



"The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

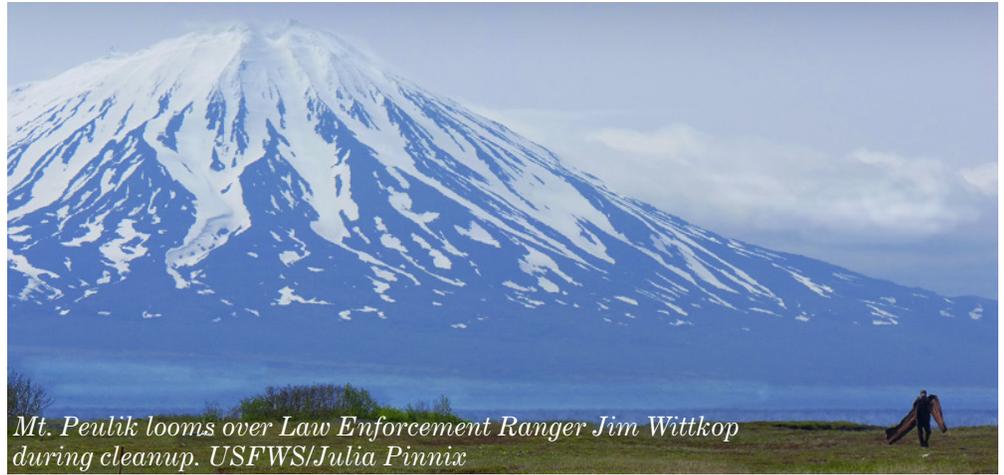
National Wildlife Refuge System Improvement Act of 1997

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Alaska Peninsula/Becharof National Wildlife Refuges

Newsletter - Winter 2011-2012



Mt. Peulik looms over Law Enforcement Ranger Jim Wittkop during cleanup. USFWS/Julia Pinnix

Camp Cleanup Continues

At Taquka Kuik (Bear Creek) Camp, formerly known as Bible Camp, a multi-year cleanup is in progress. Taquka Kuik Camp is used for Becharof NWR's annual Science Camp. The site has been used since 1967, when the first two buildings were constructed. Over time, debris has accumulated and chemicals and fuel have leaked into the soil. Older building materials that are now prohibited for health and safety reasons added to the growing contamination of a special site in a designated wilderness. Funding was obtained by the Refuge to restore the site to safe standards.

Cleanup began in earnest this summer, starting in May. Four sleeping cabins and one larger cabin remain at the site. Another cabin had lost everything but the floor to the wind. The deck was left in place for use as a tent platform. Maintenance Worker Bob Blush surveyed the buildings to assess repairs, ultimately replacing nearly every window and rebuilding new doors for each cabin. He and Maintenance Worker Marion Burgraff replaced half the roof on the main cabin, stabilizing the rest for repair in 2012. Refuge pilots Jim Wittkop and Pete Finley took every available opportunity to haul out piles of refuse, from empty metal drums to rusty bedsprings to crumpled roofing. All Refuge staff who visited the site collected debris: broken glass, plastic, etc.

Anchorage contractors Environmental Compliance Consultants, Inc., and Pyron Environmental, Inc., worked on contaminants removal and mitigation. Flakes and chips of old lead-based paint were removed, and the buildings repainted inside and out to cover and seal lead-based material. The largest structure was the mess hall, which burned down after the initial assessment of the project was done in 2002. The remaining creosote-treated pilings had to be dug up and removed.

The next step in the cleanup will be landfarming slightly contaminated soils for a few years. The area where these soils are piled is marked off, and the material will be allowed to break down over time. More heavily contaminated soils were removed in planes during cleanup. Since soils are being disturbed, an archeologist, Tom Prang, was hired to survey the site. He conducted shovel tests as well as systematic surveys to look for cultural features predating the camp itself. Some artifacts were found that resembled prehistoric items, but these were proved to be associated with classes taught at camp.

Work remains to be done at Taquka Kuik, but a great deal was accomplished in 2011. Some very large items, such as a generator, await future removal by boat.



Bob Blush repairing roof. USFWS



Cabin under repair. USFWS



Empty fuel barrels to be removed. USFWS

Kanatak Trail Project Successful

Visitors to Becharof National Wildlife Refuge can connect past and present on the Kanatak Trail, thanks to a partnership between the USFWS and the Student Conservation Association, a Recreational Trails Program grant, and the work of volunteers.

