bear. In general, all polar bears appeared in good body condition; no emaciated bears were observed. In 2011, ice cover in the Arctic Ocean was the second lowest year on record (after 2007); minimum extent occurred on September 9 (<http://nsidc.org>).

#### Tourism

Increased bear use of Barter Island has resulted in an increase in visitors to the community of Kaktovik to view and photograph polar bears. A primary

focus of our work with community residents is to help ensure that polar bear viewing is conducted in a safe and legal manner. One important step is to work with the local Kaktovik Polar Bear Committee to develop educational materials such as the Polar Bear Viewing Guidelines that provide



*Polar bear viewing is becoming an increasingly popular activity around Barter Island.*

## Polar Bear Conservation Activities at Barter Island & Minimizing Human-Bear Conflicts

personal conduct when viewing polar bears. Additionally, the FWS, along with Ilisagvik College, State of Alaska, and others provided training to local residents interested in becoming professional polar bear tour guides. These guides can provide visitors with a safe and legal polar bear viewing experience here in Alaska (<http://arctic.fws.gov/pdf/pbguide-lines2011.pdf>). For more information contact Susi Miller at 907-786-3828 or [Susanne\\_Miller@fws.gov](mailto:Susanne_Miller@fws.gov).

### Minimizing Human-Bear Conflicts

In addition to the efforts at Barter Island to reduce human-bear conflicts related to polar bear viewing, several other efforts are underway.

#### Support for village patrols

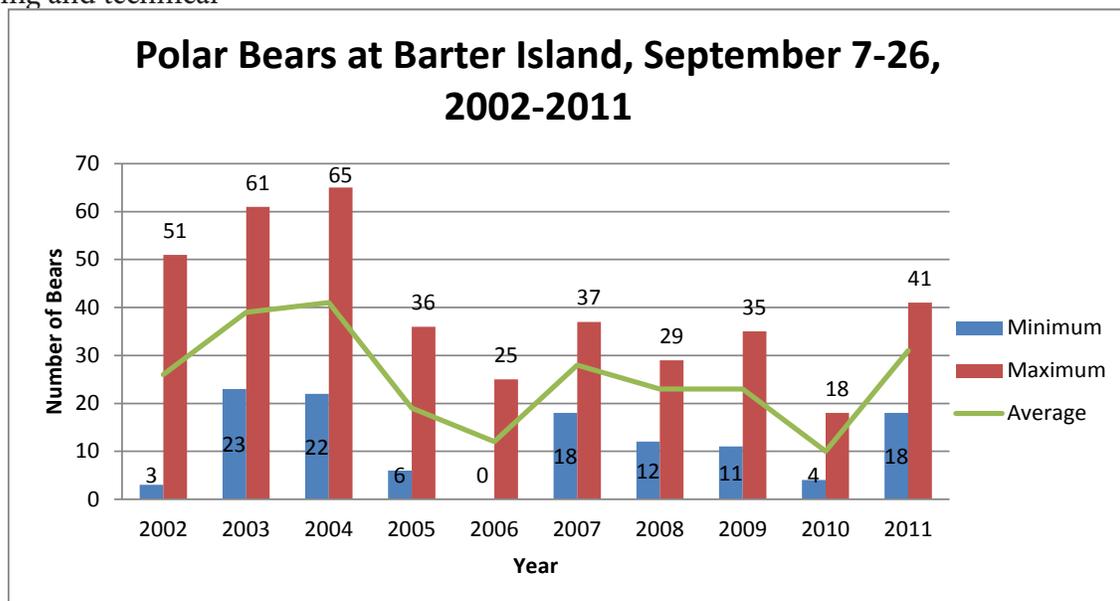
In 2010, the FWS entered into a cooperative agreement with the North Slope Borough (NSB) to provide funding and technical

assistance to the Department of Wildlife Management's Polar Bear Patrol Program. This program involves training local residents to haze (deter) polar bears out of town using crackershells, bean bags, vehicles, spotlights and other deterrents. While hazing may not be effective on every bear, it does provide a non-lethal option for moving bears away from villages in the vast majority of cases. The cooperative agreement provides patrol funding for all coastal NSB villages through 2012; this year it was also expanded to include Cross Island, an area where polar bears have posed serious safety concerns to Nuiqsut hunters during their fall whaling season. In August 2011, NSB used some of the funding to host a workshop in Barrow where village coordinators and patrolers received state-of-the-art training. Additionally, the FWS provided funding to the Alaska Nanuq Commission to develop a "needs assessment" for the



*Curious bears often need to be hazed from human settlements for safety purposes.*

Bering/Chukchi seas coastal villages not covered by the NSB's cooperative agreement. This assessment will help direct future support to affected communities in the Bering/Chukchi seas region for reducing human-bear conflicts.



