



Selawik National Wildlife Refuge

Newsletter

Spring 2012

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Archives, University of Alaska Fairbanks

This historical photograph from the 1920s shows people from Selawik returning home from spring camp. Elders say if there was no wind, the trip did not take long. Log rafts like this were also common on the Kobuk River.

Memories of Muskrat Camp

In the mid-1900s, the arrival of April’s long spring days signaled the time for Selawik families to load the sleds, harness the dogs, and set off for good muskrat hunting grounds.

The whole family pitched in to hunt muskrats. Men and older boys paddled kayaks from lake to lake, while children too young to handle guns set traps near camp. Women hunted, too, but usually labored long hours skinning muskrats and drying the skins and tasty meat. Often this was the only food until nets could be set when the ice went out.

One Selawik elder said, “The most I ever got was 85 muskrats in one night. I could have got more, but couldn’t fit them in my kayak.”

At the end of the season, everyone eagerly looked forward

to exchanging the skins for ammunition, sugar, coffee, tea, cloth, and other items. Muskrat prices varied over the years but averaged around \$2 each. Some people would get up to 1,000 muskrats per season, although 500 was more common. That was a lot of money in those days, and a major source of income for Selawik families at the time.

Returning home after break-up was easy: build a log raft and float back to the village on the current. The raft not only provided transportation, but also firewood for the tundra homes.

Muskrat hunting diminished with a drop in fur prices in the 1960s. Despite the hard work, Selawik families fondly recall their muskrat camps. Ask an elder to tell you more about these memorable days!

Now You Can Find Us On Facebook!



Selawik Refuge has started a Facebook page as another method of communication.

This allows us to share facts about our work, the resources of the area, and life in the arctic with interested people both near and far. We welcome your "likes" and questions or comments!

Check out our page:
<http://on.fb.me/vQ3cf9>

A Close Look at Snow Conditions

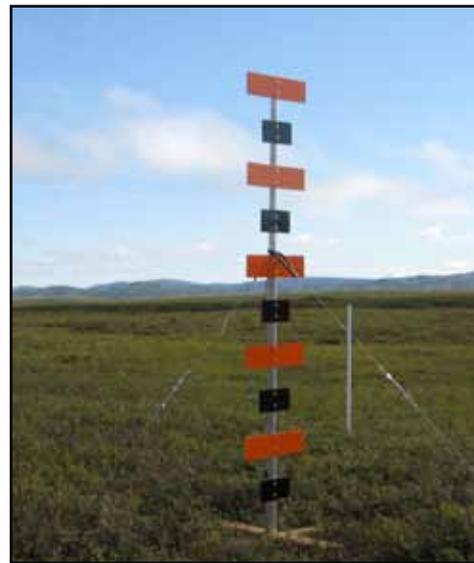
Although caribou are well adapted to winter, deep snow or hard ice layers can have a devastating impact on these animals, preventing them from digging through snow to get to food. With predictions for a warming Arctic, icing could become a more frequent problem for caribou in the future.

Last year Selawik Refuge started looking more closely at snow conditions in the winter range of the Western Arctic Caribou Herd.

Fourteen locations have been chosen as study sites, mostly on the Seward Peninsula and in the Kobuk and Selawik valleys (see map below). Several different instruments or techniques will be used at most sites to record snow data.

The first of these are aerial snow depth markers, standing 10 feet tall with alternating black and orange panels. We fly by these markers once per month from December through May to record snow depth. This standard technique will make this information comparable to other snow depth data collected around the world.

The second instrument is an iButton—a small round sensor that records temperature every four hours. A row of iButtons is placed vertically along a stake at each site. In winter the iButtons buried by insulating snow will record different temperatures than those exposed to air. This will give a more detailed measurement of snow depth and will record when temperatures rise



Anne Orlando/USFWS

Aerial snow markers are designed so researchers can measure snow depth visually from a distance.

above freezing, which can lead to icy layers.