The Kanatak Trail is an historic route used for centuries to cross between the Pacific Ocean and Bristol Bay via Becharof Lake. Archeological work places residents on the Pacific end of the route at least 1,900 years ago. Early Russian and American explorers used the route, reporting settlements at both ends of the trail and at Ruth Lake. Oil exploration in the early part of the twentieth century brought hundreds to the Pacific village of Kanatak. Primitive unpaved roads to the exploration areas were built over part of the old walking route, and wagons and tractors crossed the mountains. Part of the road, maintained by the State of Alaska, was also used for mail delivery to the Bering Sea coast, by dogsled in winter. When the last residents of Kanatak left in the mid-1950s, the trail fell out of regular use.

As climate changes and brush grows more vigorously on the Alaska Peninsula, the route was obscured by thickets of alder and willow. Clearing the Kanatak Trail for continued recreational use was proposed in 2010. Some of Kanatak Village's former residents were able to assist. One former resident in particular, Paul Boskoffsky, has been instrumental in maintaining interest in the trail, bringing family and friends, researchers, and Refuge staff over the route.

Refuge staff recognized an opportunity to preserve a unique piece of human history in Becharof NWR while having Paul's guidance; and applied for a Recreational Trails Program grant



Hiking east side of trail. USFWS/SCA



SCA crew at Ruth River. USFWS/Tom Prang



Ken Fawcett at Kanatak Pass. USFWS/Julia Pinnix

SCA crew cutting brush on Kanatak Trail. USFWS/SCA

(administered by the Alaska Division of Parks and Outdoor Recreation). This grant, combined with USFWS Youth Initiative funds, permitted a Student Conservation Association (SCA) work crew to be funded for the project in the summer of 2011.

At the recommendation of the Alaska State Historic Preservation Office, an archeologist, Tom Prang, was hired to oversee the project in the field. Tom worked closely with Paul, Refuge staff, and volunteers to relocate and flag the route, and to set up a field camp in a central location while reducing potential impact to cultural features.

When the SCA crew arrived June 5, Paul and Refuge staff led training to ensure the students understood the significance of the Kanatak Trail in Southwest Alaskan history and were prepared to meet the challenges of fieldwork in this remote area. For most of the participants, this was the first time they would be so cut off from the outside world. Torrential rains, gale force winds, insect hordes, and cold temperatures tested their gear and their mettle. By June 30, they had cleared four miles of the route with hand tools, carefully avoiding disturbance of the ground to help preserve remaining features of the trail.

SCA Crew Leaders Hannah Smith and Sam Roberts assisted Tom with surveys to locate and record cultural features, such as rock cairns, road sections, and ancient houses. Artifacts reflecting a variety of time periods were recorded, from a lignite (coal) labret once worn in a pierced lip, to wooden pieces of wagons used for hauling loads over the 1,000 foot high pass.

Unlike trails near urban centers, the Kanatak Trail is in a remote and primitive natural setting. No road leads here. Hikers are unlikely to see other people on

Continued on next page

Kanatak Trail Project, Cont.

the trail. The challenges of access, weather, and terrain ensure a unique and wild experience.

Views from the trail extend to Mount Peulik volcano, the designated Becharof Wilderness bordering Katmai National Park, and the rugged and layered coastal mountains. Many changes in vegetation can be observed along the trail, resulting in a diversity of wildflowers. Photographers are often rewarded in this land of constant change.

Wildlife viewing on the route can be excellent. Work crews in 2011 recorded sightings of brown bear, caribou, red fox, two types of ptarmigan, marmot, beaver, sea and land otter, harbor seal, and ground squirrel, and found sign of wolf and moose. Angling in Ruth River can yield grayling, Dolly Varden char, and salmon. Becharof NWR, despite centuries of human use and occupation, remains an intact ecosystem.

The Kanatak Trail in Becharof National Wildlife Refuge captures a human story in a wild landscape. This unique trail honors the resourceful people of the Peninsula, and provides an unusual educational and recreational experience for today's visitor.

Hiking the Kanatak Trail

Floatplanes or boats can access the western end of the trail from the southern end of Becharof Lake's Island Arm. Access may be possible from the eastern end of the route via beach landings by airplane or boat, depending on tides and weather.

