



Kanuti National Wildlife Refuge

Winter 2007/2008

Kanuti Staff

- *Refuge Manager*
Mike Spindler
- *Deputy Refuge Manager*
Joanna Fox
- *Lead Wildlife Biologist*
Lisa Saperstein
- *Avian Wildlife Biologist*
Chris Harwood
- *Fire Management Officer*
Chase Marshall
- *Interpretive Park Ranger*
Kristin Reakoff (Coldfoot)
- *Administrative Officer*
Almeda Gaddis
- *Administrative Support Assistant*
Lou Maloney
- *Clerk*
Annie Parks
- *Maintenance Worker*
Doug Holton (Bettles)



John Hudson

Prairie Bluet Damselfly (Coenagrion angulatum), Kanuti National Wildlife Refuge.

Refuge Teeming With Dragonflies

Kanuti Refuge completed a six day search for prairie bluet damselflies (*Coenagrion angulatum*) this summer. One of the delicate blue-green damselflies was collected near Kanuti Lake in 2004 as part of the Refuge's biological inventory program. Unbeknownst to Refuge staff, this was the first record of this species in Alaska, and it represented a range extension of 1,118 miles from its nearest known location in northeastern British Columbia.

Kanuti received a challenge cost-share grant to visit Kanuti Lake and nearby areas to search for more prairie bluets and describe their habitat. Dragonfly and damselfly expert John Hudson of Juneau was the Refuge's cooperator in the project. Hudson, co-author of the

field guide "Dragonflies of Alaska," first identified Kanuti's prairie bluet specimen, along with other dragonflies and damselflies collected on the Refuge. Refuge wildlife biologist Lisa Saperstein and Hudson traveled to the Refuge on June 10, hoping that the damselflies had recently emerged from their aquatic larval stage. The hunt was a success, with prairie bluets captured at Kanuti Lake and other lakes in the area, and 14 different species found at one small lake! Kanuti's abundant aquatic habitat and diversity of dragonflies and damselflies prompted Hudson to call the Refuge a "dragonfly factory." 🦋

Science Camp a Hit

Have you ever watched a dragonfly dine on a fine mosquito dinner under the Alaska midnight sun? That's just one of the many experiences kids had at the Henshaw Creek Weir Science Camp, which took place during the third week of July. The event, sponsored and staffed by Tanana Chiefs Conference, Kanuti Refuge, and the Friends of Alaska National Wildlife Refuges, was held at the Henshaw Creek salmon counting weir in the Kanuti Refuge. The event was attended by five junior high and high school-aged youth from local villages near the Refuge.

"Our goal was to educate these young people about fish identification and anatomy, stream ecology, aquatic insects, stream physics and chemistry. We also wanted to do some fun things like traditional Native beading and fish printing," said Carla Stanley of the Friends Group. Kanuti Refuge staff provided activities to help students learn about the Refuge and the National



Carla Stanley

Students watch a dragonfly on the beach at the first Henshaw Creek Weir Science Camp.

Wildlife Refuge System.

Two long-time residents of Allakaket, a village adjacent to the Kanuti Refuge, also participated in the camp. Elders Kitty and David David, both of whom are very knowledgeable in traditional Native techniques, spent the entire week at the camp, teaching fish cutting and smoking, building a smoke rack without nails or

ropes, making fish nets out of willows, and beading. They also provided Alaska Native traditional stories during the evenings, which were a big hit with the kids. Due to the success of the Henshaw Creek Weir Science Camp this first year, plans to conduct and even expand it next summer are already underway. 🐟

Native Place Names Project Makes Maps Relevant To Local Residents

In remote parts of Alaska, "place names" are important to hunters, fishers, Native elders and biologists alike. Early map makers sometimes tried to use local Native names, but the meanings were often lost when translated into English. The result was often a long word that had meaning to few. This is one reason

why cultural resource scientists are now studying place names. In the late 1980s and early 1990s, Koyukuk River resident and elder Eliza Jones guided efforts to gather information about Native place names in the area of the Kanuti Refuge around the villages of Allakaket and Alatna. She worked closely with then

Refuge Information Technician Johnson B. Moses, an elder with extensive local knowledge of Refuge resources. In 1997, the names were compiled and documented on maps and in a report written by Eliza Jones and Wendy Aruandale from the University of Alaska, Fairbanks.