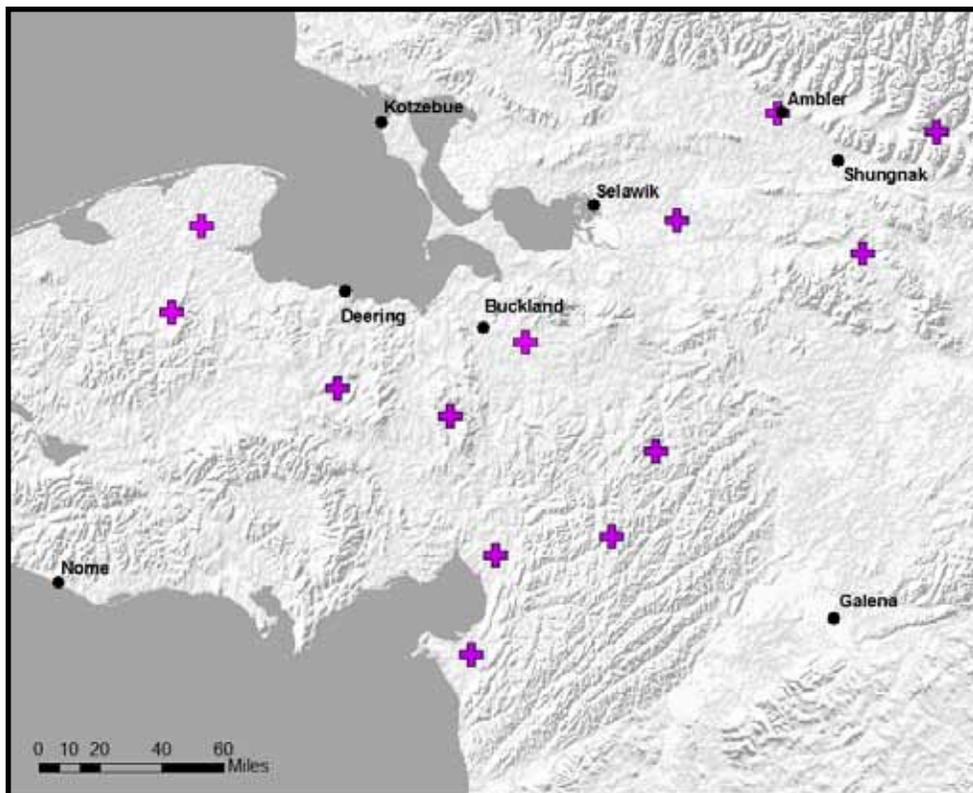
The third technique will be on-the-ground “snow courses,” in which researchers dig snow pits, measure snow depth and density, and weigh snow samples for moisture content.



Anne Orlando/USFWS

The iButtons on this stake measure temperature every four hours.

Monitoring snow conditions will be a long-term project that will fill a gap in our knowledge about caribou (continued on next page)



Anne Orlando/USFWS

Map of study locations for snow research. These locations were selected based on locations where caribou from the Western Arctic Herd are known to spend time during the winter months.

Birds and Their Feathers



Anne Orlando/USFWS

Refuge biologist Brandon Saito digs a snow pit to investigate the characteristics of different snow layers.

habitat and changing climate. By starting now, we will be able to compare future conditions to those we are currently experiencing.

You can help ensure the success of this project by avoiding walking or driving right up to the study markers or otherwise disturbing them. Please contact biologist Anne Orlando in our office for more information on this study.



Courtesy of John Chase

Raymond Woods displays a core sample of snow taken to measure snow density.

The coloration of birds can vary for several reasons. As most people know, birds are usually more brightly colored during the breeding season than at other times. Young birds of many species often have different coloring than adult birds, even for several years. And sometimes within one species there are several "races" with different coloring that may occupy different geographic areas.

One interesting example of the latter is the great horned owl or *nukisaġaq*. This large bird of prey lives year-round in our region in areas of suitable forest habitat. While the typical great horned owl is darkly colored in tones of brown and yellow, the interior race known to scientists as *subarcticus* is much



Susan Georgette/USFWS

This great horned owl seen on the Selawik River this summer shows the light-colored version of the bird.



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This young gull is an *aqargigiaq*, or Sabine's Gull. As an adult, it will have a black head, making it easier to identify.

paler and seems more suited to snowy conditions and birch forests.