Simple signs will be installed at either end of the trail in 2012. The Refuge plans to maintain the Kanatak Trail as a primitive route, providing interpretation through its website and at the King Salmon multi-agency Visitor Center. As such, there are sections of the route that may not be obvious, requiring close attention to maps and landscape cues. Access, weather, wildlife, and terrain can be challenging; local guidance is strongly advised. Please call the USFWS office in King Salmon or the King Salmon Visitor Center for assistance before making plans. In the USFWS office, call or write Julia Pinnix, Visitor Services Manager: 907/246-1211; Julia_Pinnix@fws.gov. King Salmon Visitor Center: 907/246-4250.



Kamchatka rhododendron near Ruth Lake. USFWS/Julia Pinnix

Eelgrass Monitoring Survey Ongoing

Eelgrass beds are a vital part of the marine diversity of the Alaska Peninsula coast. They are also sensitive to disturbance and change. Little is known about eelgrass habitat health in our region. The Refuge and the US Geological Survey are partners in a continuing inventory program to monitor the health of eelgrass at Chignik Lagoon.

Chignik Lagoon is a key stopover site for migratory birds and home to a vital commercial salmon fishery. Eelgrass beds in the Lagoon are likely to play a large part in the health and diversity of the area. Refuge Biological Technician Kevin Payne joined USGS researcher Kyle Hogrefe for a week in August to assist in mapping eelgrass locations.

Satellite photographs were used to identify likely eelgrass areas. Surveys in 2010 helped assess the accuracy of

New Deputy Manager to Join Refuge

A new Deputy Refuge Manager will soon join the Refuge.

Mike Brady, who held the Deputy position for two years, accepted a position as Project Leader for Hopper Mountain National Wildlife Refuge Complex in Ventura, CA. He was sorry to leave King Salmon so soon, but the position is a great opportunity for Mike.

Refuge staff look forward to meeting their new Deputy and introducing him or her to the public.

Orville Lind Instructing

A new class, Alaska Native Relations, has been created and offered in 2011 by Crystal Leonetti, Native Affairs Specialist for the USFWS. Two courses have been held so far in Anchorage and Fairbanks. Refuge Ranger Orville Lind is an instructor and has helped to shape the class.

The course is intended to help government employees understand Alaska Native cultures and learn to communicate more effectively. Emphasis is placed on listening skills, careful observation, and respectful behavior. Participant response has been very positive. Orville hopes the course will become an annual event. He says there has been interest in delivering the class in other areas outside of Alaska, as well.



Eelgrass. USFWS

photo interpretation. Ground truthing with field surveys in 2011 continued to help refine the maps. More than half of Chignik Lagoon is covered in eelgrass. With a baseline established, changes can now be monitored.

The Chignik Lagoon area was designated through Audubon as an Important Bird Area (IBA) in 2008, through the efforts of Refuge Biologist Susan Savage. IBA's are listed globally to help highlight areas of vital habitat for birds. Chignik Lagoon has a rich diversity of birdlife, both summer and winter.

Whiskers Reveal Wildlife Diet

We are truly what we eat. Refuge biologist Dom Watts is conducting a study of wolves and other carnivores on the Alaska Peninsula through their whiskers. Whiskers and hair contain a record of what an animal ate.

Hair and whiskers are built with molecules taken from the food an animal eats. The atoms that are used are not all alike: carbon, nitrogen, and other atoms are part of the structure. Each atom contains electrons, protons, and neutrons.

Atoms of the same type might have different numbers of neutrons, which give them different weights. Carbon atoms, for instance, might have 13 neutrons or they might have 12. Different weights of atoms are called “isotopes.”

Wolves eat different kinds of foods throughout the year. Animals like caribou and moose which eat different kinds of plants differ in their isotopic signatures. Wolves may also eat salmon, which have a very different isotopic signature from land animals. A wolf that eats salmon will have a different ratio of stable isotopes found in its body compared with the one that eats mostly caribou or moose.

An animal’s bones, skin, blood—every part of its body—contains this isotopic record. Hair and whiskers can be easily collected and stored for analysis. Another advantage of hair is that its isotopes are laid down in a time line, with the oldest part of the hair at the tip. Whiskers, which are generally longer in



length and longer-lasting than other hairs, are the most useful record, potentially spanning seasons.

