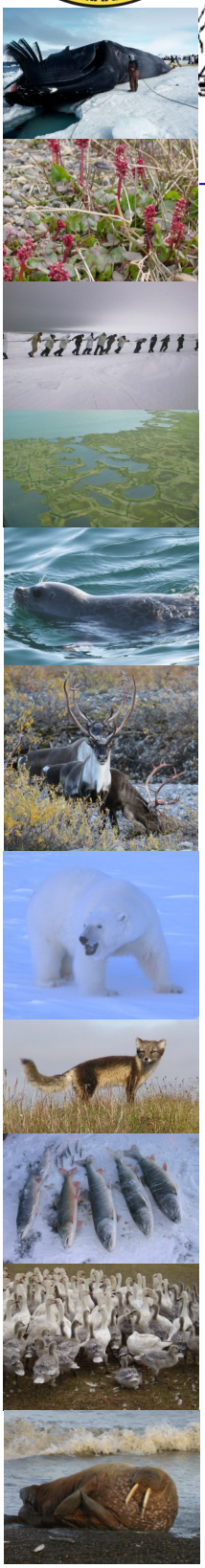
North Slope Borough Department of Wildlife Management

Sketch by Jean Craighead George

FALL 2018

THE TOWLINE

VOL 10 NO 2



From the Director

The fall bowhead whaling season was very successful on the North Slope, with three whales landed in Nuiqsut, three whales landed in Kaktovik, and, in one of the most successful in recent decades, 19 whales were landed in Utqiaġvik. Quyanaq to the whaling captains for allowing us to sample your whales.

In this newsletter you can read about the successful results from the fall IWC meetings, and learn more about a few of our projects, including bowhead satellite tagging and caribou harvest surveys. We have also included some information on the recent findings of kidney worms in bowhead whales.

As this year ends and a new one begins, we count our blessings for the harvest by the hunters and their generosity in feeding the communities during the holiday celebrations.

Please contact us any time if you have concerns on the health of your harvest or any other wildlife issue. Call 852-0350!

Quyanaq, Taqulik Hepa

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Bowhead Tagging Fall 2018 and Aerial Survey August 2019

Congratulations to Billy Adams, Craig George, John Citta, Carl Nayakik, Jordan Kippi, Qaiyaan Leavitt and others for a very successful bowhead tagging season. Ten whales were tagged near Utqiaġvik: one on the 2nd, one on the 20th , five on the 21st and three on the 25th of September. The taggers have done a great job of safely conducting and organizing the many "moving parts" to accomplish this difficult task. Tagging operations ended 10 days before whaling began on October 6th for the Barrow Whaling Captains Association.

These tags will be very useful for the August 2019 aerial bowhead abundance survey where the "census" will be conducted from aircraft. These tags will provide "surface time" locations, so we can estimate the amount of time whales are visible to aerial observers, as well as summer locations—both of which are important for a successful survey. The tags will also provide locations of wintering and feeding areas, and other information like sea water temperature and salt concentration.

This year's tagging effort is a collaboration between the Alaska Department of Fish and Game's Arctic Marine Mammal Program and the North Slope Borough Department of Wildlife Management. Coordination with Fisheries and Oceans in Canada and the Hunters & Trappers Committees of Inuvik and Tuktoyaktuk allows for the aerial survey to cover the Alaskan and the Canadian Beaufort Sea. The National Marine Mammal Lab will provide the crew for the aerial survey team. Funding is provided by the Bureau of Ocean and Energy Management, Office of Naval Research and the NSB. Tagging activities are conducted under NMFS permit #18890 issued to ADF&G and under an approved ADF&G Animal Care and Use Committee Protocol #0027-2017-27. For updates on whale locations, you will find maps at this website: www.adfg.alaska.gov/index.cfm?adfg=marinemammalprogram.bowhead

IWC and the Quota Renewal

AEWC/NSB/Russia group at IWC 67 in front of the board showing the voting tally by country: 57 for, 7 against, 5 abstain. The Aboriginal Subsistence Whaling Schedule Amendment passes!

