

# U.S. ARMY GARRISON FORT WAINWRIGHT QUARTERLY UPDATE FOR ALASKA NATIVE TRIBES

April 2014, Vol. 12/No. 2

This is a quarterly update on United States Army Garrison Fort Wainwright activities and issues of interest to federally recognized tribes in Alaska.

## How do bats hunt in an Arctic summer? or Little Bear Near Fire

contributed by Aleya Brinkman, USAG FWA Wildlife Biologist

Bats are usually nocturnal and rely upon the cover of night to avoid predators while they are hunting their insect prey. But what happens when there is no night? For bats at the northernmost extent of their range, such as Fairbanks, there is almost 21 hours of daylight. How does an Arctic summer affect the hunting strategies of little brown bats... as well as our ability to perceive them as being part of our natural community?



*Little brown bat (Myotis lucifugus)*

*[photo, Wikipedia]*

Many people are very surprised when they hear that we have bats in interior Alaska. Sightings of bats, which are rare, have usually been associated with manmade structures during daytime hours. Whether this is because people dwell near these structures or that bats seek these warmer areas is unknown. Consequently, scientists wonder if bats inhabit remote areas where there are fewer people, if they can hunt when it is light out, and for how long they may have been associated with human activity.

There are two theories about the origin of bats in Alaska. The first is that they followed westward expansion of Anglo-European settlers, occupying the proliferation of stick-built structures along the way. The second is that they are a naturally occurring part of our community.

The fact that there are indigenous names for these small mammals could support the theory that bats have long been in Alaska. The Ahtna word for bat is *xe/ggaay* or *xe/ggaagga'* which translates as "little bear." In Alutiiq, bat—*keneryaq*—comes from the word for fire—*keneq*. Elders say this is because bats are known to circle a fire. Little Bear Near Fire may be an appropriate name to describe the relationship between humans and bats, where bats seek the warmth that humans emanate.

Biologists at Fort Wainwright are trying to figure out when and where bats are most active, if they prefer manmade structures, and how they hunt in an Arctic summer. During 2014, they are launching a study in the Tanana Flats to attempt to answer some of these questions.

Have you seen Alaska bats? Wildlife biologists at Fort Wainwright are interested in sightings and stories of bats in the Tanana River valley. They are hoping to collect this information to see how sightings might be distributed across the valley. If you have information you would like to contribute to this body of knowledge, please contact [aleya.brinkman@colostate.edu](mailto:aleya.brinkman@colostate.edu) or (907) 361-4214.

Additionally, the Alaska Natural Heritage Program coordinates a citizen science project called the Alaska Bat Monitoring Project where everyone can submit and view bat sightings. Information about this program can be found at <http://aknhp.uaa.alaska.edu/zoology/citizen-science/alaska-bat-project/>.