Even hair and whiskers from tanned hides can be used for isotopic analysis, Dom says. He encourages hunters to send in samples of hair and whiskers

from all carnivores, cut as close to the skin as possible, whether newly harvested or from much older hides. If you would like to help by providing samples, contact Dom for more information, or for envelopes for your samples: 907/246-1210; Dom_Watts@fws.gov.

Refuge Research Extends Golden-Plover Range

The Alaska Peninsula provides protected nesting habitat for Pacific golden-plover (*Pluvialis fulva*) in summer. Refuge Wildlife Biologist Susan Savage has been looking for these handsome shorebirds and their nests to establish where they breed on the Peninsula. The primary goal of golden-plover fieldwork in 2011 was to determine if they were nesting south of Port Moller/Herendeen Bay.

The Birds of North America account for Pacific golden-plovers shows their breeding range south of the Kaktuli and Stuyahok Rivers northwest of Lake Iliamna. Collaborations with Dr. O.W. Johnson on radio tracking, and a subsequent visit to the Alaska Peninsula to look for nests, extended their range to Port Heiden. A nest is required to confirm breeding range. Nests were found in this area and south to Big Sandy River from 2004 to 2007. In 2009, Susan and Refuge Wildlife Biologist Dom Watts revisited Big Sandy River lower airstrip and Port Heiden, found eight nests, and banded ten adult plovers.

Susan and Maintenance Worker Bob Blush visited David River from May 27-29, 2011, and found Pacific golden-plover to be present, but uncommon. To investigate plover presence, they hiked cross country and along gravel roads, listening and looking for Pacific golden-plover activity. When an adult bird was located (usually by call), they found a hiding spot and watched to see if the bird returned to a nest site. Nests were found by watching a bird settle on the nest (if present), flushing the adult, keeping an eye on the flush location, and searching for the camouflaged nest cup and eggs. The nest location was then marked on GPS and photographed. One completed nest that was being incubated was found.

Pacific golden-plovers are primarily found in dryer ericaceous dwarf shrub habitats at lower elevations. The habitat along many of our paths appeared to be suitable for golden-plovers, including significant expanses of ericaceous dwarf shrub, sometimes with barren patches and frequently with the lichen *Thamnolia* sp. Nest searching and documentation will increase scientific knowledge about plasticity in nesting behavior and habitat use. Results from Cold Bay indicate that Pacific golden-plovers are not established as breeders there yet. Susan speculates the breeding range currently ends somewhere between Cold Bay and David River, but the birds may continue their range extension south.



Report Deformed Bills in Birds

Chickadees, Northwest crows, and other birds appear to be afflicted with a disease that causes deformation. Deformed bills, claws, and feathers, as well as skin lesions, are increasingly being seen throughout North America. Researchers are working to reveal the cause.

Please report any observations of deformed bills or other issues in birds to Susan Savage, (907) 246-1205; or to http://alaska.usgs.gov/science/biology/landbirds/beak_deformity/observerreport.html.

ALMS Project Takes to the Water



The Alaska Landbird Monitoring Survey (ALMS) is a cooperative statewide program established to monitor population trends of birds across roadless areas of Alaska. US Geological Survey-Alaska Science Center leads the statewide program. The project is designed to complement the road-based Breeding Bird Survey (Susan covers a route along the Alaska Peninsula Highway). Because so much of Alaska is without roads, the success of landbird monitoring in the state relies on the ALMS program.

The first ALMS plots were attempted in the Refuge in 2004. Each plot consists of 25 points, where avian and vegetation data are collected. Helicopter and fixed-wing aircraft were used to access 7 plot locations. Most program biologists elsewhere could not find funding for helicopter accessed surveys, so the program chose random plots from areas that were fixed-wing accessible, leaving out areas that could only be reached by helicopter.

The Refuge is slated now for four ALMS plots, two in even years, the other two in odd years. In 2010, a team from the Alaska Bird Observatory attempted to survey two plots for the Refuge. This year, two new plots were completed. Refuge Biological Technician Kevin Payne and Biological Intern Robert Finer conducted the surveys. One plot was re-sampled by Refuge Biologist Susan Savage and Maintenance Worker Bob Blush to help survey designers evaluate a new method for estimating detection.