The 67th International Whaling Commission (IWC) meeting was hosted in the coastal town of Florianopolis, Brazil in the month of September. The Alaska Eskimo Whaling Commission (AEWC), Mayor Brower, AEWC and North Slope Borough support staff, National Marine Fisheries Service, Marine Mammal Commission and a representative from Senator Sullivan's office attended to seek a bowhead whale quota renewal. It is a blessing to announce that after some intense deliberations and educating delegates about aboriginal subsistence whaling, the renewal of the quota was passed for 2019 to 2025 along with some special provisions! Congratulations to all our whalers and the entire Inuit community!

As Mayor Brower stated in the AEWC press release, the successful outcome is a result of a long-term community effort, "Forty-one years ago our elder whaling captains founded the AEWC and started our work at the IWC."

What are the changes?

The United States, Denmark (and Greenland), Russia, and St. Vincent and the Grenadines submitted a bundled quota request for all the aboriginal hunts managed by the IWC. The three special provisions were:

1. A one time 7-year quota extension to 2025:
   This means that the usual 6-year block quota is a 7-year block quota for this one time from 2019 to 2025.
2. Increase the availability of previously unused strikes to 33 per year if they are available from the three previous quota blocks:
   As with previous years, our Bering-Chukchi Beaufort Sea communities including Russia, have an annual strike limit of 67 bowhead whales per year. However, beginning in 2019, 33 previously unused strikes can be added to the annual quota provided they are available from the three previous quota blocks (previous 18 years) rather than only the 15 strikes that are currently allowed.
3. Conditional Automatic Renewal of future quota blocks if certain conditions are met:
   This means that when a 6 or 7-year quota block ends, another 6-year quota block automatically begins if annual reporting requirements are met, updated population estimates for bowheads are submitted, the IWC's Scientific Committee determines the hunt is sustainable, and annual catch limit requests do not change.

The AEWC and NSB-DWM strongly expressed our commitment to the IWC at this meeting and confirmed that we will continue to report and collect the best scientific information possible.

Another great outcome of IWC that we are proud to share is that our very own Dr. Robert Suydam is the new IWC Scientific Committee Chair. Congratulations Robert!

Quyanaqpak to All for the Cooperative Effort Leading up to IWC 67

NSB-DWM would like to thank the entire North Slope community for the contributions made to achieving this historical accomplishment. The Aboriginal Subsistence Whaling scheme changes are a step forward to ensuring AEWC's right to hunt the whale in perpetuity. We look forward to continue working with the AEWC, whaling captains and hunters to collect the necessary scientific information as we continue to be engaged at the IWC.
Dr. Craig Umiŋmak George, stated that the NSB-DWM/AEWC program is a "true cooperative effort" and the "program shows (the world) what can be done when hunters, biologists, and lawyers all work towards a common goal of balanced harvest and conservation. Quyanaqpak!"
Congratulations to the AEWC communities who had a successful Fall harvest!

Kid's Page

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Iñupiaq Matching

Draw a line from the *Iñupiaq* name to the English name for *Cooking Terms*

Akut	Cook or Chef
Akutchi	Cooking Pot
Igapiaq	Meat Grinder
Igari	Stove
Igarriq	To Boil Meat
Igniġvik	To Come to Boil
Immiq	To Cook Well Done
Niglaqsiaq	To Cook Rare
Qalaullak	To Cool Down after Boiling
Qalutaq	To Fill with Water
Taġġirriq	To Make Eskimo Ice Cream
Takuuti	To Mix in or Stir in
Uipasulaaq	To put Meat in Pot
Utkusik	To put Salt In
Uutqiksii	To Scoop Out

Note: *Iñupiaq* name spellings vary between regions.

References: Agnat Iḷisimaraksraŋich Aġviqsiuġnikun, Standards for Women in Whaling. 2005. Compiled by Jana Harcharek for NSBSD. Iñupiatun Uqaluit Taniktun Sivuniġit. 2014. Compiled by Edna Ahgeak MacLean.

Food Facts

Did you know that?