*Minimum, maximum, and average number of polar bears observed at Barter Island, Alaska, 2002-2011.*

### Bear Safety

As fall freeze-up is delayed it's quite possible that polar bears using coastal areas will increasingly enter human settlements, particularly if they are nutritionally stressed. If a bear succeeds in finding food in a human settlement, it is more likely to become a problem. However, if it does not find food, the bear is likely to move on. *Please be sure to minimize any food attractants in your communities and camps and work with community members to develop strategies for minimizing conflicts with bears.*

Polar bears are very curious and it is normal for them to investigate anything that is unusual. If you see a bear, watch what it is doing, but also think about what to do if it gets too close. All bears are potentially dangerous and should be treated with respect. Bears that are surprised suddenly, starving, threatened, or defending their food or cubs are more likely to be aggressive. Extreme caution should be taken in these circumstances and the bear should be avoided. Make sure the bear has an open route to escape if it is behaving as if it feels threatened.

Although subsistence hunting is legal under Federal law, we encourage everyone to seek non-lethal methods to deal with problem bears when possible and to ensure that any harvest is conducted for subsistence purposes only.

- If polar bears do not pose an immediate threat to human safety, stay away from bears and do not approach or harass them.
- Do not let bears associate food with humans; lock up or remove anything which could attract a bear, such as food, garbage, human waste, petroleum products, or animal carcasses.
- When in coastal areas, remain vigilant, and be aware of your surroundings; avoid surprising bears.
- If a polar bear poses an immediate threat to human safety, make loud noises and other distractions to encourage it to leave the area.

Please report polar bear harassment or lethal take for public safety reasons to FWS at 1-800-362-5148.

#### **Diversionsary Feeding Workshop**

In June 2011, the FWS worked with the Defenders of Wildlife to bring a Diversionsary Feeding Workshop to Alaska. Diversionsary feeding refers to a management practice that involves intentionally moving food attractants (such as whale remains) away from human settlements to reduce human-bear conflicts. Because of successes noted in other areas, and because of increasing conflicts

in Alaska where bears are attracted to and feed on carcasses in close proximity to human settlements, the FWS wanted to learn more about diversionsary feeding. Community leaders, managers, and whalers from Barrow and Kaktovik, along with bear biologists and managers with experience in diversionsary feeding, and representatives from industry and non-profit organizations participated in the workshop. A summary report is in process and

will be shared with workshop participants. The FWS plans on visiting affected communities to further discuss results from the workshop, and what steps may be taken to reduce safety risks associated with polar bear use of whale remains. For more information on reducing human-bear conflicts please contact Susi Miller at 907-786-3828, e-mail [Susanne\\_Miller@fws.gov](mailto:Susanne_Miller@fws.gov) or Craig Perham at 907-786-3810, e-mail [Craig\\_Perham@fws.gov](mailto:Craig_Perham@fws.gov).



*In March 2011, ENI's production island was temporarily shut down in response to a female bear that emerged from her den. The FWS worked with ENI to ensure that the bear family was not disturbed once it was discovered. To view this video please visit [www.youtube.com/watch?v=KseM5CrTLvQ](http://www.youtube.com/watch?v=KseM5CrTLvQ).*

### Overview of the Incidental and Intentional Take Program

The FWS administers an Incidental and Intentional Take Program that allows for polar bear managers to work cooperatively with various stakeholders working in polar bear country to minimize impacts of their activities on polar bears. The Marine Mammal Protection Act (MMPA) allows for the incidental non-intentional take of small numbers of marine mammals during specific activities. The MMPA also allows for intentional take by harassment of marine mammals for deterrence purposes. Stakeholders seeking take authorizations from the FWS include the oil and gas industry, the mining industry, the military, local communities, and researchers.

Two types of authorizations are available: Incidental Take Regulations (ITR) which can be issued for up to five years, and Incidental Harassment Authorization (IHA) which can be issued for up to one year. Activities are allowed if it is determined that they will have no more than a negligible

impact upon marine mammal species and do not have an unmitigable adverse impact on the availability of these species for subsistence uses.

Oil and gas operators, or any other citizen group, may apply for a Letter of Authorization (LOA) which, if granted, allows them to incidentally “take” polar bears during the course of specifically defined activities within a specific geographical area. Most “take” that results from industry interactions with polar bears are limited to changes in bear behavior. For example, a bear may avoid or investigate an area or alter its direction of travel because of industry activity. The LOA will include measures to minimize such impacts, e.g. by placing a “no activity” zone of one mile around any known maternal dens.