Gulls are one type of bird that typically take two to four years to reach their full adult plumage. The younger birds often have darker greyish or brownish tones than the whiter adults. Even the mighty bald eagle does not have its distinctive white head feathers until age four or five. These variations are part of the puzzle that makes looking at birds enjoyable and also challenging.



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From a distance this young bald eagle, still with a mostly brown head, might be confused with a golden eagle. Both are called *tiñmiaqpaq* in *Iñupiaq*.

Tracking the Whereabouts of Winter Sheefish

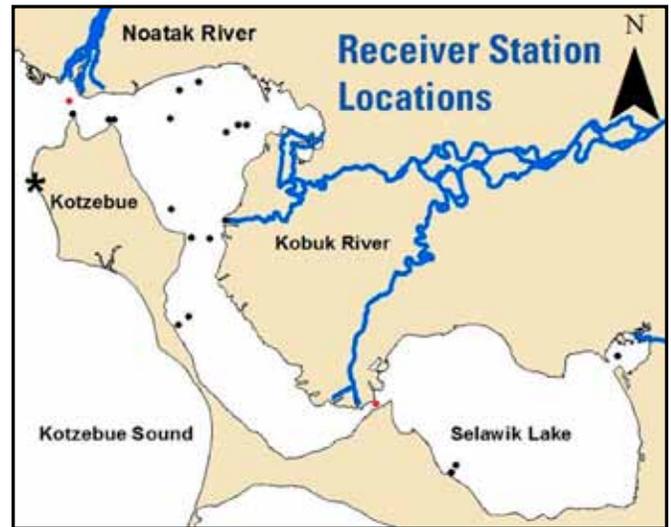
The Northwest Arctic has two distinct sheefish populations: those that spawn in the upper Kobuk River and those that spawn in the upper Selawik River. Both populations spend the winter in Kobuk Lake and nearby waters. While local fishermen have long known where to find sheefish in winter, scientists have wondered how the winter movements of the two populations might be different.

To explore this, scientists placed 20 acoustic receiver stations under the ice in Kobuk and Selawik lakes in 2010 to record the signals of passing sheefish. Eighty sheefish from each river's spawning grounds (160 total) had been fitted with transmitters

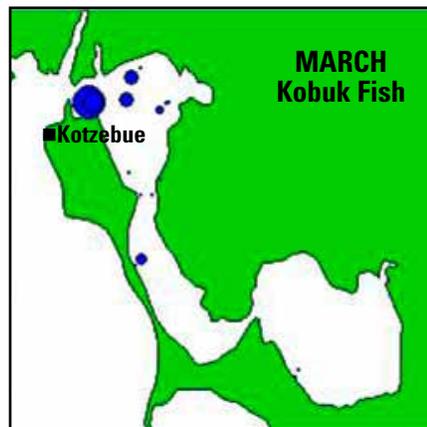
that summer.

Last winter the under-ice receivers recorded 88 of the 160 tagged fish. Many were recorded multiple times, especially in sheefish-rich areas such as northern Kobuk Lake.

This past summer additional fish from each river had transmitters implanted. Receiver stations were retrieved from the lake bottom to download the records, then put back in place to collect a second winter's information in 2011-2012.



Black dots show locations of under-ice receivers. Red dots show locations of receivers whose data were not retrieved in 2011.



Colored dots represent fish recorded by receivers. Larger dots indicate more fish. Kobuk River fish are shown on the top maps in blue, and Selawik River fish are shown below in red. Most of the tagged fish from both rivers spent mid-winter in northern Kobuk Lake. By March a concentration of Selawik fish had moved south again into Selawik Lake.

The results showed that in 2010 the receivers (dots on map above) first detected sheefish from both the Selawik and Kobuk rivers on Oct. 9-10. In November-December most of the tagged sheefish from both rivers had moved into northern Kobuk Lake. In January-February some Selawik fish started moving south to Selawik Lake, and by March-April the greatest concentration of tagged Selawik sheefish were back in Selawik Lake. The Kobuk River fish, however, mostly stayed in northern Kobuk Lake throughout the winter.