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Refuge Manager Mike Spindler and Assistant Planner Deborah Webb discuss Native place names with residents of Allakaket.

In 2006 the Refuge worked with Eliza again to incorporate almost 300 of these names into a GIS database. This has facilitated the Service's proper use of Native place names on maps. Refuge staff members joined Eliza to present draft maps in Alatna and Allakaket in August 2006, and as a result of those meetings were able to finalize a Native place name map to be included in the Kanuti Refuge Revised Comprehensive Conservation Plan in 2008. These maps will now be used to help clarify hunting regulations and make outreach projects more relevant to residents who live near and regularly use the Refuge. 🐟

Friends Pull Together To Remove Invasive Weeds



Carla Stanley

Agency staff and volunteers feel good about their efforts to keep invasive weeds out of the Refuge.

“Friends of Alaska National Wildlife Refuges” volunteers, Bureau of Land Management staff and the Alaska Department of Transportation and Public Facilities worked together twice this year to remove invasive weeds that have colonized the Dalton Highway corridor near Kanuti National Wildlife Refuge. Over 2.5 tons of invasive, non-native plants, primarily white sweet clover (*Melilotus alba*), were removed during a three-day effort (July 10-12), and nearly one ton was removed during the second effort (August 24-26).

At its nearest point, the Refuge lies just eight miles west of the Dalton Highway. There are at least six Koyukuk River tributaries that cross the highway and later enter the Refuge. The Fish and Wildlife Service and Friends are concerned that these waterways could become routes for dispersal of invasive weeds into the Refuge.

The challenges we experienced manually and/or mechanically treating this infestation as it marches north have caused Friends members and Kanuti

staff to believe a change in tactics is needed to control white sweet clover along the Dalton Highway. Two years of manual weed pulling has shown that only a large-scale integrated approach, including the potential use of herbicides and other control methods, will stop the spread of this noxious weed. Refuge staff will continue to work with partners along the highway corridor to prevent white sweet clover from entering the Refuge. 🐾

It's Good To Have Friends

“Friends of Alaska National Wildlife Refuges” is a non-profit, statewide organization that promotes the conservation of natural resources on all 16 of Alaska’s National Wildlife Refuges, including the Kanuti National Wildlife Refuge. If you would like more information about the Friends group, e-mail <akrefugefriends@gmail.com> or call the Northern Refuges representative, Jack Reakoff at 907/678-2007. 🐾



A Closer Look At White Sweet Clover

White sweet clover (*Melilotus alba*) is a biennial herbaceous weed that invades native plant communities,



Barbara Logan

White Sweet Clover (*Melilotus alba*).

thereby reducing natural diversity. It rapidly colonizes disturbed lands and roadsides, spreading especially quickly along riparian areas and riverbanks. The plant has alternate compound leaves that are divided into three finely toothed leaflets. First-year plants do not bloom. Second-year plants grow 3-5 feet high from a strong taproot and are bush-like. In Alaska, white sweet clover blooms June through August on second-year plants. The white flowers are fragrant and crowd densely along the top four inches of the plant’s many stems. Each flower produces one or two hard, small seeds, which can live in the soil for 80 years. To our knowledge there is presently no white sweet clover growing within the Refuge. If you see white sweet clover in the Refuge, please contact us immediately because early detection and rapid response is critical in eradicating small infestations before they become too difficult to control. 🐾

Kanuti Welcomes New Fire Management Officer

Chase Marshall is the new Fire Management Officer for Kanuti, Arctic and Yukon Flats National Wildlife Refuges. He has 17 years of experience in fire management with the Fish and Wildlife Service. Marshall began his career in 1989 at J. Clark Salyer Refuge as a seasonal biological technician, assisting with prescribed burns and vegetation monitoring, and participating in waterfowl management activities.