Activities authorized by an LOA must be accompanied by measures to minimize any adverse impacts to polar bears, their habitat and their availability for Alaska Native subsistence use. The FWS evaluates all industry projects with special attention to mitigating impacts on polar bears, such as limiting

industrial activities in denning habitat. Authorizations also specify monitoring and reporting requirements which provide a basis for evaluating potential current and future impacts of activities on polar bears. Authorizations require that all polar bear sightings, including tracks, dens and other signs of presence, be reported to the FWS during the course of any activity. Without incidental take authorizations industry activities could still continue, however, the FWS would have no formal means to require monitoring and reporting, mitigate specific activities or communicate with industry. Therefore, any form of resulting “take” would be a violation of the MMPA.

Additionally, intentional take authorization may be sought in instances where an entity believes there will be a need to deter bears from human areas. An example of this type of take is the North Slope Borough's Polar Bear Patrol Program, which receives an annual LOA to intentionally deter bears from coastal communities in its region. A similar program exists in the oil field areas.

### Summary of Industry Permitting and Polar Bear Monitoring in 2010

Monitoring and reporting required in LOAs provide a basis for evaluating potential current and future human impacts of activities on bears; a summary of 2010 monitoring results follows.

1. In 2010, in the Beaufort Sea region, 17 Letters of Authorization for incidental take were issued to oil and gas companies under regulations for marine, terrestrial, and on-ice activities. Three LOAs were issued for production activities, seven were issued for development activities, and seven were issued for exploratory activities. Companies observed 118 polar bears in 84 sightings on land and in the nearshore marine environment which is a decrease from 2009 sightings of 420 polar bears in 245 sightings. During 2010, unconsolidated pack ice remained in the central Beaufort Sea region throughout the summer and fall, which may have allowed bears to remain on the ice rather than coming onshore.

2. In the Chukchi Sea region during 2010, the FWS issued three LOAs for exploratory activities—seismic, monitoring, and shallow hazards surveys. These activities are conducted during the open water period, hence monitoring and mitigation measures are directed primarily towards walrus as few polar bears are observed in the Chukchi Sea at this time. Two polar bears were observed during a research and support project.

3. Also in 2010, the FWS issued 17 intentional take authorizations to various organizations, including industrial companies, such as mining and oil companies; the military: the US Air Force and the US Coast Guard; and local communities. Recipients of intentional take authorizations are required to report all bear observations as well. Of the 118 bears observed in 2010, nine bears (8%) were deterred from facilities and people.



*Deterrence training was sponsored by the North Slope Borough this past August in Barrow.*

### Deterrence Guidelines

In 2010, the FWS also announced deterrence guidelines for deterring polar bears without seriously injuring or causing the death of the animal. The deterrence guidelines are voluntary and are intended to reduce occurrences of interactions between bears and humans in manners safe for both. The guidelines are intended to be used by individuals living or working in polar bear habitat and complement the FWS's formal intentional take authorization program. The deterrence guidelines provide guidance for mini-

mizing incidental encounters with polar bears, but will not change the legal status for any activities in Alaska.

### Video Camera System for Den Monitoring

The FWS works with partners to develop new techniques to improve monitoring bears to minimize disturbance by humans. The FWS recently developed a video camera system to monitor the emergence of polar bears from maternal dens located in close proximity to oil and gas industry activity for regulatory purposes. In spring 2011 the camera system was used to monitor a female polar bear and cub that emerged from their den on an artificial island constructed for oil and gas production in the Beaufort Sea. ENI Petroleum had been working on the construction of the offshore island for over a month, when in March, workers were surprised by the emergence of the bears near a parking area. Following a response plan previously approved by the FWS, ENI immediately ceased operations, evacuated personnel, established a one mile no-disturbance zone around the bears and contacted the FWS. As part of the response plan, the FWS set up the camera system and monitored the bears' activity to ensure they were not disturbed by any human activity. The female bear and her cub naturally abandoned the area after 5 days. This marked the first time such technology had been used by the FWS to provide a record of industry compliance with regulatory requirements of the MMPA. Videos will be used to

## Bear Den Detection Study

enhance our understanding of polar bear den emergence behavior in proximity to industry activity. The successful development of this technology has provided the FWS with a valuable tool to ensure regulatory compliance of industry operators and the conservation of polar bears.