To reach one of the plots, Kevin and Robert were flown to Mother Goose Lake with an inflatable canoe. They used the canoe to paddle down the King Salmon River towards Ugashik Bay and Pilot Point, stopping to camp at the plot location. They were picked up on a flat stretch of the river when they had completed their survey. The King

Salmon River is seldom paddled, so Kevin and Robert weren't sure of what they might encounter. Daily radio or satellite telephone communication with supporting staff in the King Salmon office was critical.

Several days of inclement weather delayed or interrupted the survey efforts at both sites. Extremely heavy bear sign or difficult access prevented every point from being checked.



Ptarmigan Crops and Wings Wanted

Your help in a new study on willow ptarmigan is needed! No studies of ptarmigan, a popular sport and subsistence species, have ever been done on the Alaska Peninsula until now. You can help learn more about this important bird by saving wings and crop contents.

Refuge Biologist Susan Savage can use the information hunters provide to learn more about the diet of local birds. Crop contents are helpful because it is relatively easy to identify the plants eaten. To collect crop contents, it is best to freeze or dry them. The Refuge is working with the Alaska Department of Fish and Game in the collection of ptarmigan wings as well. Wings can tell biologists what age and sex of birds are being harvested. Wings may also provide genetic material for other studies. Wings may be dried or frozen, too.

It takes up to six hours to sort the contents of a single crop, so Susan asks that samples be selected with care. Rather than collecting lots of crops from a single hunt, choose one or two per hunt. The more information associated with the sample, the better: note the date and time of day, the location, the vegetation in the area where the bird was taken, how many birds were in the flock, the gender of the bird, and snow depth. If you would like more information or to participate, please contact Susan: 907/246-1205, Susan_Savage@fws.gov. The Refuge will provide labeled plastic bags and tags for the samples.

Big Game Guide Use Areas Open for Selection

On Alaska Peninsula and Becharof National Wildlife Refuges, competition is under way for permits to conduct big game hunting guide services. This opportunity only comes once in ten years for most of the permit areas. 14 guide use areas are open in the Alaska Peninsula NWR; 5 are open in the Becharof NWR.

The objective of allowing commercial big game guiding is to make available a variety of quality services to the public for recreational hunting on the Refuges, when such activities are compatible with the Refuge's purposes, and resource and management objectives.

A panel comprised of Service employees will evaluate all properly completed applications or proposals for a refuge guide use area, using scoring factors and guidance developed by the Service for each of the criteria listed below.

- 1) Ability to provide a high quality hunt and guiding service to the public.
- 2) Safety record, training, equipment, and plan.
- 3) Demonstrated experience and knowledge of the guide use area, and the terrain, climate, and species to be hunted.
- 4) Impacts of the proposed operation on wildlife and other refuge resources such as water quality, vegetation, soil, and wilderness character.
- 5) Impacts of the proposed operation on other refuge users, including subsistence users.
- 6) History of compliance with state and federal hunting, fishing, and guiding laws, regulations, and permit requirements.

All proposals must be submitted in writing by 4:00 p.m., February 29, 2012, to:

U.S. Fish and Wildlife Service
Attention: Brian Anderson
National Wildlife Refuge System - Alaska
1011 East Tudor Road, MS 235
Anchorage, Alaska 99503

Fees from hunting and fishing guide services, gathered through Special Use Permits, help fund activities and improvements on the Refuge. For example, a new dock on the Naknek River for use by Refuge law enforcement floatplanes has been ordered with permit fee funds and will be installed in 2012.

Volunteers Provide Exceptional Service

19 volunteers helped Alaska Peninsula and Becharof National Wildlife Refuges in 2011. From trailwork to artwork, volunteers have left their mark.

Robert Finan, a volunteer intern for Refuge Biologist Susan Savage, assisted with a variety of projects in the field and in the office from May through August. Marla Greanya, a volunteer in 2010, joined him for a month in 2011 to assist with biology projects.

Paul Boskoffsky, an elder residing in Naknek, provided invaluable assistance with the Kanatak Trail project. He was awarded a check from Alaska Geographic for his service. Paul spoke to several groups about the significance of the Kanatak Trail. He provided historical background information for the project, donated dozens of photos, and joined a team in the field to point out the trail route and other important cultural features. The field crew included volunteers Ken Fawcett of Oregon and Bill Beattie of Idaho, who spent two weeks in early June assisting with marking and recording the route of the Kanatak Trail as well as setting up a field camp at Ruth Lake.