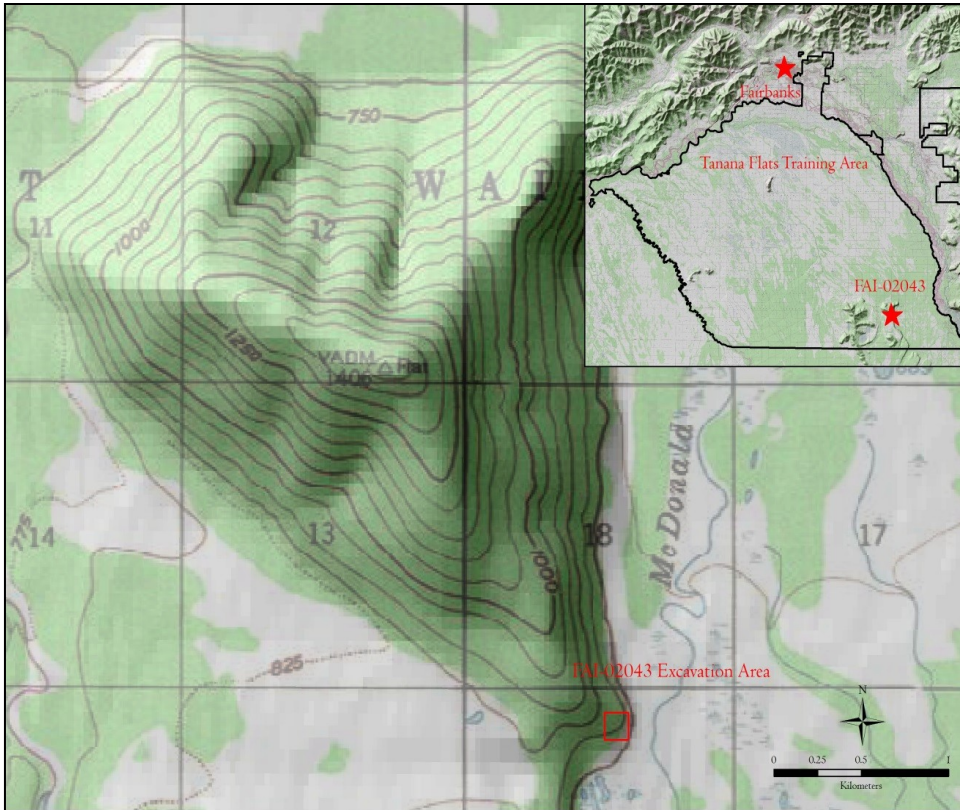
*L to R: Julie Esdale, Kate Yeske, Laura Sample, Natalie Loukianoff, Natalie Thomas, and Elizabeth Cook*

## USAG FWA Cultural Resources Staff Receives Award

The Department of Defense (DoD) announced on April 21 that Fort Wainwright's Cultural Resources Management Program staff received one of nine 2014 Secretary of Defense Environmental Awards, category Cultural Resources-Installation.

Since 1962, the DoD has honored individuals, teams, and installations for their outstanding achievements in environmental excellence without compromising mission success. According to the press release, "Fort Wainwright, Alaska successfully ensured that its land remain available and in good condition not only to support its mission but also to preserve the cultural history that is integral to Fort Wainwright's heritage."

## USAG FWA Partners with Texas A&M University on Archaeology at McDonald Creek



*The excavation is planned for an area of Tanana Flats Training Area with a deep history of human occupation and use. Findings from this dig are expected to add valuable information to the body of information about how people lived in interior Alaska between approximately 9,000 and 14,000 years ago.*

The site was revisited in 2013 and a deeper cultural level was encountered producing a date of 13,900 years ago. There are at least 4 separate cultural zones deposited at McDonald Creek site, spanning the time period from the middle Holocene (7,300 years ago) to the late Pleistocene.

The McDonald Creek site has high potential for increasing our understanding of the lifeways of the first Americans. Humans began to populate North America in the late Pleistocene, likely not much earlier than 14,000 years ago. The earliest sites in Alaska are found in the Tanana Valley between the Blair Lakes region and Delta Junction. McDonald Creek is among the oldest sites in Alaska, with radiocarbon dates from charcoal associated with cultural material in its deepest levels dating to 13,900 years ago. The deep stratigraphy and association of faunal material, stone tools, and charcoal at this site suggests a significant potential to contribute valuable information toward research problems dealing with the peopling of the Americas, Alaskan tool assemblage variability, and early land use patterns in the Tanana Valley. The fauna collection is rich and provides evidence for questions about hunting strategies in late Pleistocene Eastern Beringia. Because the site has many layers of human use with good separation between the layers, analysis of the cultural materials will also help in defining culture-historical frameworks for Alaska.

So far, a total of 1,106 pieces of stone tool debris, 538 faunal bone fragments, and two cobble hammerstones have been recovered from the site.