### Bear Den Detection Study

We continue to team with the Alaska Department of Fish and Game to evaluate methods to detect grizzly and polar bear dens in the North Slope oil field region of Alaska. North Slope oil and gas construction and exploration activities are primarily conducted in winter to reduce cost and minimize damage to tundra. Industry activities such as geophysical exploration, ice road construction, and overland equipment and material transport can disturb denning polar and grizzly bears, potentially resulting in accelerated loss of energy reserves required for successful rearing of newborn cubs, as well as potential den abandonment and associated cub mortality. Human safety may also be compromised if industry personnel accidentally encounter dens. In order to minimize den disturbance, agencies require that industry activities during the denning period remain at least one-half mile from known grizzly bear dens and one mile from known polar bear dens. To be effective this mitigation technique requires identification of accurate den locations in proposed work areas.

Mitigation measures that can be used to limit disturbance to maternal bear dens include den detection techniques, such as the use of Forward Looking Infrared (FLIR) imagery, using either aerial or ground-based platforms, and scent-trained



*Researchers use scent-trained dogs to detect polar bear dens.*

dogs. These mitigation measures are used before the bears naturally abandon their dens in the spring and have been described by the FWS as “proactive” mitigation measures. FLIR imagery uses thermal heat sensing to detect polar bears in dens, and can be effective under ideal conditions, e.g. weather, flight elevation, etc. However, “false positives” (indicating a den is present when really it is not) have occurred; this warrants development of a method that ground-truths the FLIR. Scent-trained dogs are also a tool that can be used to detect denning polar bears prior to their emergence, and can be effective at locating dens that were missed by FLIR. In addition, dogs may be able to “clear” FLIR false positives, thus allowing industry activities to proceed. Both proactive mitigation measures can limit the

potential disturbance of industrial activities to denned bears.

The objectives of the three-year study, which is currently in its second year (2010/2011) are to: 1) evaluate the effectiveness and operational constraints of helicopter-mounted, fixed-wing mounted, and hand-held FLIR in detecting polar and grizzly bear dens; and 2) evaluate the precision and operational constraints on use of trained scent dogs to detect polar and grizzly bear dens.

Some interesting events occurred during the 2010/2011 field season.

In March 2011, trained scent dogs located three active maternal dens not previously noted by the aerial and hand held FLIR. This was the first time that numerous successful den sites were recorded in close proximity on the same island on the North Slope. These bears eventually abandoned the den sites naturally.

The end result of this study will be development of operational



*A discovered polar bear den.*

### Oil Spill Response

The FWS has been working on improving response capabilities for polar bears in event of an oil spill in Arctic waters. Efforts include: 1) increased coordination and communication with response partners such as Alaska Clean Seas, the Alaska Zoo, the Alaska Sea Life Center, the North Slope Borough, and industry representatives; 2) equipment purchases such as, bear transport cages and culvert traps; 3) support of an “oiled fur” experiment and development of cleaning protocol to determine how to clean oiled polar bear fur; and 4) updating the FWS’s Oil Spill Response Plan for Polar Bears in Alaska. Working with our partners, we seek to clarify response roles, obtain the necessary training, and improve our capability of keeping polar bears away from oiled areas, and if feasible-treating oiled bears. For more information please contact Susi Miller at 907-786-3828, e-mail [Susanne\\_Miller@fws.gov](mailto:Susanne_Miller@fws.gov) or Craig Perham at 907-786-3810, e-mail [Craig\\_Perham@fws.gov](mailto:Craig_Perham@fws.gov).

guidelines for each of the den detection methods that can be used by industry and others to determine which detection method is best suited for their unique type of activity.

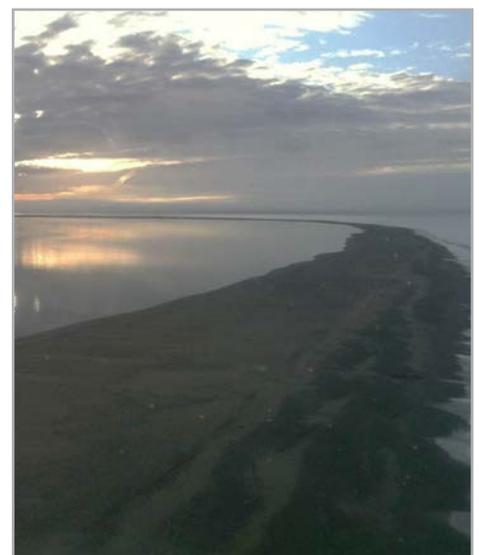
### Fall Coastal Surveys in the Southern Beaufort Sea