Most recently, Chase worked for the Service as the District Fire Management Officer for western North Dakota, where he oversaw all aspects of wildland fire management. Chase has degrees in zoology and wildlife management, and has utilized his background in science to lead districts and refuges in developing and conducting fire effects monitoring programs and assisting with Joint Fire Science Program research projects. He

has also guided Refuge programs in which fire is used as a tool to achieve desired habitat maintenance or change.

Chase is excited about Kanuti's fire program. "Even though the staff is small, they are very active in fire management and make great strides to support National Fire Plan initiatives and the U.S. Fish and Wildlife Service mission," Chase said. He lives in Fairbanks with his wife Sarah, a registered nurse at Tanana Valley Clinic, and his daughter Kenady. 🐾



Fire Management Officer Chase Marshall.

Bettles and Evansville Embrace Firewise Project



A home in Evansville before thinning.

This year, Refuge fire management staff in Fairbanks continued to partner with the communities of Bettles and Evansville, just north of the Kanuti Refuge, to conduct a Firewise/Wildland Urban Interface risk-reduction project. Initiated in 2006, the goal of the project is to reduce the risk of wildfire spreading into communities from adjacent federal



The same home in Evansville after thinning.

lands. This is done by thinning highly flammable black spruce stands on private lands in and around the communities. Fuels removed during the thinning process are transported to a large open gravel bar on the Koyukuk River, where they are burned under close supervision when conditions are appropriate. The work, which is ongoing, is being

conducted by a local crew hired by the Evansville Tribal Council and assisted by the Bettles Volunteer Fire Department. The thinning project will continue until July 2008, and will ultimately result in hazardous fuels reduction on 57 forested acres near homes and public areas within the two communities. 🐾

Tribal Council Provides New Rural Assistant



Rural Assistant Kenneth Bergman and his wife Elsie display some of her Native bead work.

We were very excited to arrange a two-year contract for the Allakaket Tribal Council to provide Kanuti Refuge with a rural assistant. The Council selected Kenneth Bergman as the rural assistant in the village of Allakaket, which lies near the Refuge's boundary. In his new job, Kenneth assists Refuge staff with

waterfowl and moose harvest surveys. He also acts as a liaison between the village residents and Refuge staff, and assists with outreach activities.

Kenneth is right at home in his new position. He enjoys working with his community. As he helps collect accurate

survey data, Kenneth's knowledge of subsistence living is an invaluable resource. Kenneth listens to peoples' concerns and knowledge and shares his own wisdom through his work by talking to people about conserving natural resources for future generations.

Kenneth and Elsie Bergman live a subsistence lifestyle in Allakaket with their son and grandchildren. Like Kenneth, his wife Elsie is hopeful her children will continue the subsistence lifestyle. One of the many ways she passes on her knowledge is by participating in Spirit Camps, where elders pass on traditional knowledge to children. When asked about Spirit Camp activities, Elsie said, "I go to Spirit Camp so that kids will learn how to cut beavers and ducks and how to set snares the way my elders showed me. I teach them the old ways." 🐾

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Migratory Bird Calendar Contest Takes Wing

Staff from Kanuti Refuge, along with students from Allakaket and Alatna, celebrated the Refuge's first ever participation in the popular Migratory Bird Calendar Contest on November 19-20, 2007. Interpretive Park Ranger Kristin Reakoff spent a day with students in Allakaket, discussing the importance of migratory birds in their lives. She also provided an art lesson on color use and took poster-making materials to leave in each of the four classrooms.