Eating *niqipiaq* (traditional food) helps provide the energy and nutrients needed to maintain good health and avoid disease, such as diabetes and heart disease.

Marine mammal meat and blubber provide healthy unsaturated fat, protein, essential elements like zinc, calcium, selenium, iron, and Vitamins A, D and E.

Caribou meat is lower in fat than beef, pork or poultry, which makes it healthier for your heart.

You would have to eat 25 hot dogs to get the same amount of iron as in one serving of caribou.

Eating whale skin, seal liver and caribou liver can provide Vitamin C which is needed for healthy skin and teeth. Plants like *aqpik* and *quŋuliq* also provide Vitamin C. And, smokers need more Vitamin C than non-smokers!

Reference: Nutrition Fact Sheet Series, Inuit Traditional Foods. Department of Health, Government of Nunavut. Revised 2013.

Akutuq

How to make *Akutuq* or Eskimo Ice Cream

You need: 3-4 lbs *tuttu* fat, cut into small pieces
1 pot boiled *tuttu* meat, ground and shredded
1 cup warm *tuttu* broth
Optional: 1 cup seal oil, 2-4 cups of berries

Step 1:
Boil and simmer *tuttu* fat in pot until all is melted or melt in oven. Keep warm. Pour melted fat through cheesecloth and then into large metal bowls.

JakyLou Olemaun and Brittany Nayakik stirring melted fat. Photo: J. Olemaun

Step 2:
Begin stirring; be prepared to stir non-stop for 2-3 hours. Stir fat with a spoon until it is cool enough to use your whole arm. Keep stirring without stopping. It will begin turning white and thicken. Add the warm broth and keep stirring until mixed in.

Left: JakyLou Olemaun (photo credit) hand stirring the thickening fat. Right: *Tuttu* fat turning fluffy and bowls of *tuttu* meat below (photo credits: Jerica Aamodt)

Step 3:
After an hour or so, it will feel fluffy like whipped cream, then begin adding *tuttu* meat, 1 cup at a time. Keep stirring. Add 1/3 cup seal oil between cups of meat, if desired. Add berries, if desired. Keep stirring until mixed well.

Left: Tray of *akutuq*
Below: Serving of *akutuq* with *qaqqulaaq* (photo credits: Jerica Aamodt)

Step 4: Spread evenly on tray, about an inch or less deep. Chill, then freeze. Cut into serving sizes. Enjoy!

Check our website for the correct answers! Go to www.north-slope.org/departments/wildlife-management/dwm_newsletters

Status of Caribou Herds on the North Slope

Good news! Caribou numbers are up or have stabilized in all four caribou herds on the North Slope following several years of decline in numbers. The ADF&G was able to get good aerial photos to estimate the population sizes of all four herds during a 2017 photocensus. Weather or other factors prevents a successful photocensus in many years, so it is fortunate they were able to complete a good census for all four herds. Also, in 2017, ADF&G switched to a 100 megapixel digital camera and software system that allowed them to improve both the quality of photos and to provide excellent geo-referencing of the photos. The quality of the photos allowed them to, in many instances, differentiate between cow, calves, and bulls.

As of the summer of 2017, the Teshekpuk Lake Herd showed an increase from 41,500 in 2015 to 56,255. This herd is located generally within the NPR-A, from Utqiaġvik and Atqasuk to Anaktuvuk Pass, and Nuiqsut to Wainwright, and is the only herd where about one third of the animals stay on the North Slope in the winter, providing opportunities for harvest year round. The DWM assists with purchasing and attaching the satellite collars for this herd and initiated that program in 1990.

The Western Arctic Herd increased from 200,100 animals in 2015 to 235,000 in 2017. This herd migrates from the winter range on the Seward Peninsula to the Utukok Uplands on the northwestern side of the Brooks Range. The North Slope communities of Point Hope, Point Lay, Wainwright and Anaktuvuk Pass harvest from this herd. This past September, students and teachers from Kali School in Point Lay were able to travel to Ambler and camp on the Kobuk River near Onion Portage to help ADF&G put satellite collars on caribou while they were crossing the river.