2011 marked the tenth year of aerial surveys of polar bears on the coastline and barrier islands in the southern Beaufort Sea. The goal of these surveys is to monitor the distribution, abundance, demographic composition, and body condition of polar bears onshore between Barrow and the Canadian border during the late summer open water period. This year’s surveys were modified to complement US Geological Survey’s (USGS) surveys, thereby reducing the total number of surveys flown by FWS. Modifications to this year’s surveys included flying up to 5 miles inland to evaluate whether polar bears are increasingly using areas farther inland. Four surveys were scheduled (2 USGS; 2

FWS) from August 12 through October 27 using a Bell 206 Long Ranger helicopter. Only one of the two FWS scheduled surveys was completed due to logistical issues. The number of animals, sex, age, and body condition were documented for all observed bears. 72 bears, including dependent young, were observed August 30 through September 5, 2011. Thirteen family groups were observed including: 13 adult females, 17 cubs-of-the-year, and 8 yearlings. All observed polar bears appeared to be in good condition. During this survey, no polar bears were observed on the inland transects. Similar to previous years, the highest concentration of polar bears were seen at Barter Island; a location where subsistence-harvested bowhead whale remains are present. The FWS plans to continue fall coastal surveys in the southern Beaufort Sea region. The data collected from 2008-2012 are scheduled for analysis in 2013, at which time detailed findings will be shared with stakeholders, including

communities on the North Slope.

In addition to current collaborations with USGS and others in the southern Beaufort Sea, the FWS remains involved in the interpretation of data resulting from a previous collaboration led by the University of Wyoming. In that study, a limited number of polar bears were captured and then recaptured between 2008 and 2010, including captures based from the US Coast Guard ice-



*Polar bears may be found on barrier islands in autumn much like this one just west of the village of Kaktovik, Alaska.*

## Chukchi Sea Polar Bear Study



*For the first time in the four years of this study, a cub-of-the-year was captured in the Chukchi Sea!*

breaker the *Polar Sea* in autumn 2009. The goal of the study is to evaluate the physiological and ecological responses of polar bears to longer ice-retreat seasons. Published results will be shared with stakeholders when they are available.

### Chukchi Sea Polar Bear Study

In 2011, the FWS continued research efforts on polar bears in the Chukchi Sea along the western coast of Alaska. Information is urgently needed on the status and trends of polar bears in this region because they face a number of conservation challenges, including: 1) potentially

unsustainable levels of human-caused mortality (primarily due to the reportedly high removal levels in Russia); 2) sea ice loss due to climate change; and 3) the future exploration and develop-

ment of natural resources. The FWS and collaborators initiated a study in 2008 to provide scientific data on the status of the Alaska-Chukotka (AC; also known as Chukchi-Bering Seas) polar bear population. The objectives of this study are: 1) to identify the best methodology to estimate survival rates, breeding rates, and population size; 2) to develop an initial understanding of population dynamics (e.g., the sex and age structure of the population); 3) to evaluate the condition, health, and feeding ecology of polar bears in the region; and 4) to understand the distribution of polar bears and their poten-

tial response to environmental changes.

In March-April 2011, the FWS continued this study for the fourth year. Results from this year's fieldwork are summarized below.

We captured, collected information from, and released 77 polar bears. We deployed 17 Global Positioning System (GPS) satellite radio-collars on adult females, which will drop off after one year using an automatic release device. We also deployed 14 glue-on satellite transmitters (applied just behind the shoulder) and 10 ear-mounted satellite transmitters on adult males and sub-adults of both sexes. The sex and age structure of captured bears differed from 2008-2010. The high proportion of two-year-old bears in 2011 is likely associated with the large cohort of yearlings that was observed in 2010. 2011 marked the first year that cubs-of-the-year (COY) were captured or observed since the study began in 2008. Two adult females, each with one male COY, were captured. The COYS appeared

	Cub-of-the-year	Yearling	Two-year-old	Sub-adult*	Adult ** female (single)	Adult female (with young)	Adult Male
2008	0	4	1	7	6	4	13
2009	0	1	3	8	6	3	18
2010	0	21	4	8	5	14	17
2011	2	8	16	17	3	15	16

*Sex and age class of polar bears captured off the US Chukchi Sea coast in March and April of 2011. \* Subadults were field-estimated to be 3-4 years.*

*\*\*Adults were field-estimated to be  $\geq$  5 years.*

## Chukchi Sea Polar Bear Study & Minimize Potential Research Effects



*Beluga carcass eaten by polar bears.*

healthy and weighed 49 and 52 lb.