The deepest cultural levels of the site are of the same age as at several sites in the region, including the Upward Sun River, Broken Mammoth, and Swan Point sites. The stone tool and faunal assemblages from this site are most similar to Broken Mammoth and Upward Sun River with abundant stone tool debris and few formal tools. The presence of large and small game and waterfowl is also very similar to the Upward Sun River and Broken Mammoth faunal assemblages and provides further evidence of broad-spectrum hunting strategies in late Pleistocene Eastern Beringia. The long bone breakage patterns and associated cobbles indicate marrow extraction. The presence of waterfowl suggests an early summer to fall occupation.

After the excavations, all artifacts will be analyzed at Texas A&M University and, according to USAG FWA policy, will be housed at the University of Alaska Museum of the North.

USAG FWA has entered into a Memorandum of Agreement with Texas A&M University and an Archaeological Resources Protection Act permit has been issued for an excavation that will begin this summer at McDonald Creek on the Tanana Flats Training Area. Texas A&M Archaeologist Ted Goebel and a team will conduct scientific excavations at a site that contains cultural material dating to 13,900 years ago and is eligible for the National Register of Historic Places. The multi-year project will determine the site's overall footprint and uncover Holocene and late Pleistocene materials.

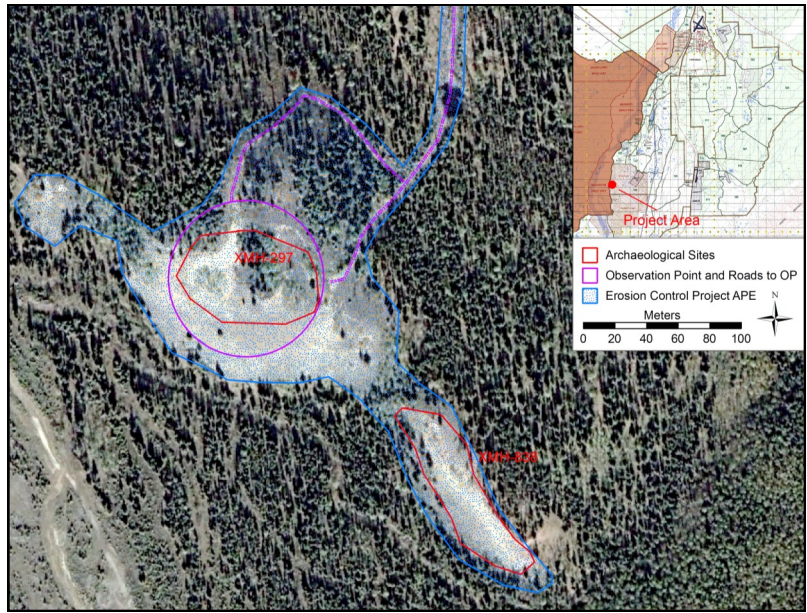
The McDonald Creek site is located at the foot of a large bedrock knoll, roughly seven kilometers east of the Blair Lakes with a commanding view to flats below, the Tanana River valley, and Flag Hill. It was found by former USAG FWA archaeologist Ned Gaines during surveys in the summer of 2010. It was immediately recognized as significant and testing at the site uncovered faunal material—including bison—associated with artifacts—including stone sharpening tools, and charcoal dating to 12,600 years ago.



## Rehabilitation of an Observation Point on Army Training Lands Includes Archaeology

The Army is planning to rehabilitate Observation Point (OP) 9c near the Delta River on Donnelly Training Area (DTA) East. This OP is used to observe the use of munitions from a firing point during Soldier training and equipment testing, and provides excellent site and firing lines into the Washington Impact Area in the Delta River floodplain. Originally constructed in 1978, the Army has been unable to use it in recent years due to erosion problems and cultural resources concerns. Although units agreed to decrease its use even further in 2003, requests to use it are still regularly received by Range Control.

Rehabilitation will consist of maintenance and erosion control projects in and around the OP, requiring ground disturbance by hand crews and heavy equipment that will level, terrace, and stabilize the area to prevent further soil erosion into wetlands. Gravel pads will be created and an access road improved. The angle of erosion on the landscape will be reduced and erosion control blankets made from straw or coconut fiber will be applied and red fescue grass will be planted over the blankets.



