



Kk'oonootne Tene

Kanuti National Wildlife Refuge

Summer 2013

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On June 20, a wildfire began just northeast of Kanuti Refuge, not far from the Jim River. The fire ultimately burned over 63,000 acres. (USFWS)

Kanuti Staff

- Refuge Manager**
Mike Spindler
- Deputy Refuge Manager**
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- Supervisory Wildlife Biologist**
Timothy Craig
- Law Enforcement Officer/Pilot**
Andy Flack (Coldfoot)
- Avian Wildlife Biologist**
Christopher Harwood
- Fire Management Officer**
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Kristin Reakoff (Wiseman/Coldfoot)
- Visitor Services Intern**
Allyssa Morris
- Maintenance Worker**
Brad Storm (Bettles)

The Prospect Fire

The Prospect Fire began from a lightning strike on public lands administered by the Bureau of Land Management and in an area which has a “limited response” fire management option. That means the fire would not be suppressed, except where private property was threatened.

Coincidentally, Kanuti biologists were planning to launch canoes on the Jim River at the Dalton Highway just a few days later for a survey. Their plan was to float down to the Refuge to conduct wildlife and vegetation surveys. Staff began to carefully monitor the fire, trying to predict if, and how, the fire might affect their work. With all of their gear packed, on the day they were to leave, the fire made a huge run to 43,000 acres and jumped the Jim River onto Kanuti Refuge. With wildfire raging on both sides of the river, Kanuti biologists decided the danger was too great and postponed the trip.

Three weeks, and several rainstorms later, the fire subsided and the crew resumed their original plans. In early August, Kanuti biologist Tim Craig flew along the Bettles Winter Road in a helicopter. The “road” acts as a path through the boreal forest that the City of Bettles uses in winter to make a snow road and transport supplies to the village. Pictures taken of the fire from the helicopter tell a compelling story of devastation and nearly instantaneous renewal. 🐻



View of burn area from helicopter. (USFWS)

Floating Kanuti Rivers for Raptor Research

The Northern Goshawk (*Nik'eedoya*) is the largest forest-dwelling hawk in North America. It usually nests in stands of large, mature trees with a closed canopy. Models of vegetation change for interior Alaska indicate that by 2100 coniferous boreal forest habitat may decline greatly due to the changing climate. These changes in vegetation will undoubtedly affect potential goshawk habitat on Kanuti Refuge. So, Kanuti Biologists have started surveying parts of the Refuge for this raptor. To our knowledge, this is the first systematic survey of Northern Goshawks that has taken place in the North American Arctic.

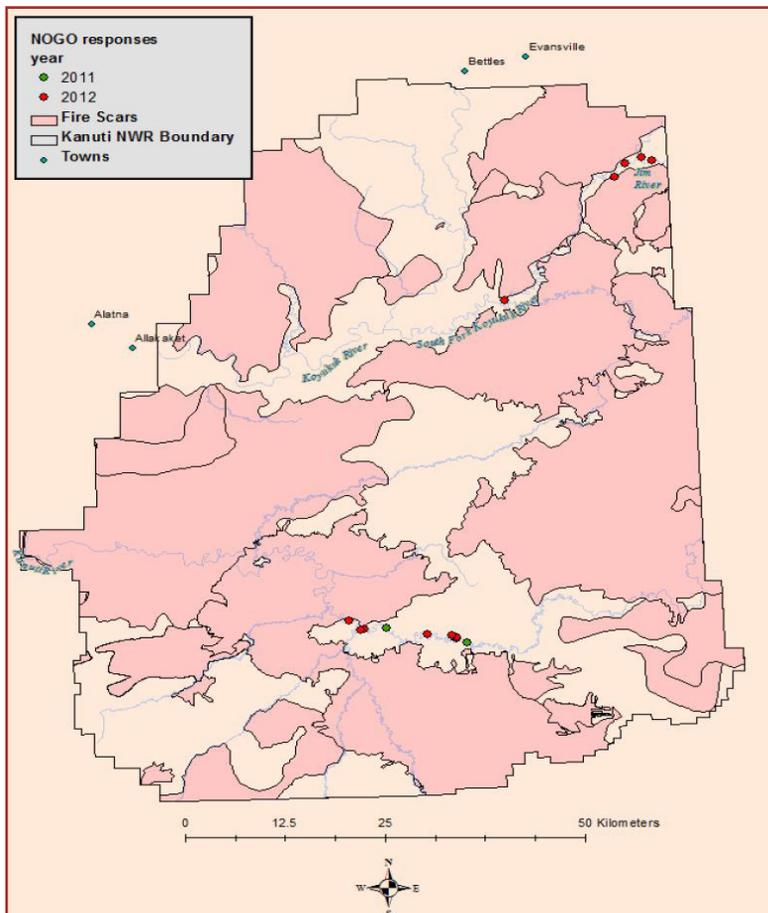
Surveys are conducted from boats in June and July because of the minimal costs involved in traveling this way on the Refuge. At each sample station, goshawk calls were broadcasted in 3 different directions, two times each, with periods of listening between each calling bout.