Data collected from 2008-2011 provide sufficient sample sizes to begin analyzing feeding ecology, body condition, and population dynamics. Radio telemetry information will be used to evaluate whether the polar bears captured in this study are representative of the larger AC population. The FWS and collaborators plan to publish peer-reviewed results in 2012; these results will help guide conservation and management under the US-Russia Bilateral Agreement.

The FWS will not perform spring research in the Chukchi Sea region in 2012. Taking a year off will allow us to analyze the data that were collected from 2008-2011 and to evaluate future research directions and methodological approaches based on results from 2008-2011 studies. Beyond 2012, the FWS expects a need to continue some level of polar bear studies in the Chukchi Sea region. Polar bears are long-lived animals

that live in a variable and rapidly changing environment; long-term studies are necessary to understand inter-annual variation, and to monitor population trends. Our research efforts aim to minimize effort, cost and invasiveness while continuing to gather

critical information needed for management and conservation of polar bears in the Chukchi-Bering Seas region.

If you have any questions or comments about this study, please contact Karyn Rode at [Karyn\\_Rode@fws.gov](mailto:Karyn_Rode@fws.gov) or Eric Regehr at [Eric\\_Regehr@fws.gov](mailto:Eric_Regehr@fws.gov), or call us toll-free at 1-800-362-5148.

### Efforts to Minimize Potential Research Effects on Polar Bears

The FWS strives to ensure that all research efforts are designed to address the most pressing questions facing polar bears, and continues to seek ways to conduct research in a way that will minimize potential effects on polar bears. A primary component of this effort is to seek ways to improve devices used for

tracking polar bear movements. Since 2009, the FWS and the US Geological Survey (USGS) have been investigating the use of ear-mounted and glue-on satellite telemetry tags to track polar bear movements, as alternatives to the conventional approach of using radio collars. The new tags provide the opportunity to gather movement data on sex and age classes other than adult females, which are the only bears that can wear radio collars. The new tags are also smaller and safer than collars, and represent a potential solution to further reduce the risk of abrasion to polar bears that gain large amounts of weight.

In 2011, we made the following efforts to improve tracking devices for polar bears.

- We deployed 14 glue-on satellite tags in the Chukchi Sea in spring 2011. These tags are small, applied to the fur directly behind the shoulders, and record movement data for roughly 50 days.

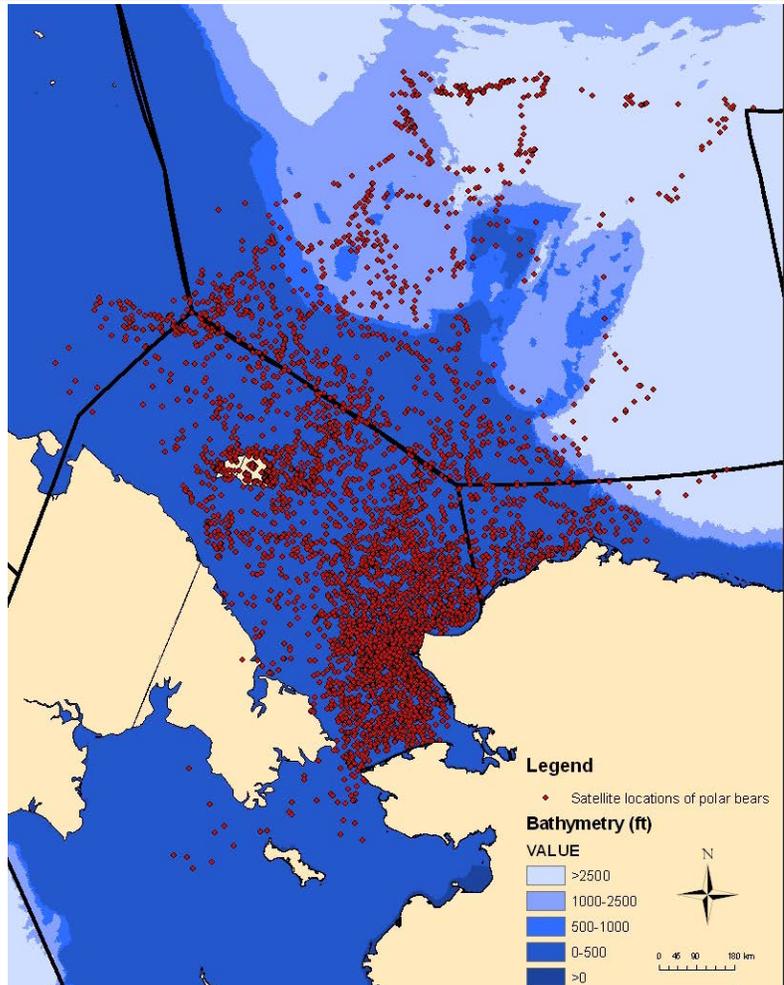


*A glue-on satellite transmitter applied behind the shoulder of a young male polar bear.*