The Central Arctic Herd winters on both the north and south foothills of the Brooks Range on both the eastern and western side of the Dalton Highway. They migrate to their calving grounds near Prudhoe Bay. This herd appears to have increased from 22,630 in 2016 to 28,050 in 2017. It had been as large as 70,000 in 2010. These caribou are hunted by Nuiqsut, Anaktuvuk Pass, and hunters along the Dalton Highway.

The fourth herd, the Porcupine Herd, increased from 197,000 in 2013 to 218,500 in 2017. Biologists were unable to get good estimates in the intervening years, however, this herd has continued to increase in numbers. This herd migrates from the wintering area south of the Brooks Range near Arctic Village, along the Porcupine River through Canada, on to the North Slope near Kaktovik and the Arctic National Wildlife Refuge during the summer, and back down south through the Brooks Range. In several years, the majority of the herd calved in Canada rather than in the 1002 area of the Refuge.

Overall, these increases are very positive for NSB caribou hunters and we thank the hunters for their assistance in working with the Board of Game on regulation changes during the lean years.

Caribou Harvest Surveys

The DWM has been conducting caribou harvest surveys for the year 2017 in all North Slope communities this past summer and fall. All households are surveyed, whether they are hunters or not, in all villages except Utqiaġvik, where only a portion of the households are randomly surveyed. These harvest surveys are being conducted (since 2015) in response to ADF&G's caribou hunting regulations which now require hunters to report their caribou harvest. Our survey results will be reported to ADF&G for each community with no names or addresses attached. We hope to successfully pass a proposal through the Alaska Board of Game which will allow DWM to collect this data instead of hunters being required to report it to the ADF&G. We are in the process of documenting harvest numbers and also areas that are important for subsistence hunting. This will help us to estimate amounts of harvested caribou required for communities to meet their nutritional needs.

Point Hope, Wainwright and Kaktovik surveys were completed this summer with the help of Subsistence Research Assistants Tariek Oviok, Larae Agnasagga and Carla Kayotuk, respectively. (An aside: Carla has accepted the DWM Subsistence Research Coordinator position that Mike Pederson used to hold, and Tariek has moved to the Mayor's Office.) Nuiqsut surveys were completed by Stephen Braund and Associates. Point Lay and Anaktuvuk Pass surveys were completed in November, and Atqasuk surveys will be conducted, and Utqiaġvik completed, after the New Year.

The results for 2016 are being analyzed and the 2017 analysis will begin soon. The surveys for 2018 will be conducted in the spring and summer of 2019.

You can help us by making a note of when, where, and how many bull and cow caribou you harvest. Our staff will make their way to each village and conduct the 2018 surveys in person. Your participation makes you eligible to enter a raffle for gas or heating fuel. Call 852-0350 with any questions.

Kidney Worms Found in Bowhead Whales

Worms were found in bowhead kidneys from whales harvested near Utqiaġvik over the last few years. Usually, these kidney worms are discovered as the kidneys are being cut up by the Captain's wife and her crew to prepare for serving the community after a successful harvest. Sometimes the worms have been found in the urine collecting tubes on the inside of the kidney, and sometimes only pus pockets or hard nodules (scar tissue) are found. Worms are also found attached inside the big blood vessels (arteries) where they can hinder blood flow.

The kidney worm is a nematode, or roundworm, with the scientific name of *Crassicauda* sp. They have been found in other krill-feeding whales (humpback, fin , blue and right whales), but the findings in whales harvested near Utqiaġvik are the first documented cases for bowhead whales. The characteristics of the worms are being studied using their morphology (physical form) and DNA analysis to identify which species of *Crassicauda* is infecting bowhead whales. Sometimes, one species infects a specific host, so this could be a previously unidentified species of kidney worm that only infects the bowhead whale.

The first confirmed cases occurred in the fall of 2016 when captain's wives from two crews found kidneys with pockets of pus, or abscesses. After contacting DWM wildlife veterinarian Raphaela Stimmelmayr for inspection and sampling of the kidneys, the worms were collected and subsequently identified.

