Hidden in a timbered valley near the headwaters of the Selawik River is one of Selawik Refuge’s most interesting features: the Selawik Hot Springs. This winter paradise of bubbling warm water and snowfree meadows is accessible only by traveling 50 rugged trail miles south from Shungnak. But the long trip produces great rewards. Daily bathing in the spring’s medicinal waters is said to offer physical rejuvenation and treatment for a wide variety of ailments. And a few days of simple outdoor living at Hot Springs refreshes the mind as well.

Recently Barbara Atoruk, a Kuuwaaymiu and an employee of U.S. Fish and Wildlife Service, interviewed upper Kobuk elders about their knowledge of Hot Springs. Here is some of their advice. A longer summary of the interviews is in progress.

- You have to watch how long you soak, never for more than 15 minutes at first.
- Drink a glass of the spring water before soaking.
- Eating the green algae cleanses your stomach.
- If you begin to see small bubbles of hot air while soaking, you must get out to prevent getting burned.
- One of the cabins is for Athabascans and one for Inupiat, but either one can be used if unoccupied.
- The hottest spring is the upper one, where people used to cook ptarmigan in the boiling water.
- Do not try to cross the big tundra to Hot Springs during stormy weather.

Thanks to elders Sophie Cleveland, Vera Douglas, Edna Connack, Neal Sheldon, Josephine Woods, Howard Wood, Amelia Gray, Truman Cleveland, Nelson Greist Sr., Clara Lee, Sarah Tickett, and Daniel Foster Sr. for sharing their memories!
Winter Secrets of Sheefish

Experienced subsistence fishermen are highly skilled at understanding sheefish movements and finding good fishing sites under the ice. Scientists have been interested in documenting winter movements of sheefish to gain insight into migratory differences between the Kobuk River and Selawik River populations.

Last fall local residents helped biologists place 20 receivers around Kobuk Lake and Selawik Lake. These will track the winter movements of 160 sheefish carrying small acoustic transmitters that were surgically implanted into their bellies last summer. Locations for these fish will be recorded this winter when they swim within 800 feet of a receiver. After breakup the receivers will be collected and the data will hopefully show travel patterns of the tagged fish. This project is led by Trent Sutton at University of Alaska Fairbanks in cooperation with U.S. Geological Survey, U.S. Fish & Wildlife Service, and the Native Village of Kotzebue.

If successful, the project will be repeated in 2011 so we can have more confidence in the results. In this way, scientists hope to be able to better describe winter movements and distribution of sheefish, a highly valued resource in our region.

Many thanks to Brandon Saito and Frank Berry, Jr. for their hard work last summer implanting transmitters in sheefish. Thanks also to John Goodwin, Clyde Ramoth, and others who advised researchers on the best locations for the receivers.

The acoustic transmitters implanted in sheefish for this study are about
New Faces at Selawik Refuge

Our staff has been changing and growing recently, and we are pleased to introduce these new additions, who join some familiar faces in our office.

Dr. Anne Orlando is our new Wildlife Biologist. Anne is no stranger to the Arctic, having recently lived in Nunavut, Canada as research coordinator for the region’s polar bear population. Following pumas, seabirds and elephants, her work has brought her all over the world. Anne has a strong commitment to involving local resource users in her work and to bridging traditional knowledge and western science.

Environmental Education Specialist Brittany Sweeney also moved to Kotzebue this fall. Brittany, who grew up in Dillingham, is excited to be back in Alaska after several years exploring the deserts and mountains of Utah. The Sweeney family is enjoying getting to know Kotzebue.

Nichole Hanshaw recently joined our staff as the new Refuge Information Technician in Selawik. Nichole grew up in Selawik, attended UAF, and has worked at Red Dog, Prudhoe Bay, and in various positions in Selawik. She enjoys outdoor activities and working with young people. As an RIT, she will play a vital role in many things we do. Welcome, Nichole!

For a full listing of our staff and information on how to contact us, please see pages 6 and 7.
Selawik River “Thaw Slump” Update

First observed in 2004, the huge “thaw slump” on the upper Selawik River continues to grow, with more dirt and gravel slipping into the river each year. Although sometimes called a “mudslide” or “landslide,” the term “thaw slump” is more descriptive because it explains this feature’s underlying cause: melting permafrost.

The slump crater is an active and noisy place in the warm summer months. A near constant cascade of rock, mud, and water tumbles off the headwall, recently measured at over 80 feet high. This is the same distance as a full length basketball court.

As of July 2009, about 19 million cubic feet of dirt, gravel and other material had been eroded from the slump. If an average-sized dump truck was used to haul that much material, it would have to make over 140,000 trips!

Research continues on the slump and its impact on downriver sheefish spawning grounds. A project is being planned to study the size and age structure of spawning sheefish and compare that to past studies.

Last summer geologist Ben Crosby from Idaho State University continued mapping and measuring the slump and recording its activity with time-lapse photography. Sensors in the river recorded changes in turbidity from the slump’s sediment.

Although unusual in its size and activity, slumps like this are nothing new in the arctic. With warming temperatures, however, they are becoming more common.

You can get an idea of the size and scale of the thaw slump in the 2009 photo below. Look closely for the person wearing an orange vest, inside the red circle.

This aerial view of the thaw slump on the upper Selawik River, taken in 2009, shows the steep headwall at the left and the muddy plain that has formed at the right. A person, visible inside the red circle, gives a sense of the slump’s scale.
Stable Moose Population

Mid-November was a busy time for agency pilots and biologists, as a team effort to survey moose in the entire Selawik River drainage was underway. Selawik Refuge staff worked with the Alaska Department of Fish and Game and the National Park Service to fly over the area and carefully record all moose sighted.