- We also deployed 10 ear-mounted tags. However, mid-way through the field season, we stopped deploying ear-mounted tags because we re-captured two bears that had lost their ear-mounted tags from 2010. Although they had exhibited cuts where the tag had been, they were completely healed and the bears were doing well. We decided that ear-mounted tags will not be deployed until we figure out a way to avoid such injuries.

- We deployed 17 modified radio collars in the Chukchi Sea in spring 2011. The collar belt- ing was changed to reduce the potential for rubbing or cutting on bears that gain a lot of weight while wearing the collar. These changes were designed by the USGS, with input from the FWS. As usual, all of the collars have automatic release devices and will fall off in one year to minimize the risk of abrasion that can result from long term wear.

- The FWS will continue its efforts to improve polar bear tracking devices. In 2012, we plan to work directly with engineers at telemetry companies and other collaborators to address the following goals: 1) increase the reliability of radio collar release devices to minimize any risk of failure to release; 2) decrease the size of ear-mounted tags to improve retention and reduce the potential to injure bears' ears; and 3) improve retention for glue-on tags. For more information,



*Satellite locations of 27 female polar bears captured in the Chukchi-Bering Seas between 2008 and 2011 provide important information on bear distribution, movement patterns, and habitat use. Locations were received every 1-3 days and all bears provided locations for at least 300 days.*

please contact Eric Regehr at [Eric\\_Regehr@fws.gov](mailto:Eric_Regehr@fws.gov) or Michelle St. Martin at [Michelle\\_StMartin@fws.gov](mailto:Michelle_StMartin@fws.gov).

### **Traditional/Local Ecological Knowledge Study**

US Fish and Wildlife Service has provided the Alaska Nanuq Commission with funding through a grant obtained from the National Fish and Wildlife Foundation to collect data on local and traditional ecological knowledge of polar bears from Chukchi/

Bering Sea villages. Our study focuses on summarizing local observations of bear distribution and habitat use patterns, health, and feeding behavior as well as information on bear-human interactions, including harvest. To date, interviews have been conducted in Gambell, Savoonga, Shishmaref, Point Lay, Point Hope, Nome, Little Diomed, and Wales. Summaries of these interviews are currently being generated and will be verified with each community before generating a final report within the next year.

## 4(d) Rule

### The 4(d) Rule

On May 15, 2008, the FWS listed polar bears as a threatened species under the ESA, because we believed that the loss of sea ice habitat would cause the population to decline. At the same time, we issued an Interim Special Rule (Interim Rule) which was finalized on December 16, 2008, (Final Rule). This Final Rule ensured that: (i) Alaska Natives could continue to bring items containing polar bear parts to Canada, Russia, and Greenland for cultural exchanges, (ii) Alaska Natives and others could haze polar

bears from coastal communities and industrial areas, and (iii) citizen's authority to sue would be limited if activities outside the polar bear's range impacted polar bears.

In October 2011, the Court found that, while this Final Rule made sense, the FWS should have done an environmental analysis of the Final Rule under the National Environmental Policy Act (NEPA). Because of this Court finding, the FWS must re-propose a Special Rule and conduct an environmental analysis by December 2012. Until then, the Interim Rule is

in effect. None of this affects the listing of polar bears as a threatened species, the FWS's designation of critical habitat, or continued harvest of polar bears by Native Alaskans for subsistence purposes.

The FWS's analysis will focus on whether the protections and exceptions in a Special Rule are necessary and adequate to protect polar bears. We are consulting with Alaska Native Tribes as well as corporations to invite feedback. For more information please contact Charlie Hamilton at (907) 786-3804 or email at [Charles\\_Hamilton@fws.gov](mailto:Charles_Hamilton@fws.gov).



*A young polar bear enjoying the first snow fall.*

### 2011-2012 Meetings

#### January 2011

- The second FWS Conservation/ Recovery Plan meeting with stakeholders in Anchorage, Alaska.

#### February 2011

- The third Conservation/ Recovery Plan meeting with stakeholders in Anchorage, Alaska.
- Marine mammal stranding network meeting in Seward, Alaska.

#### May 2011

- Alaska Nanuuq Commission Executive Committee meeting in Nome, Alaska.
- Polar Bear Scientific Working Group meeting under the US-Russia Agreement held in Anchorage, Alaska.