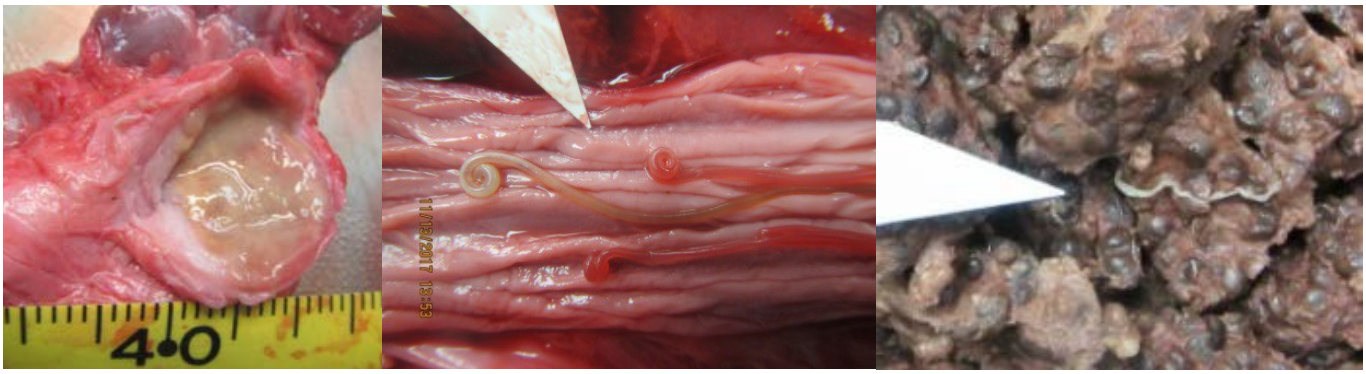
How the bowhead whales become infected is uncertain, but kidney worms are most likely transmitted to bowhead whales through the ingestion of larvae or eggs with the whale's food (such as krill, amphipods, or small fish). Kidney worms lay eggs which leave the kidney through the ureter, the duct by which urine passes from the kidney to the bladder, and are shed in urine into the ocean water. These eggs are either taken up by other animals while in the water column, or after they sink to the bottom of the ocean. Mature kidney worms can reach three to four feet in length.

More cases were identified in the fall of 2017, and in the spring and fall of 2018, and samples have been collected. The DWM continues to monitor the harvest for new cases and communicate with the whaling captains and the captains' wives. Other questions that will be looked at are: 1) how changes in the environment could be causing an increase in kidney worm numbers, 2) the transmission route, from mother to calf, adult to adult, from other whale species, or from the environment, and 3) if this is an emerging disease.

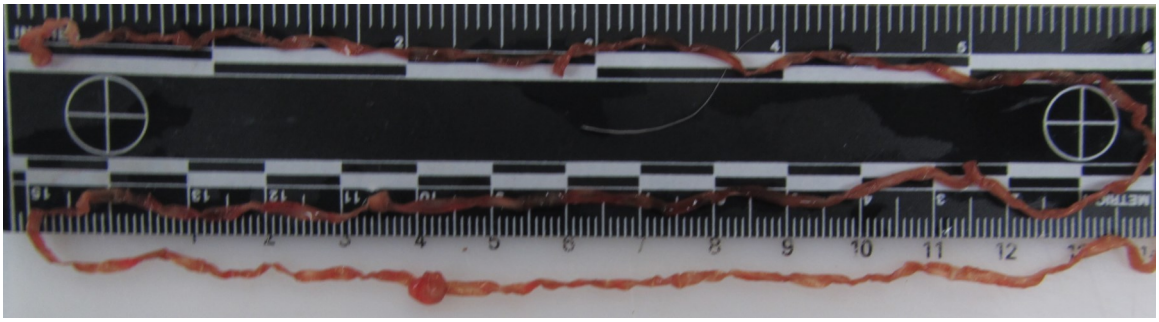
Kidney worms and their eggs are killed by cooking until very well done. However, the DWM recommends that you follow your traditional and customary practices for food safety.