The end result showed that the moose population is generally stable in the Selawik valley with the moose numbers quite similar to those from the last survey several years ago. An estimated total of about 3,000 moose live in this area, which includes the entire Selawik River valley, all its tributaries, and the area south of the Waring Mountains and north of the Selawik Hills. The moose density is low compared to some other parts of Alaska, but not unusual for this type of habitat. We are grateful to Charlotte Westing at Alaska Department of Fish and Game for organizing the survey and analyzing the data.

The survey team will get together again this spring to conduct another moose count in our region. For more information, please contact Anne Orlando in our office.

Working on Winter Trails

Winter trails and shelter cabins are the lifeblood of transportation in our region for many months each year. These were often mentioned as important issues in public meetings during our recent revision of the Selawik Refuge plan.

We have been an active partner with the Northwest Arctic Borough in their effort to mark and maintain trails and shelter cabins. Local Search and Rescue organizations are also key participants in these efforts.

We would like to thank our staff member Frank Berry, Jr., who has worked tirelessly with others to stake trails and improve shelter cabins in the Selawik area. Eric Sieh and Brandon Saito on our staff have also worked hard staking trails, and Brandon has helped the borough develop trail maps complete with GPS locations.

Winter trail information, including GPS coordinates for shelter cabins, communities, and trail waypoints, is now available on the Northwest Arctic Borough’s website at http://www.nwabor.org/publicservices.html. (Click on Trails or Shelter Cabins on left side of page.)

Moose are counted in winter when they are easy to see against the white snow and leafless willows.

Frank Berry, Jr., stakes miles of trails near Selawik.

Located along the Selawik-Ambler trail, Paniqsivik is one of the region’s public shelter cabins.

A tripod stake with reflector tape marks a section of the Ambler-Kiana trail.
Icy Snow and Caribou

The Western Arctic Caribou Herd, currently estimated at about 400,000 animals, is a very important resource for people of our region. While biologists from different agencies monitor many aspects of the herd’s health and well-being, one factor critical to caribou that has not been systematically looked at so far is snow conditions. Periods of thawing and icing can be disastrous for caribou, and may become more common in the future with warming temperatures.

Selawik Refuge, under the lead of Anne Orlando, is designing a way to routinely collect data on snow depth, snow hardness (icy, powdery etc.), and other snow characteristics. Currently we plan to set up two or three fixed data stations to record snow conditions throughout the season. We also hope to assess snow conditions at the animals’ wintering locations.

Our hope is that this information will help give us a more complete picture of factors affecting the Western Arctic Caribou Herd, especially during these times of climate change.

Waterways Get a Checkup

If you’ve been on Selawik or Kobuk lakes during early September in recent years, you might have noticed areas of discolored or “slimy” water similar to the picture below. These are “algae blooms” that happen when a type of tiny algae (called blue-green algae or cyanobacteria) normally in the water at low levels multiply and grow until there are so many that they become visible. “Blooms” can vary in color depending on the type of blue-green algae. Some types of blue-green algae blooms produce toxins harmful to marine life. People can become sick if they drink water containing these toxins. The algae can also harm aquatic life by using up all the available oxygen in the water.

Alex Whiting with the Native Village of Kotzebue has taken notice of these events and begun to investigate and document them, working with partners to do so. The initial work has been to identify which types of algae are causing the blooms, and to figure out some of the causes and effects.

An additional water-related study will also be going on in the Selawik area this summer. Dr. Stottlemeyer from Michigan Tech University will be working with refuge staff to collect water samples in the lower Selawik River and nearby lakes. The water samples will be analyzed to measure the amounts of dissolved oxygen, nitrogen compounds, and other substances. Similar work has been done for years along the lower Noatak River. Expanding this research to the Selawik area will help us better understand the local river systems and identify any changes taking place.

How to Contact Us

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

By email: susan_georgette@fws.gov

By mail: PO Box 270 Kotzebue, AK 99752

By dropping by our office: 160 2nd Avenue in Kotzebue (near Borough office)
Selawik Youth Learn to Trap Beavers

As the November sun crept above the horizon in mid-afternoon, Selawik students zipped their parkas, tied their hats, and scrambled into basket sleds for a snowmachine ride to nearby beaver trapping sites.

For three weeks Raymond Woods, bilingual coordinator for the Northwest Arctic Borough School District, teamed with Selawik Refuge staff to teach young people the art of beaver trapping. Students learned about the biology and ecology of beavers, chiseled through the river ice with a tuug, cut willows, set snares, and covered the open holes with fresh snow, all under the watchful eye of their instructors.

Harvested beaver were taken back to the classroom to skin. The skins were then stretched and dried for fur sewing projects later this winter. Meat from the beavers was shared with the community. Thanks to principal Dr. Campbell and all the teachers and staff at the Davis-Ramoth School in Selawik who made this possible!

Above: Skinning a beaver in class. Below: Raymond Woods, Frank Berry, and Brandon Saito demonstrate how to attach snares to a frame they will lower below the ice.
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 interesting sites in the Selawik area.

Unaaqtaaq
Meaning “hot water,” Unaaqtaaq is the Iñupiaq name for Selawik Hot Springs, located at the headwaters of Selawik River. People from the upper Kobuk, Selawik, Huslia, and other villages have been using the hot sulphur water for medicinal purposes for at least a century, and probably much longer.

Qakkivik
Draining into the southern end of Inland Lake, Qakkivik provides access to summer hunting areas. Erosion has altered its mouth, changing long peninsulas into islands. Good rocks for net sinkers can be found on the bluff to the left of the mouth. Qakkivik, meaning “way of going up or ascending,” is called Hunt River on standard maps.