During the float trips, we also surveyed for other wildlife species. The crew also searched for invasive weeds because the Dalton Highway crosses streams and thus is a potential avenue for non-native weeds to spread into Kanuti Refuge.

Findings show that goshawk responses are low on Kanuti Refuge; there were 4, 6, and 7 responses on the Kanuti River surveys during 2011–2013, respectively. In contrast, there were five responses on the Jim and South Fork Koyukuk Rivers in 2012, but only 3 in 2013. We think this change in responses on the Jim and South Fork Koyukuk Rivers may be due to the recent Prospect Fire that burned up a great deal of goshawk habitat this spring. It is currently unknown how far away goshawks respond to the calls, but some of the responses were very faint. Because of this, our biologists think some of the responses heard may be

from birds in the same territories.

Other animals also respond to goshawk calls with alarm calls of their own, maybe because goshawks are such fierce predators. For example, in 2012 eight different species responded to our goshawk calls on Kanuti River, with American Robins, Red Squirrels and Gray Jays the most frequent respondents. Similarly, we elicited alarm calls from 16 different species on the Jim and South Fork Koyukuk River route, with Spotted Sandpipers, Red Squirrels and Gray Jays responding most frequently. We have not collated the response data for 2013 yet, but suspect similar results. On a positive note, no invasive weeds were found on either float trip. 🍄



Locations of Northern Goshawk responses on Kanuti Refuge in 2011 and 2012.



Kanuti Biologist Tim Craig has been surveying Northern Goshawks on the refuge since 2011 by broadcasting their calls (to prompt territorial responses) along parts of three rivers: Kanuti, Jim, and South Fork Koyukuk. (USFWS)



A juvenile Goshawk. (Photo by Ted Swem)

Refuges Partner Together to Investigate Drying Wetlands

On Kanuti Refuge we have noted that wetlands in some areas seem to be drying up, while in others, they are expanding. Some believe it is climate change, while others say it is the natural cycle of wetlands, as we go from dry years to wet years and vice versa. Refuge staff are initiating a lake hydrology study that may yield answers to these questions.

Kanuti and Yukon Flats Refuges just began cooperating on a study of wetland hydrology to determine some of the possible causes of wetland drying and wetland formation on Kanuti. An ideal wetland to study is one that is accessible by floatplane, has no major input or output streams, and a shoreline that can be instrumented with an automated water level data recording device at the bottom of a small well that consists of a plastic pipe. Refuge staff will have to visit each well site at the beginning and end of the open water season to retrieve the data loggers and take other measurements.

US Fish and Wildlife Service Hydrologist Josh Rose made a visit to Kanuti refuge last week to begin

planning a more comprehensive water level study, in cooperation between Kanuti and Yukon Flats NWRs. He used a hand auger to drill through lakeside vegetation and sediments to establish a monitoring well. Josh's initial impression is that

the wetland types and major driving forces are quite different between the two refuges, so some conclusions from one area may not be directly applicable to another. 🐾



This wetland, located near the confluence of the Kanuti River and Kilolitna River has been drying for the last several years. (USFWS)