Also on the team was Jack Trout of Oklahoma, who helped establish the Ruth Lake field camp. Jack went on to accomplish a variety of maintenance projects at Refuge headquarters in King Salmon. Jack was also awarded a check from Alaska Geographic for his outstanding service.



Alaska Geographic

A work crew of 8 Student Conservation Association volunteers tackled the arduous work of clearing brush from the Kanatak Trail. Tom Prang volunteered his time as an educator, delivering



Refuge Manager Bill Schaff training VIPs Hannah Smith, Jack Trout, and Sam Roberts in gun safety. USFWS/Julia Pinnix



From left: USFWS archeologist Tom Prang, VIP Paul Boskoffsky; from right, VIPs Ken Fawcett and Bill Beattie. USFWS/Julia Pinnix

natural and cultural history programs in schools around the Alaska Peninsula.

Allan Dreyer was the first Artist for Public Lands to work for the Refuge. He came up from Washington State in July and spent 4 days in Katmai National Park gathering background material. In August, an overflight of the Alaska Peninsula and Becharof National Wildlife Refuges was provided. From these experiences and using photographs, he produced two large paintings for Katmai NP and two for the Refuge. One of each was on display



Allan Dreyer, artist. USFWS/Julia Pinnix

in the King Salmon Visitor Center for National Public Lands Day on September 24. The Refuge will put Allan's work on permanent display in the headquarters office.

Liz Allard arrived from Kodiak for a week of research to use in forming new Junior Refuge Ranger booklets.

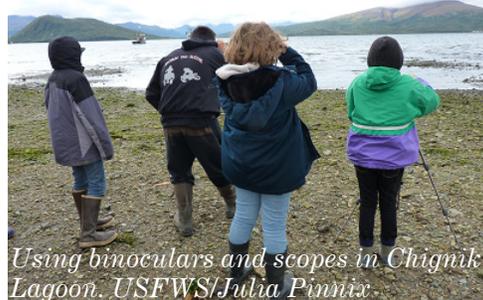
The booklets, when completed, will be available for children visiting or residing on the Alaska Peninsula. Cleve and Marty Pinnix helped research educational programs while visiting King Salmon in June.

Wilderness Fellow Works on Peninsula

Corey Anco, a graduate of Duke University's Nicholas School of the Environment, was one of ten people nationwide awarded a wilderness fellowship by the USFWS. For the past six months, he has cooperated with the National Wilderness Preservation System and the USFWS to develop Wilderness Character Monitoring Plans for National Wildlife Refuges along the Alaska Peninsula. Corey spent three months in Cold Bay with Izembek NWR developin measures to track changes in the Izembek and Unimak wilderness areas. From September to December, he was in King Salmon, collaborating with staff to develop measures for the Becharof Wilderness Area. Wilderness areas are some of the last remaining sanctuaries for plant and wildlife communities. The intent of the monitoring plans is to improve the understanding and management of the National Wilderness Preservation System's 20 million-acres.

Refuge Staff Bring Science Programs to Schools in September

A Refuge team headed for six Alaska Peninsula schools in September to bring science education to students at all grade levels. Biologist Susan Savage, Visitor Services Manager Julia Pinnix, and Volunteer Tom Prang visited Port Heiden, Chignik Lagoon, and Pilot Point from September 19-23. They were joined by Biological Science Technician Kevin Payne September 26-30 in visiting Perryville, Chignik Lake, and Chignik Bay.



Using binoculars and scopes in Chignik Lagoon. USFWS/Julia Pinnix

An attempt was made to hold Science Camp at Ivanoff Bay in 2010; but foul weather eventually caused cancellation. In 2011, the Refuge cancelled Science Camp due to weather delays in getting the buildings at Taquka Kuik Camp on Becharof Lake ready for use. The funding set aside for Science Camp was instead used for an alternative: sending Refuge staff to as many schools as possible to encourage interest in science and recruit students for Science Camp in 2012.