*The project area for the OP rehabilitation project*



*Example of surface erosion at the site.*

Bison management at DTA has also had an interesting indirect effect on the erosion problem. Bison traditionally calve and spend summers on DTA in the Delta River floodplain and in the areas to the east. In order to keep herds off active training ranges, impact areas, Fort Greely's airfield, and Fort Greely housing, the USAG FWA maintains land to safely attract bison. Fifty acres of bison grassland was created at Big Lake, northeast of the project area, and Texas Range undergoes annual burning to reduce shrubby plants and promote grass growth. The Army also currently fertilizes an area of the Delta River floodplain known as "Bison Island." These measures have attracted bison and caused them to use the project area as a pathway from Bison Island and the Delta River floodplain to the Texas Range and Big Lake. As the bison migrate up the bluff, they rub against the southern part of the project area, increasing the erosion at the OP and wallow in the disturbed sands, further contributing to erosion.

Two archaeological sites eligible for the National Register are located within the project's boundaries. Reviews of this rehabilitation project have determined that the sites would be adversely affected by the undertakings. It is important to preserve what remains of the sites and correlate the site stratigraphy and cultural activities that took place here, providing a unique and robust image of prehistoric life and landscape use in Interior Alaska.

The first site was found in 1978 and initially yielded a hearth with fire-cracked rock and charcoal immediately beneath the surface sod layer. In subsequent excavations, at least six cultural layers were defined from these test units. The second through fifth layers dated from 2,000 to over 8,500 years ago. The cultural layers at this site were separated by windblown sand/silt, ancient soil, and volcanic ash layers. Charcoal found above some artifacts was dated to 10,000 years ago, indicating that the artifacts predate this. Identifiable faunal remains included bison in the earliest occupations and small game such as hare, beaver, and duck in the later occupations, providing evidence of hunting and trapping. Artifacts included flakes, flake cores, a biface, a preform for making tools, animal bone (including dog), burnt wood, charcoal, and obsidian that is believed to have come from Wiki Peak in the Wrangell Mountains.



*Biface—used as a cutting tool*

The second site appears to have been significantly impacted since its discovery 15 years ago. Buried artifacts and faunal material in layered deposits were found eroding out of the bluff edge and in excavation units. Artifacts were found in at least two of the occupation layers. A total of 40 artifacts were recovered including two chert scrapers, a net sinker, an obsidian flake, and two tabular cores. Because the site is well stratified with sand/silt, ancient soil, and volcanic ash layer sequences that can be dated, it may provide an important early environmental record.

## Fort Wainwright Observes Earth Day April 22

The Fort Wainwright community held its 4th annual Earth Day celebration on Tuesday, April 22. Members of the Directorate of Public Works Environmental Division staff participated in the event and encouraged the visiting students and community members to learn about storm water drainage, air quality, and worm composting. At-



*Vicki Madick helps students and moms make reusable snack bags to take home.*

tendees could make reusable containers for their lunches and guitar picks from recycled hotel keys.

The archaeologists and architectural historians with the cultural resources management staff hosted a booth that demonstrated how people have insulated their houses in Alaska across history and students were invited to make a model *itchalik*— a hide-covered temporary shelter built by Iñupiaq people.

Garrison wildlife biologists, wetland scientists, and foresters displayed models of Interior animal feces, taught about species identification through excrement, and helped students make fish prints on cloth panels to take home.



*Sarah Runck shows how storm water run off works and how it effects animal habitats and wetlands.*

Other words from Alaska Native languages for bats include *noxidiniho iy* [Deg Xinag], translated as “that which lacks eyes” and *xéltzedz* [Tanacross], translation not identified. Is there a word for bat in your region’s language? This is valuable information for biologists. Please write to us and share your knowledge. (see page 1)

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