



# North Slope Borough Department of Wildlife Management



Sketch by artist, Sr. Head George

SPRING 2011

## THE TOWLINE

VOL 3 NO 1



### *From the Director*

Whaling season is here, and our “crews” have prepared for the return of the bowhead whale. Our Department is conducting a bowhead whale census again this spring. The census crew has been on the ice counting whales since April 6th. We have a great crew, and we are very hopeful that the ice and weather will cooperate with our effort.

Our harvest crew has been out on the ice taking measurements and collecting samples of the harvested bowhead whales. All of this information is necessary for us to collect and to report to the

International Whale Commission (IWC), as a part of the population estimate and health assessment studies, in order to maintain the AEWC’s bowhead quota.

Thank you to all of the whaling crews that keep our census crew informed of the ice conditions for their safety. And, thank you to the whaling captains for allowing us to sample and measure your whales. We could not conduct our work without your collaboration. We welcome any and all comments and suggestions from you, the North Slope Borough residents. Happy hunting!



Quyanaq, Taqulik Hepa

### *Everybody Counts Whales!*

The bowhead whale census is underway, and whales are swimming by Barrow. We had a great counting day on April 16<sup>th</sup>, setting the ‘all-time’ record for whales seen on that day during any previous whale censuses. We counted about 166 new whales in about 14 hours of watch. The previous record was about 50 whales seen on that day in 1981. Most whales were swimming northward, and we saw a lot of breaching, flipper-slapping, lobsailing, and interacting whales.

The total visual count as of

May 10<sup>th</sup> is about 2740 whales. Acoustic buoys were set out on April 12<sup>th</sup>, and aerial surveyors are photographing bowheads for our photo-ID mark-recapture estimate.

The first satellite-tagged bowhead whale reached Barrow around April 18<sup>th</sup>, and by April 25<sup>th</sup> one tagged bowhead was almost as far east as Kaktovik moving towards Amundsen Gulf. More whales are on the way, and with good open leads and a stable ice perch, we hope to be counting until the end of May.

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## *Tribute to Warren Matumeak by Craig George*

Those of us that knew Warren well knew him as a very smart, tough, compassionate, and capable man. He could write music like a trained composer, his knowledge and comfort on the sea ice was second to none. He could find technical errors in oil development



*WARREN AT WHALE IN 1990S*

reports and make useful suggestions. “I only went through 4<sup>th</sup> grade but I found spelling errors in your report.” In his work as a planner and director he was smart, honest and always spoke his mind.

He was eager to aid his country during WWII and joined the Alaska Territorial Guard. His daughter Darlene told me he “lied about his age” and went into the Guard at age 15. She said, Muktuk Marston “looked him in the eye and knew he was lying about his age but took him anyway.”

One of my favorite Warren quotes occurred years ago during a formal meeting with oil industry consultants. An engineer gave a technical talk filling the blackboard with mathematical equations de-

scribing the probability of an oil spill. After the long presentation there was silence and then Warren commented, “You’re numbers are fine, but our people don’t believe it!” The whole room broke into laughter. He spoke his mind. Warren had a thorough understanding of land use permitting and the power it has for mitigating and averting environmental damage and conflicts with subsistence hunters. He was clearly an expert in the planning field.

Warren was a great man and supportive friend. He was an Inupiat scientist who made careful observations of the environment. He helped on various projects, especially with the fish and sea ice studies. We had long lively conversations about the species in the region, fish health, migrations, catch numbers, and a host of other things. He contributed to the Traditional Knowledge on Fish of the NPRA project. I surely miss those conversations.

Warren had a great love for Eskimo dancing and was a gifted musician. He was leader of the popular Eskimo dance group “*Suurimmaanjitchual*” and composed many dance songs and choreographed the motions. The



*CRAIG WORKING WITH WARREN ON FISH STUDIES*

group was invited to the Obama inauguration. He was also the choir leader at the Presbyterian Church. He taught himself to both read and write music, including all of the harmonies, in the correct notation.

Warren was a whaling captain and caught his last whale sometime in the 1970’s. He was very comfortable and fearless on the sea



*WARREN WITH HIS DAUGHTER DARLENE KAGAK*

ice. He told me a story of when he was seal hunting as a young man. He was alone, way out on the ice. “I had a feeling that something wasn’t right” he said. He turned around to find a large crack developing between him and shore, about 30 feet wide. He drove his dogs to it and threw the leader into the water. The lead dog swam for the opposite shore and, just as he gained the ice edge, pulled the sled into the lead. Warren was up to his hips in freezing water, but the dogs pulled him out and he made it home.