Examining sea creatures in Perryville. USFWS/Julia Pinnix

The team prepared presentations appropriate for two age groups: grades K-5 and 6-12. The lessons were generally based around water as a vital factor that ties all living things together, with an emphasis on hands-on activities that took students outside. The materials covered with each age group depended on the time available at each school. The K-5 activities included: reading a book about the travels of a drop of water; using a globe to determine if the Earth



Susan works with students and teachers in Chignik Lagoon. USFWS/Julia Pinnix

has more land or more water on its surface; an outside observation exercise; a water cycle game; a bird migration game; and examining water mammal adaptations with skins and skulls. The 6-12 grade level activities included: a lesson on bird migration and the tools scientists use to study it; mapping real tundra swan migration data using latitude and longitude; learning about GPS and compass navigation; learning to use binoculars and scopes outdoors; collecting aquatic animals and examining them with microscopes before releasing them; a prehistoric midden observation; and making traditional tools.



Dissecting a midden in Chignik Lake. USFWS/Julia Pinnix



Exploring the Earth in Perryville. USFWS/Tom Prang



Using GPS in Pilot Point. USFWS/Julia Pinnix



Mapping data in Pilot Point. USFWS/Julia Pinnix

Refuge staff worked with 95 students and their teachers and aides. Feedback was positive; and Refuge staff have been invited to return. Visits to other schools as well as repeat visits can be scheduled using Refuge aircraft rather than commercial flights. The small size of the planes limits the number of staff that can come but meets Refuge requirements for limiting travel expenditures. Please contact Julia Pinnix to arrange for educational programs: 246-1211; Julia_Pinnix@fws.gov.



Water cycle bracelets in Pilot Point. USFWS/Tom Prang

Many thanks to all of the teachers and community members who made the team welcome. Thank you also to the students, whose energy and interest made the trip worthwhile. Learning and teaching about science proved to be as much fun for staff as for students!



Phone: 907/246-3339

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**Web: <http://alaskapeninsula.fws.gov>
and <http://becharof.fws.gov>**

Ptarmigan Focus of First Study on Alaska Peninsula

A study led by Refuge Biologist Susan Savage began this year on willow ptarmigan (*Lagopus lagopus*). Willow ptarmigan are a species of management interest because they are heavily used by both sport and subsistence harvesters. Adults, chicks, and eggs are important prey items for other wildlife. They are a sentinel species for climate change as they are heavily dependent on sensitive habitats. Because they are a resident species in areas with low point-source pollution, they may be used as indicators of contaminants arriving in the subarctic from distant sources.

Although red grouse and willow grouse (British and European names for willow ptarmigan) have been extensively studied in Europe and some work has been done in North America, little work has been done in Western Alaska. Currently, studies focused on the impacts of ptarmigan on willows and other shrubs and the impact of climate change on the birds are underway in Northern Alaska. Monitoring is occurring in State Game Management Unit 13. Other than documenting geographic variation in body size and weight and describing subspecies, no work has been done on the Peninsula on willow ptarmigan natural history or biology.

Study sites were selected on the Bristol Bay Coastal Plain, which is dominated by low and dwarf shrub communities, tundra, and by a variety of wetland types. All of the survey locations were near Becharof or Upper Ugashik Lakes. Willow ptarmigan can be found in a variety of habitats, but the focus of this study was in drier habitats, including dwarf ericaceous shrub with patches of low or tall shrub.

Nine transects were surveyed in five locations, chosen for accessibility by fixed wing aircraft and likelihood of having ptarmigan habitat. Using recorded calls, attempts were made to get a response from birds present in the area. The fieldwork began May 17 and ran until May 30, with each day's observations beginning close to sunrise. One evening survey turned up very similar numbers of birds compared to the morning surveys.

The playback calls seemed to have almost no impact; most birds made no observable response. This could be because the projected volume was not very loud, or the digital format degraded the call. Observers detected many birds by hearing them call. Nearly all birds observed were male. Ptarmigan were observed in areas dominated by



Red fox with ptarmigan. USFWS/SCA

crowberry as well as in low and tall shrubs. Nests found indicate that future surveys should start no later than May first.

Recommendations for the future include working with other biologists and hunters in Alaska interested in ptarmigan population cycles. Information from local subsistence users and guides who hunt willow ptarmigan will help to gain insight on population cycles, food habitats, habitat use, and predation. A ptarmigan crop survey and wing collection (see page 5) will help obtain age and sex of hunted birds and can be used for genetics or diet studies in future. The feasibility of evaluating Alaska Peninsula willow ptarmigan for contaminant levels is being investigated. Exploring methods to measure other prey species cycles could help to determine if they are synchronized, as suspected in other areas in Alaska.