The Refuge provides habitat for more than 100 species of migratory birds. Students from the villages of Allakaket and Alatna are familiar with migratory birds from first-hand experience but also through stories shared by village elders. They also learn about birds through the work of Refuge staff, including rural assistant Kenneth Bergman, who helps conduct annual waterfowl harvest surveys in both Allakaket and Alatna. Kanuti's involvement in the Alaska Migratory Bird Calendar Contest also allows students from Bettles, Coldfoot and Wiseman to participate. The Alaska Migratory Bird Calendar Contest (formerly the Goose Calendar Contest)

began in 1986 on the Yukon-Kuskokwim Delta. Over the years, the contest grew in popularity and now eleven national wildlife refuges are involved.

Kindergarten through 12th grade level students residing near participating refuges are invited to enter the calendar contest and can submit poster or literature entries (or both). The original

purpose of the contest was to educate local students about arctic nesting geese. Today, the scope of the calendar has broadened, focusing on many more species of migratory birds in Alaska. For more information, visit the 2009 Alaska Migratory Bird Calendar Contest web page at <http://alaska.fws.gov/external/education/about.htm>. 🐾



Jordan Williams proudly displays his progress on a calendar contest entry.

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Moose Population Declines In the Refuge



The highest moose densities were found in areas that burned in 1990 and 1991.

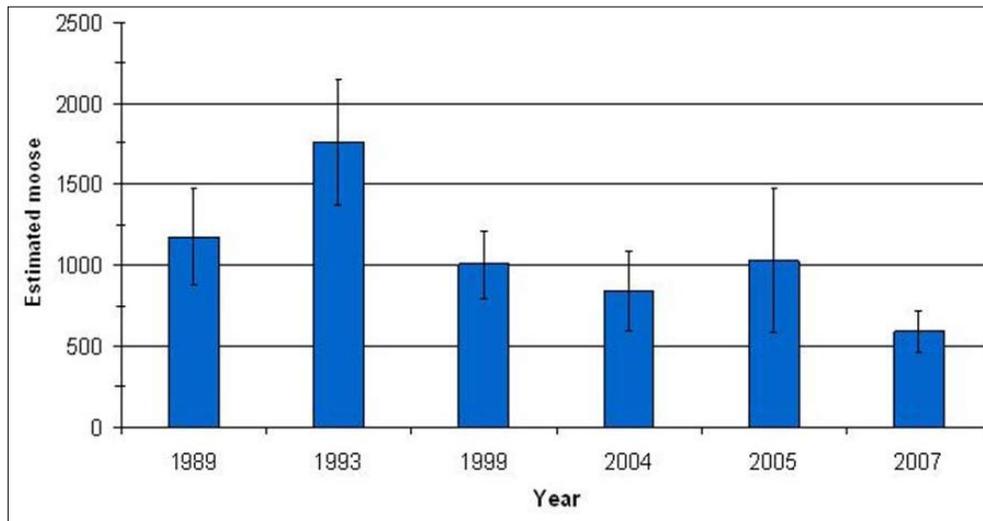
An aerial moose survey on Kanuti National Wildlife Refuge resulted in an estimated 588 moose on the Refuge, a significant decline from previous estimates. The 2007 estimated moose density of 0.22 moose per square mile was the lowest density since the first survey was conducted on the Refuge in 1989. As in previous surveys, biologists found that moose tended to concentrate in 10 – 35 year old burns rather than in river corridors where moose are commonly found elsewhere. Large fires in 2004 and 2005 burned almost 25% of the Refuge and will hopefully produce more good moose habitat in the future. Most hunters access the Refuge by boat, but because much of the burned area is not adjacent to rivers, many of the moose are essentially unavailable to hunters.