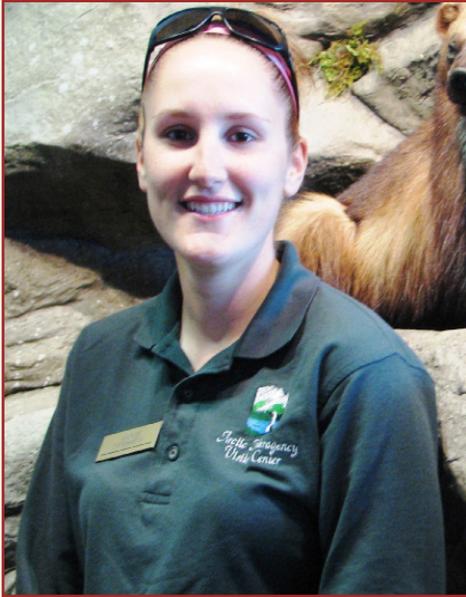


This lake is located near the Kilolitna River. The smaller satellite image at the top right shows how much of the lake was covered in water in 2007. The larger photo was taken in September 2010, the lowest level we have seen. Notice how the mid-lake peninsula of 2007 has completely split the lake in 2010. Drastic changes similar to this have prompted biologists to monitor the decreasing water levels.



Hydrologist Josh Rose takes notes about a new monitoring well that he has just established on the shore of a wetland on Kanuti refuge. In the photo he is getting an accurate GPS position of the well and has taken some initial measurements of depth to permafrost, water level, and depth of the floating mat bog vegetation that surrounds many of Kanuti's wetlands (USFWS)

View from the Field



Kanuti Refuge Student Conservation Association Intern Anneliese Dershem at the Arctic Interagency Visitor Center in Coldfoot, Alaska.

Deep in the Boreal Forest of Interior Alaska, creatures stir. They can be found scavenging through leaf litter and mosses in the willow thickets. These creatures are in search of little round balls of mystery. Just what are these creatures and these mysterious balls?

The creatures are National Park Service biologists from Gates of the Arctic National Park and Preserve,

and their dedicated volunteers. They have been crawling through willows and spruce forests in search of snowshoe hare poop! Yes, I said poop - also known as pellets, droppings, or scat. For more than a decade, Donna Difalco, a National Park Service biologist, has been visiting the area around Coldfoot and Wiseman twice a year to survey plots - two inches by ten feet - looking for the droppings of snowshoe hares. Little do the hares know that their droppings are giving these biologists information about their population size, as well as a look into how they survive the harsh arctic winter.

As a Student Conservation Association (SCA) intern with the U.S. Fish and Wildlife Service, I had the privilege to assist Donna Difalco with the hare study at a plot near Wiseman. We crawled through some very thick willows looking for anything resembling a hare dropping, while also fighting off hoards of mosquitoes that were determined to suck us dry. I was bitten and burned from only one day in the field with Donna and the other volunteers, but they showed no signs of slowing down after having already put in a full week of work. They completed 48 plots in one week, which finished the study for this year.

On the plots I helped survey, only a hand-full of droppings were found. They were recorded and bagged to take back to the lab for further testing. I never dreamed I would be on

my hands and knees looking for rabbit droppings and competing for the most found!

Despite the mosquitoes, the experience was great. I met several new people who care about the environment and the wildlife as much as I do, and are out there studying it to conserve it. We shared stories of other wild places we visited and places we hope to see someday. One of the most important aspects of this experience for me was being able to apply skills I learned about in my college Ecology class in the field, conducting a real, ongoing study. Any opportunity to get into the field is great - but it was even better to use things I learned at school.

I hope to be a law enforcement ranger with the federal government one day. I feel my experience with the hare study and many more experiences to come will help me learn more about what it is I am protecting, and more importantly why. As an SCA intern with U.S. Fish and Wildlife Service, these experiences are what I was hoping for. I am excited and looking forward to whatever else is coming around the corner, including hare poop! 🐾

[Written by Anneliese Dershem, Intern for Kanuti Refuge]

Village Students Learn about Migratory Birds

Kanuti Refuge's Visitor Services Intern, Allyssa Morris and other Refuge staff visited the Allakaket School in May. Students learned about the annual life cycle of migratory birds and recognized the significance of Kanuti Refuge's nutrient-rich lands for feeding and nesting purposes. "It's always a pleasure working with the students of Allakaket and Alatna," Allyssa commented. "I have so much fun in the classroom. Connecting students with the wildlife located in their own backyard is a rewarding experience." 🐾