#### June 2011

- Diversionary Feeding Workshop hosted by the Defenders of Wildlife in Anchorage, Alaska.

#### July 2011

- Joint US-Russia Polar Bear Commission meeting in Moscow, Russia.

#### August 2011

- The fourth Conservation/ Recovery Plan meeting with stakeholders in Anchorage, Alaska.
- The Inupiat-Inuvialuit Agreement meeting in Anchorage, Alaska.
- Polar Bear Deterrence training workshop in coordination with the North Slope Borough Department of Wildlife Management held in Barrow, Alaska.

#### September 2011

- Meetings with polar bear guides and Kaktovik Polar Bear Committee in Kaktovik, Alaska.

#### October 2011

- Polar Bear Range States meeting held in Iqaluit, Nunavut, Canada.

#### December 2011

- Alaska Nanuuq Commission Executive Committee meeting in Anchorage, Alaska.

#### January 2012

- Oil spill response planning meeting in Anchorage, Alaska.

#### February 2012

- Kaktovik village meeting regarding polar bear viewing and management in Kaktovik, Alaska.

#### March 2012

- Polar Bear Scientific Working Group meeting under the US-Russia Agreement held in Anchorage, Alaska.

#### Spring/ Summer 2012

- Village visits with Alaska Nanuuq Commission members to St. Lawrence Island, Diomedes, Nome, Brevig Mission, Wales, Shishmaref, Kivalina, Point Hope, and Point Lay.

#### July 2012

- Joint US-Russia Commission Meeting in Anchorage, Alaska.

## Meet the Staff of the FWS Polar Bear Program



**Terry DeBruyn**

*is the supervisor of the polar bear program. He identifies and recommends strategies and priorities for US polar bear management and research. Terry also coordinates polar bear management activities within the Alaska region and with other Federal and State agencies, Alaska Native organizations, foreign governments, and private organizations.*



**Karyn Rode**

*is a research biologist studying foraging ecology, diets, and health of Alaska's polar bear populations with particular emphasis on the Chukchi Sea population. She also conducts outreach on polar bear biology and research activities.*

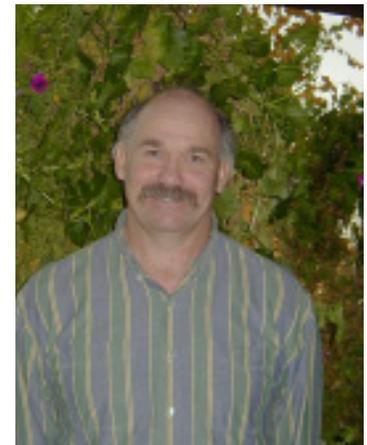


**Eric Regehr**

*is a research biologist specializing in the study of polar bear population dynamics, including harvest management and the effects of sea ice changes on polar bear populations. He also conducts outreach and develops materials to communicate about research activities and results.*

**Thomas Evans**

*has worked as a wildlife biologist in the polar bear program for over 20 years. Tom has specialized in harvest management, contaminants, and more recently with the development of polar bear critical habitat under the Endangered Species Act.*



## Meet the Staff



**Craig Perham** handles all polar bear issues related to oil and gas exploration and development. He also provides training to industry and Native villages in techniques to deter bears and minimize bear-human interactions.



**Susi Miller** specializes in studying and managing polar bear-human interactions and conducts outreach. She is a certified firearms and bear safety instructor.



**Jim Wilder** came back to the polar bear program in 2009. He works on polar bear Endangered Species Act issues, bear-human conflicts, and polar bear conservation/recovery planning efforts. Previously, he worked in the polar bear program from 2004-2005.

**Christopher Putnam** works on permitting, training and minimizing bear-human interactions through the incidental take program related to oil and gas exploration and development.



**Michelle St. Martin** is new to the polar bear program. She is a field biologist who conducts logistics and outreach. Michelle joins us after working in Fairbanks, Alaska for the Arctic National Wildlife Refuge.

**U.S. Fish & Wildlife Service**  
**Marine Mammals Management Office**  
**1011 E. Tudor Road - MS341**  
**Anchorage, Alaska 99503**

**Phone: 907/ 786 3800**

**Toll Free: 800/ 362 5148**

**Fax: 907/ 786 3816**

**Web: <http://alaska.fws.gov/fisheries/mmm>**

*The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.*

\*\*Answer from page 5: A ringed seal crawling across the snow, being followed by an arctic fox!

All photographs were taken by USFWS