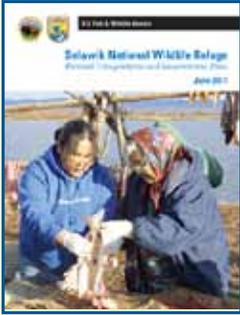
Receivers cover a limited portion of winter sheefish habitat. While gaps exist in southern Kobuk Lake and Selawik Lake, the data confirmed that the two sheefish populations intermingle, especially in mid-winter.

The research was led by scientists from the University of Alaska Fairbanks with assistance from the Native Village of Kotzebue, Selawik Refuge, and local fishermen. Our thanks to all!

New Refuge Plan!

We are pleased to announce the completion of our revised comprehensive conservation plan for the Selawik Refuge. This has been a multi-year project for us and our many partners. The plan outlines our goals and objectives (what we hope to do and why) for the next 10-15 years.

Please contact us if you would like a printed summary of the plan. Many thanks to everyone who contributed suggestions and ideas to this revision!



Which Caribou Are These?

Caribou are found throughout much of Alaska. Biologists divide these caribou into herds, with each herd being its own population or “caribou community,” separated from the others on the basis of the calving grounds they use. Animals from different herds might mix at other times of year, but when spring rolls around they separate before the calves are born. It is during the “post-calving aggregations” of spring and early summer that biologists try to count the number of animals in a particular herd.

Based on this system, there are currently 32 caribou herds in our state. Four of these herds make their home in northern Alaska. The main herd that travels through the Northwest Arctic region is the Western Arctic Caribou Herd, currently the largest in the state and

among the largest in the world with 348,000 animals in 2009. The calving grounds for this herd are east of Point Hope in the northern foothills of the Brooks Range.

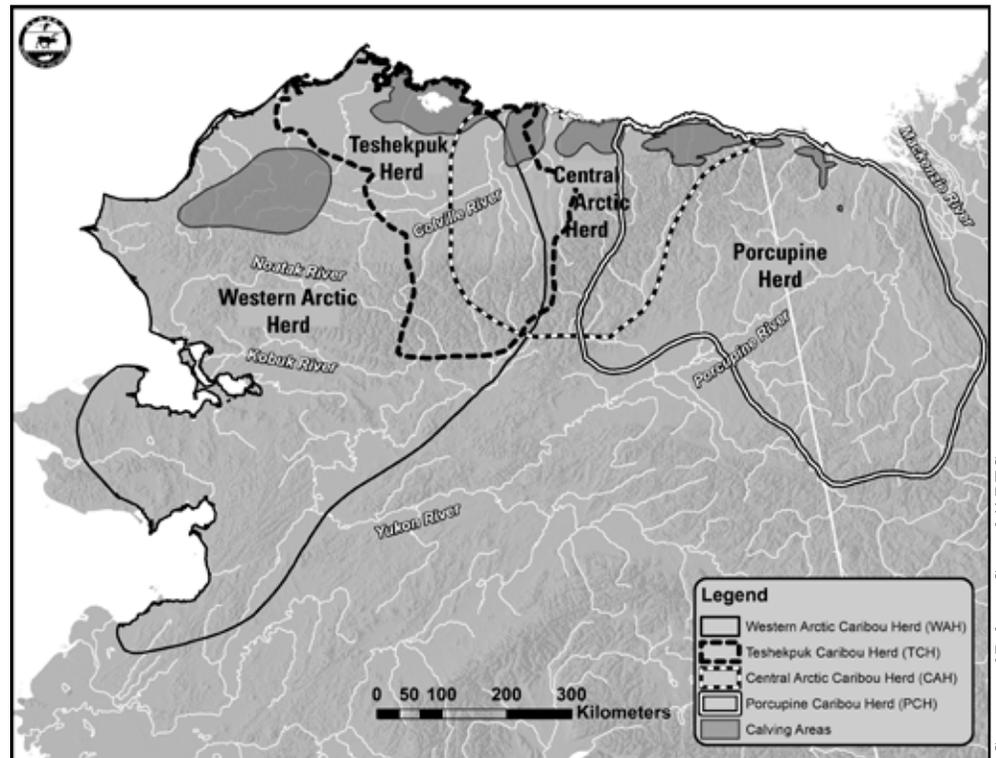
Also found in arctic Alaska are the Teshekpuk, Central Arctic, and Porcupine caribou herds. Of these, caribou from the Teshekpuk Herd are the most likely to be found in the Northwest Arctic region. Their calving grounds are east of Barrow near Teshekpuk Lake, but at other times of year they often range west toward Point Hope or south into the Brooks Range near Anaktuvuk Pass.