Students learned about the numerous challenges birds must overcome during their lengthy migratory journey and created their very own bird puppets. (USFWS)

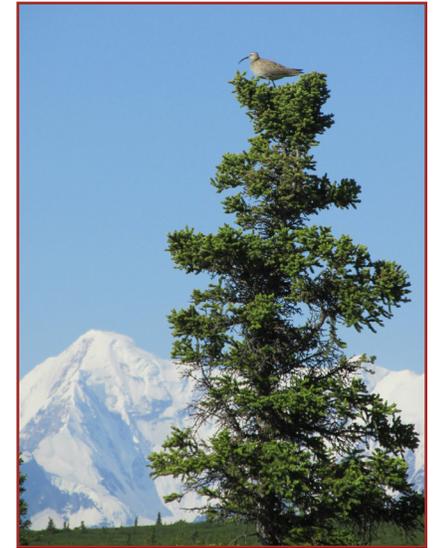
Shorebird Research Continues Across Interior Alaska

Kanuti Refuge biologist Chris Harwood, has spent the last 5 years studying Whimbrels (*bedelts'edle*) near Kanuti Lake (*Kk'oonoo Benkk'e*) and Mud Lakes (*Laats Kkokk'e*). This spring he looked for Whimbrels along highways in other parts of interior Alaska. Folks have reported finding Whimbrels in the Old Man Camp area in the past. While the tundra is very similar to that found near Kanuti Lake and the Mud Lakes, Harwood didn't find any Whimbrels near this area in 2013. He and other bird biologists also surveyed for Whimbrels and other shorebirds as far south as Denali National Park (Parks Highway), north to Atigun Pass (Dalton Highway), east to Eagle (Taylor Highway), and west to Minto (Elliot Highway). Whimbrels are known to be patchily distributed and this was borne out on the survey; Chris found them breeding near Denali Park, Delta Junction, and Chandalar Shelf (just south of Atigun Pass).

It's possible that the very late spring of 2013 affected where, and if, some

birds nested this year. When spring is late, some shorebirds will arrive and not spend as much time displaying and singing as they do in a typical year. Some shorebirds have been known to even turn around and head back south without trying to breed.

Did you think that bird numbers in 2013 were different from previous years? Did you notice birds arriving late, arriving skinny, singing less, etc.? Let us know about your observations. It was definitely a different kind of spring for birds and people alike! 🐾



Whimbrel perched on top of tree near the Alaska Range. (USFWS)

This is an example of the type of tundra that Whimbrels may nest in: the "Old Man Camp" area at MP 102 on the Dalton Highway. The line of spruce trees is the Kanuti River ("Old Man River"). (USFWS)

Agencies Work Together to Bring New Law Enforcement Officer/Pilot to the Arctic!

We are excited to welcome Andy Flack, our new law enforcement officer/pilot, to the Fish and Wildlife Service. In his unique position, Andy's time will be shared equally between the U.S. Fish and Wildlife Service and the National Park Service. Andy has logged more than 7,000 hours flying single-engine aircraft in Alaska, working as an air taxi pilot since 2005. In that job he flew big game hunters and guides, fishermen, glacier climbers and other tourists, and State and Federal staff all over the state. After completing federal law enforcement training in late September, Andy and his new wife, Megan will make their home in Coldfoot. There, Andy will have easy access to the lands he'll be patrolling - Arctic, Kanuti and Yukon Flats Refuges, and Gates of the Arctic National Park and

Preserve. Born and raised in Kenny Lake, Alaska, Andy enjoys skiing, snowshoeing, snow-machining and flying in the great Alaskan outdoors, and as a lifelong Alaskan, he's most at home in Alaska's backcountry. 🐾



Andy Flack will be stationed in Coldfoot, year-round and will patrol Arctic, Kanuti and Yukon Flats Refuges, and Gates of the Arctic National Park and Preserve. (USFWS)

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Recent Blackfish Die-off



A Bettles resident documented a blackfish die-off in VOR Lake in Bettles. It may have been caused by low oxygen conditions due to a severe winter. (USFWS/Luke Smithwick)

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