The aerial survey was conducted from November 8 – 14, 2007, in cooperation with the Alaska Department of Fish and Game and National Park Service. To count moose in such a large area, the Refuge was divided into 508 rectangular survey units, each about 5.3 square miles in size. During the first step of the survey, the stratification, each of the survey units was quickly overflowed by a Cessna 206 aircraft and observers categorized each unit as having high or low moose density based on habitat and the number of moose and moose tracks seen. For the Kanuti stratification, low density units were anticipated to contain three or fewer moose. The stratification resulted in 69 high density and 439 low density units on the Refuge. All of the high density units and a random

selection of 81 low density units were then thoroughly surveyed using a two-person tandem-seat aircraft such as a Supercub, Husky, or Scout. It took about 40 minutes to survey a unit, and each aircraft team could survey about 8 - 10 units per day during the short November days. Four such teams were used during the Kanuti survey.

Observers counted 291 moose in the 150 units surveyed, classifying each moose as either a bull, cow, or calf. Bulls were further classified according to antler size. Yearlings have spike or forked antlers, large bulls have an antler spread over 50 inches, and medium bulls have intermediate-sized antlers. The Refuge-wide population estimate was statistically calculated based on the observed number of moose and the distribution of high and low density sample units on the Refuge.

Population estimates on Kanuti have been plagued with high variability in the past, partly due to sample sizes (number of units surveyed) that were too small. The 2007 estimate was more precise than previous ones, as shown by error bars in the graph to the left, partly due to the larger sample size (150 units surveyed versus 82 in 2005 and 103 in 2004) and possibly due to a more accurate stratification. 🍷



Moose population estimates on Kanuti National Wildlife Refuge, Alaska, 1989 – 2007. Error bars represent the 90% confidence interval; narrower bars indicate a higher level of precision.

Revising Kanuti's Conservation Plan



Lakes and sloughs are plentiful along the Kanuti River, called "Kk'oonootne" in Koyukon Athabascan.

Kanuti Refuge is one step closer to completing our revised Comprehensive Conservation Plan. The draft plan, released to the public on May 15, 2007, included an updated vision statement, goals and objectives, and three management alternatives. These alternatives differed in the amount and location of land categorized as either minimal or moderate management. Refuge staff actively sought public comments on the plan until the close of the comment period on September 15, 2007.

During that time, Refuge staff hosted several public meetings and talked to numerous individuals and organizations on a one-on-one basis. Meetings focused on Fairbanks and the four rural communities bordering the Refuge: Allakaket, Alatna, Bettles, and Evansville. By the end of the comment period, Refuge staff and the planning office in Anchorage received 55 comment letters and collected a number of oral

comments through public meetings and conversations.

Some of the major concerns heard in the communities bordering the Refuge were related to the use and availability of subsistence resources, such as moose, caribou, and house logs. Village residents would like to see some moderate management near their villages, while stakeholders from other areas in Alaska and the Lower 48 often emphasized the importance of conservation and habitat preservation. Common to nearly all comments the Refuge received, the overarching theme was to "keep the Refuge wild."

Refuge staff and the Regional Office planning team are working together to make necessary revisions in the draft plan and to respond to the comments. The final version of the plan is scheduled to be published this winter. 🐾

For More Information

To learn more about Kanuti National Wildlife Refuge, please visit our web site at <http://kanuti.fws.gov/> or call us toll-free at 1-877-220-1853. We also welcome e-mails. Our e-mail address is kanuti_refuge@fws.gov.

This newsletter may be viewed at <http://kanuti.fws.gov/newsletters.htm>.

To contact the editor of this newsletter with questions or comments, please call Kristin Reakoff at 907/678-2028 or e-mail kristin_reakoff@fws.gov. 🐾



Refuge Vision

For the benefit of present and future generations and in partnership with others, stewards of Kanuti National Wildlife Refuge will conserve fish and wildlife populations and their habitats in their natural diversity, focusing on the Refuge's natural character, biological integrity, and scientific value, as driven by biological and physical processes throughout time.

U.S. Fish & Wildlife Service

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Winter snow blankets the Kanuti Refuge.