To learn more about caribou herds around the world, check out an excellent website by a Canadian caribou group called CARMA at <http://www.carmanetwork.com/display/public/Herd+Overview>.

Another Milestone for Working Group

For more than 10 years, the 20-member Western Arctic Caribou Herd Working Group has been meeting regularly to discuss caribou-related topics for this herd. Subsistence users, hunting guides, biologists, transporters, reindeer herders, and conservationists all have a seat at the table.

At their last meeting in December 2011, the Working Group approved an updated cooperative management plan. Built on group consensus, the plan provides guidelines for agencies and researchers to follow when it comes to Western Arctic caribou. Thank you to all the Working Group members for their meaningful contribution to resources in our region!



This map from the Alaska Department of Fish & Game shows the ranges and calving areas for the four caribou herds in northern coastal regions of Alaska. Notice the overlap among the ranges used by the herds.

Digging Deeper Into Permafrost

Permafrost (soil that is frozen year-round) is a major feature of the Northwest Arctic. Although widespread, permafrost in our region is classified by geologists as “discontinuous,” meaning it is not everywhere. Regions to our north have “continuous” permafrost, while regions to our south have very little or no permafrost, making our area a transition zone between the two.

Vladimir Romanovsky, a researcher from the UAF Geophysical Institute, is studying the details of permafrost across the Selawik Refuge and south towards the Seward Peninsula. By collecting temperature data from soils, he hopes to produce a high-resolution model of the present state of permafrost. Selawik Refuge is a cooperator on this project.



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One reason for the many lakes and ponds on the tundra is that underlying permafrost prevents water from soaking through.

With predictions for a warming climate, our region could be among the first to see the effects of thawing permafrost. These could include more thaw slumps like the one on the upper Selawik River – another such slump is being studied on the Noatak River – as well as impacts to buildings, tundra, and surface waters.

Muskox Maneuvers



Susan Georgette/USFWS

These muskoxen were photographed in August just upriver from Selawik. They spent a good deal of time there this summer, but eventually moved on.

Did you know that all the muskoxen currently in Alaska are descended from the same 31 animals?

Muskoxen were at one time found across northern Europe, Asia, Greenland, and North America, including Alaska. By the mid-1800s, muskoxen had disappeared from Europe and Asia. By the 1920s, muskoxen had also disappeared from Alaska. In 1935-36, 31 muskoxen were brought back to Alaska from surviving groups in East Greenland. Released on Nunivak Island, these animals thrived and in the 1970s some were moved to the Seward Peninsula and Cape Thompson.

The Seward Peninsula population has grown much faster than the Cape Thompson one, although biologists are not certain why. As of 2007 there were about 350 animals in the Cape Thompson group and 2,700 on the Seward Peninsula.

Muskoxen are known to wander, and can establish themselves where they find suitable habitat. They are not able to dig through deep snow, so prefer to winter in areas blown free of snow, such as hilltops. In recent years, a few muskoxen have been seen near Selawik and Noorvik.

Some reside year-round in the upper Tagraġvik River. We are curious to see if muskoxen continue to move into the Selawik drainage. Hunting muskoxen in the Selawik area is currently not allowed, but this may change at some point in the future.

Thanks to Meghan Nedwick at ADF&G who helped with background on this article.