We at the NSB Department of Wildlife Management, where he was Director from 1993-1996, learned a lot from Warren. We will carry on remembering his vision and will miss his quick wit, honesty, and useful suggestions regarding the environment.

## Iñupiat ICE Matching

Draw a line from the Iñupiat term to the definition!

<i>Agiuppak</i>	Anchor-fast ice
<i>Aunniq</i>	Bay where whales breathe
<i>Imaiq</i>	Crack in ice
<i>Ivuniq</i>	Ice floe
<i>Kaṅniñiq</i>	Open lead
<i>Kisitchat</i>	Pressure ridge
<i>Muḡrak</i>	Rotten ice
<i>Puktaaḡ</i>	Shore-fast ice
<i>Quppaḡ</i>	Slush ice
<i>Sikuliaḡ</i>	Wall of sheared ice on lead
<i>Tuvaḡ</i>	When ice closes lead
<i>Uiñiq</i>	Young ice

## FUN Migration FACTS

Did you know that....

...Arctic Terns migrate between the Arctic and Antarctic twice a year, about 8,000 miles or more each way?

...Caribou on the North Slope can migrate up to 2000 miles in one year?

...Arctic Fox can travel over 70 miles in one day?

...flocks of Eider ducks fly at about 50 mph, and mostly with tail winds during the spring and fall migration?

...Loons fly mostly with light head winds? They are so big and heavy, they need to use the extra lift they get from a head wind just like an airplane!

...some Beluga Whales that swim past Point Lay in the summer migrate under the ice up to 81° north, which is about 600 miles north of Barrow, halfway to the North Pole?

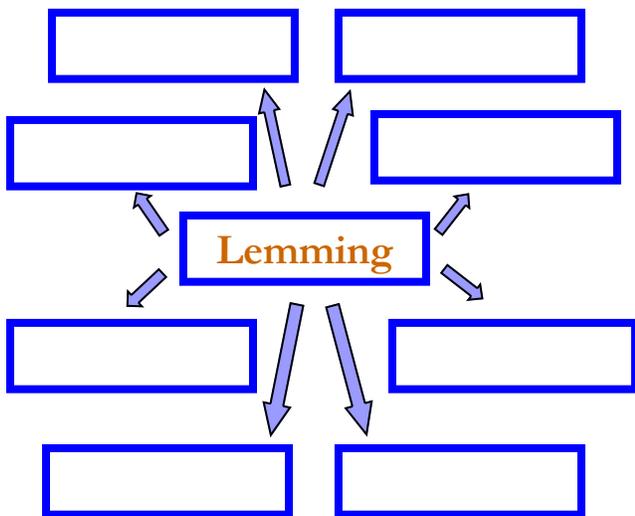
...Bearded Seals can travel as far northeast as waters north of the US/Canadian border, and as far south as Bristol Bay?

...Bowhead Whales can migrate under the sea ice, breaking through ice about two to three feet thick to make a breathing hole?

...Polar Bears stay in the arctic year-round but can travel as much as 3,700 miles in that one year?

## Food Web

Name animals that use lemmings for food!



How many lemmings do you see when you walk out on the tundra? Keep track of the number, the date, and the place, and tell me!  
Email [Leslie.Pierce@north-slope.org](mailto:Leslie.Pierce@north-slope.org)

## CAN YOU ANSWER THIS QUESTION?

**WHAT LIVES IN THE ARCTIC YEAR-ROUND, DOES NOT HIBERNATE, CAN TRAVEL ON THE SEA ICE, AND CAN HAVE UP TO 16 OFFSPRING IN ONE LITTER?**

Email [Leslie.Pierce@north-slope.org](mailto:Leslie.Pierce@north-slope.org) with your answer! First person with correct answer will be acknowledged on our website!

## *Traditional Knowledge and Bowhead Whale Research*

John Burns and Tom Albert described Traditional Ecological Knowledge (TEK) as "information that is passed on which is important for survival; it is gathered through observation, experience, and recorded orally often as stories – continually tested by one's own experience."

The NSB-DWM's Bowhead Research Program has, since its inception, benefitted greatly from the TEK of subsistence hunters and whalers, and have integrated the TEK with western science. Here are some examples of how TEK has helped to shape the NSB bowhead research program.