Many thanks to the crews, and especially the captains' wives, that have contacted us and provided kidneys to be examined so we can better understand this new parasite and determine the effects of kidney worm infection on bowhead whale health. If you have any questions or concerns, or if you have any samples to be analyzed, please call Dr. Raphaela Stimmelmayr at 852-0350 or email Raphaela.Stimmelmayr@north-slope.org.

Left: Pus-filled abscess in nodule or cyst of kidney found during necropsy. Middle: Worms found in collecting tube of kidney. Right: Worm found by captain's wife's crew while cooking the kidney. All photos are from bowheads harvested in Utqiaġvik.



Right: Actual size of kidney worm from whale harvested fall of 2017 near Utqiaġvik. You can see it is wrapped three times along ruler, making it more than 18 inches long.



North Slope Borough
Department of Wildlife Management

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CHECK OUT OUR NSB- DWM WEBSITE!

We thank the NSB Assembly and Mayor Brower for their continued support. ***Quyanaqpak!***

BECOME AN NSB-DWM FACEBOOK FAN!

New Faces at DWM and Summer Interns

We have some new faces at DWM to welcome! Martha Kaleak started in March as Office Specialist and Rita Acker and Elizabeth Stein joined the department in May as the Wildlife Research Assistant and Senior Accounting Specialist, respectively. Martha assists with payroll, purchase orders, and much more. Rita assists our wildlife veterinarian on necropsying and sampling subsistence animals, and taking care of the many duties involved with shipping samples and entering data. Elizabeth takes care of our purchasing and invoicing. Christine Solomon began in July as our Contract Administrator. and has quickly come up to speed on our many contracts with outside contractors needed to be able to conduct our research.

The DWM also worked with four college interns this past summer. Each intern had a primary project that they worked on as well as helping with other DWM projects such as beach surveys for marine mammals, necropsies of harvested and found dead animals, and checking polar bear hair boxes.

JakyLou Olemaun started a skin boat (*umiaq*) project and will continue working on it in the coming years. She also helped with data entry for bowhead harvest and caribou surveys, conducted beach surveys, and assisted with necropsies. She attended ICC meetings and the new polar bear co-management organizational meetings. JakyLou is currently a UAF student, after one year at UAS, majoring in Tribal Management through the Rural Development Program.

College Interns JakyLou Olemaun, Roy Henry Snow, Kimberly Pikok and Doreen Leavitt assisting Billy Adams last June.

Roy Henry Snow helped with caribou harvest survey data entry as well as assisting with surveys. He learned quite a bit about the DWM Subsistence Documentation Program and was also able to help with our ice seal tagging and polar bear DNA project. Roy is attending the University of Alaska Anchorage majoring in General Studies.

Doreen Leavitt used skills that she learned while at Mount Edgecumbe High School to assist with identification of marine mammal calls on sound files obtained using hydrophone recorders just off of Utqiaġvik. She worked with Craig George and collaborator Kate Stafford. Doreen was also able to participate in the Students on Ice program, along with high school senior Nichole Hank from Point Hope, on a cruise through the Canadian Arctic and eastern Greenland. For more information on the 2018 cruise and future opportunities for NSB students, visit studentsonice.com. Doreen is currently attending the University of Alaska Southeast in Juneau, majoring in Marine Biology.

Kimberly Pikok is currently in her third year at University of Alaska Fairbanks majoring in Wildlife Biology and Conservation. Along with assisting with DWM projects this summer, Kimberly also focused on youth education regarding wildlife and climate change. She really enjoyed opportunities to work with students and interact with young people at summer youth programs in Utqiaġvik and in Point Lay for the NSB-Mystic Exchange. She was also able to take advantage of other opportunities such as the Opportunity Youth and Children & Nature Network, attending meetings in Seattle, WA, and Oakland, CA. Finally, Kim spent a month in Glacier Bay near Juneau conducting scientific field work, participating in self-sustainability activities , and learning about self-governance. Kimberly hopes to work in youth education of wildlife and subsistence resources.

We thank these college interns for their assistance, wish them the best in their quest for a career and hope that they consider working for the NSB in the future!