What To Do If You Encounter a Muskox

Muskoxen behave differently than caribou or other animals when they encounter people or other threats. With stocky bodies, muskoxen are not built to outrun predators. Instead of moving away when feeling threatened, they may adopt a defensive “stand-and-fight” behavior, lining up or circling together. Swaying the head from side to side is another sign of agitation. If you see these behaviors, back off. Muskoxen can be difficult to chase away from camps or berry-picking areas. Avoid approaching within 150 feet; a muskox may charge if it feels you are a threat. Give more room to cows with calves, or bulls during rut. If you're charged, run away!

Who We Are

Selawik Refuge Staff



- Lee Anne Ayres
Refuge Manager
- Tina Moran
Deputy Refuge Manager
- Anne Orlando
Wildlife Biologist
- Brandon Saito
Wildlife Biologist
- Eric Sieh
Refuge Pilot
- Susan Georgette
Outreach Specialist
- Brittany Sweeney
*Environmental
Education Specialist*
- Nichole Hanshaw
*Refuge Information
Technician*
- Mary Jane Scherer
Administrative Technician
- Shawn Nelson
Maintenance Worker
- Frank "Sonny" Berry, Jr.
Maintenance Worker

How to Contact Us

By Phone: 907/442 3799 or
800/492 8848 toll-free

By email: selawik@fws.gov

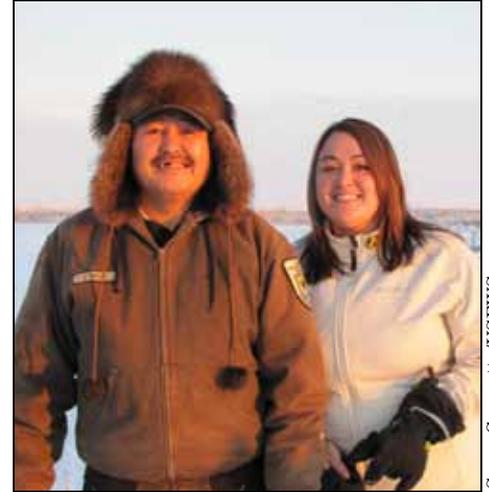
By mail: PO Box 270
Kotzebue, AK 99752

By dropping by our office:
160 2nd Avenue in Kotzebue
(around the corner from
the Borough office)

New Refuge Office in Selawik

The Selawik Refuge is pleased to announce the new location of its Selawik office. Nichole Hanshaw, Refuge Information Technician, is now settled in at the IRA building (the old clinic) in a spacious office at the end of the hallway downstairs. This location will make us more accessible to the public, and will allow us to work together more easily with our partners in the community. We appreciate the Native Village of Selawik's invitation to share their office space!

Please stop by to visit or have a cup of coffee. Everyone is welcome!



Susan Georgette/USFWS

Our two Selawik-based staff, Frank Berry, Jr. and Nichole Hanshaw, contribute to Refuge projects in many important ways.

Photo Gallery



Danielle Jerry/USFWS

Left: Caribou pathways are visible in the Waring Mountains, within the Refuge's Wilderness Area. Bottom left: Purple mountain saxifrage is among the first plants to bloom in May and June. Below: Students practice their skills at this year's Selawik Science-Culture Camp.



Carmen Daggett



Brittany Sweeney/USFWS

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Know the Land

The Iñupiat have long inhabited the Selawik River valley, an area that Congress designated a national wildlife refuge in 1980. Many places throughout northwest Alaska hold deep meaning and tradition for local residents. Standard maps bear few of the Iñupiaq names for these places. Here are two important sites in the Selawik area.



James Magdanz



Steve Hillebrand/USFWS

Kuutchiaq

Kuutchiaq is the area where the Kuugruaq River (left) meets the Selawik River (right). In English this site is known as "First Fork." The largest winter settlement in the entire Selawik valley in the 1800s was located near Kuutchiaq. Other Selawik families have lived in this area more recently. Kuutchiaq means "new river."

Katyaak

Katyaak is where the Tagragvik River (right) joins the Selawik River (left) at a sharp bend. In English this site is called "Second Fork." Abundant in fish, Katyaak was historically an important camping area for the Siilviyimiut with evidence of former dwellings scattered throughout the area. Katyaak means "fork in the river."