The low (<1000) bowhead whale **population estimates** of the 1970's were partly the result of west-

*"There are a lot of bowheads out there that the scientists aren't counting."*

ern thinking that the migration of bowhead whales stopped when the leads in the sea ice closed and that whales only traveled in nearshore leads. Senior whaling captains, including Harry Brower, Sr., talked to the NSB biologists about their census efforts: "There are a lot of bowheads out there that the scientists aren't counting. Many are out in the ice and therefore are not seen when they pass by Barrow." They told us that the bowhead whale could break thick ice, making a breathing hole.

This information led to modifications in the bowhead census, including using acoustics to estimate the number of whales that were migrating under the ice and beyond observation

from the perch. Acoustics confirmed the whaler's observations, doubling the estimates, and the quota was increased accordingly.

Centuries of Inupiat TEK refinement have led to modifications during the bowhead hunt to maintain low noise levels on the ice. Whalers noticed that whales were **sensitive to sounds**, being deflected by boats, planes and snow machines. Whaling captains in the 1980's told our biologists that noise from seismic testing and ships deflects whales and makes them 'skittish' and hard to hunt.

Scientific studies, at the time, indicated only minor reactions by whales. However, in areas near seismic activity, the whaling crews had to go out much further to hunt, which is more dangerous. Later studies verified the reactions of bowheads to underwater sound and led to the requirement of mitigation measures for industry and research activities to allow "quiet periods" for the bowhead subsistence hunt.

Prior to the **aging studies**, scientists thought that bowhead whales, like other whales, lived to be 50-70 years old. DWM biologists were told that "bowheads live two human lifetimes." Stories told in Point Hope mentioned seeing the same whale over several generations. After the recovery of stone and old harpoon points, which had not been in use for at least 100 years, the traditional knowledge seemed to be closer to the accurate life span of the bowhead. Subsequent information from analysis of eye lenses and baleen helped to confirm bowhead longevity. It is now commonly accepted that bowhead whales can live to at least 150 years with the oldest estimated age over 200 years old.

Inupiat whalers have long told NSB scientists that "bowheads can smell" and are sensitive to smoke and odors. Some of the traditional



*BOWHEADS SWIM THROUGH LEAD  
PHOTO BY KATE STAFFORD*

practices that have been passed down for generations supported this idea, including the fact that burning is not allowed in whaling camps.

Scientific research suggested that whales lacked a **sense of smell** as studies indicated that structures associated with the sense of smell were not present. In the fall of 2008, a researcher studying bowhead hearing asked DWM and the AEWG for permission to look at the entire brain and the brain cavity of a bowhead whale. While looking at the brain, tissues used for smelling were noticed, and further testing in the lab confirmed that these tissues were functional. Bowhead whales do indeed have a sense of smell, once again confirming the TEK from whaling captains.

*"Bowheads live two human lifetimes"*

The DWM is grateful to the hunters who share TEK with us, improving our research design and data collection, and providing us with better results.

## Status of Caribou on the North Slope

On the North Slope, caribou populations are doing quite well compared to other parts of the Arctic. Population estimates show that three of the four herds that calve on the North Slope have continued to increase over the past decade. The Teshekpuk Herd numbers about 64,000 animals and the Central Arctic Herd about 67,000 animals (as of 2008). The Porcupine Herd has shown a rebound from 120,000 animals in the 1990's to approximately 169,000 as of 2010. The Western Arctic Herd (WAH) was numbered at 490,000 animals in 2005 but has since declined to 377,000 in 2007 and to 348,000 in 2009. Researchers are keeping a close watch on the WAH but believe that it is still healthy and capable of sustaining communities.

Throughout the Canadian arctic, caribou populations have declined over the past 20 years. Neither

hunters nor western scientists have a complete understanding of why this has occurred but some ideas include climate change and increases in roads and industrial development. An effort for various stakeholders to better communicate and manage caribou populations is needed, and the CircumArctic Rangifer Monitoring and Assessment (CARMA) network has made great strides towards accomplishing this goal. CARMA has brought together co-managers, hunters, and researchers from Alaska, Russia, Canada, Iceland, and Greenland to try to better understand caribou as well as to better manage them.

One reason that caribou are doing so well on the North

Slope is that the Alaska Department of Fish and Game has done a good job of monitoring these populations through collaborative relationships with local hunters, the NSB, BLM, and some oil and gas companies. These monitoring efforts have allowed all of us to make informed management decisions to help ensure caribou populations on the North Slope are doing well. We hope to join the CARMA network in order to enhance our communication efforts.



CARIBOU NEAR ANAKTUVUK PASS

## Partners in Conservation Award

The **Partners in Conservation Award** for 2010 was presented to the NSB-DWM and collaborators by Ken Salazar, Secretary of Interior, U.S. Department of Interior, in recognition of the **Bowhead Whale Satellite Tracking Project**. Collaborators

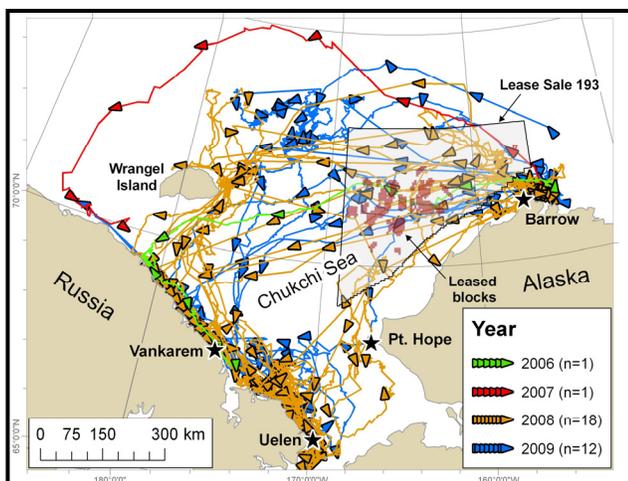
in the project include AEWG, ADF&G (Lori Quakenbush, John Citta, and Bob Small), Greenland Institute of Natural Resources (Mads Peter Heide-Jorgensen, Mikkel Jensen), Department of Fisheries and Oceans Canada (Lois Harwood),

remained attached and are transmitting longer than most other whale-tagging projects world-wide, allowing us to learn more about bowhead migration patterns, feeding areas, and interactions with industry.

This project is a model for collaborative efforts between western science and the traditional knowledge of the subsistence hunters. Much thanks goes to NSB residents Billy Adams, Eugene Brower, Harry Brower, Jr., Lewis Brower, Craig George, Carl Kippi, Fenton Rexford, Floyd Suvlu, and George Tagarook, without whom this would not have been possible. Other residents who assisted are Herbert Adams, Johnny L. Aiken, Perry Anashugak, Ned Arey, Sr., Roxanne Brower, Quuniq Donovan, Nelson Nungasuk, David Pikok, Joe Sage, Abel Suvlu, Jr., Shawn Tuzroyluke, and Peter Williams.

Aklavik and Tuktoyaktuk Hunters and Trappers Committees, Northwest Territories, Canada.

The Bowhead Tracking project has proved to be very successful, mostly due to the assistance of the hunters in the design of the satellite tags and placement of the tags on the whales. These satellite tags have re-



MAP SHOWING TRACKS OF TAGGED WHALES

### Point Lay Mystic Aquarium Exchange

In October, a group of students from Point Lay traveled to Mystic, Connecticut, to participate in the Pt. Lay-Mystic Beluga Educational Exchange funded through the office of NSB Mayor Edward S. Itta. Julia Neakok, Kimberly Neakok, Dorthy Pikok and Martha Upicksoun were immersed in be-

luga biology as well as other marine animals. Willard and JoAnne Neakok were the chaperones. This summer the girls will work with scientists to collect biological samples during the beluga hunt and have been offered opportunities to return to Mystic Aquarium on internships.



KIM, MARTHA, JULIA AND DORTHY READY TO CUT UP A SEAL

### Hunters in FOCUS: Cooperation between Hunters and Scientists

Congratulations to the Native Village of Point Lay for receiving the "Outstanding Partner" Award from the USFWS in March for the village's efforts in protecting walrus during the haulout

event that occurred near Point Lay last September of 2010. Their efforts prevented disturbances to the walrus, which could have caused a stampede resulting in injury to animals. The community provided a news release and walrus photographs to the media in an effort to allow the media to get their stories, yet keep the walrus from being disturbed.

The community of Point Lay has worked closely with DWM wildlife biologists in the past, especially on beluga and bowhead whales. We would like to acknowledge the special efforts made by Leo Ferreira III, Sophie Henry, Bill Tracey, and Willard Neakok, and applaud the entire community for their demonstration of respect for wildlife during this event. (Walrus haulout photo by Bill Tracey)



CHECK OUT OUR NSB DWM WEBSITE!

We thank the NSB Assembly and Mayor Itta for their continued support. Qiyanaqpak!

BECOME AN NSB-DWM FAN ON FACEBOOK!



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