Paleo-Eskimos are the ancient ancestors of modern Eskimos, as recognized through archaeological studies throughout Alaska, Canada, and Greenland. In Alaska, the earliest members of this group are known from a distinctive stone tool technology known as the Denbigh Flint Complex (say DEN-bee). When archaeologists talk about Denbigh, they are not only referring to their material culture, i.e. the stone tools, but also to the people who made them. More broadly, Denbigh people are part of the Arctic Small Tool tradition, who were the first humans to colonize most of Arctic North America 5000 years ago.

The importance of bone
It is believed that Denbigh Paleo-Eskimos, after processing animals for consumption, would often discard the unusable remains in camp, away from where people were working and sleeping. Rarely are the bones of this type of midden (prehistoric trash dump) discovered at ancient archaeology sites in the Arctic.

Although 75 to 100 Denbigh sites are known in Alaska, only a handful (literally) of bone fragments are known from all of these sites. Without bones, questions about diet, seasonal mobility, and hunting strategies are unanswerable, although archaeologists have proposed numerous hypotheses about Denbigh life-ways.

However, at a recently-discovered site near Matcharak Lake, in Gates of the Arctic National Park and Preserve, the conditions of shallow permafrost and the ongoing formation of peat were just right to preserve the discarded remains of numerous Denbigh meals—perfectly preserved until excavation in 2008. With the discovery of a frozen bone midden at Matcharak Lake, archaeologists can now begin to reconstruct the behavior of these Native Alaskans.

Archeological discovery
The Matcharak Lake site perches on a 15-meter (45-foot) terrace between Matcharak Lake (see photo) and the Noatak River. It was discovered through routine archaeological survey of the upper Noatak River drainage in 2007 by Andrew Tremayne and Cody Strathe, both student archaeologists for the National Park Service. Prior to this discovery, no prehistoric sites were known in the area.

Recognizing the potential for recovering organics (e.g., bone, antler, teeth, and plants) associated with Denbigh Flint Complex tools, National Park Service archeologist Jeff Rasic arranged for a team of archeologists, including Tremayne, to excavate a portion of the site in 2008.

Excavation at Matcharak Lake
To access this site, a crew consisting of Tremayne and four other archeologists were flown by float plane directly to the area of excavation. Technical
At the Matcharak site, Tremayne and the others recovered thousands of bones of various kinds (caribou, fish, and migratory birds), along with tools and incised-bone art work. Now, the work of archeologists can unfold further as they begin to address some of the questions that have puzzled them for years.

For his part, Tremayne has chosen (for his Master’s thesis at the University of Wyoming), to analyze the site’s animal remains, focusing on what the bones reveal about the diet and hunting strategies of site occupants. However, as Tremayne explains, because Matcharak Lake is a localized, small-scale mountain camp, he can only really talk about how these Paleo-Eskimos behaved while at that camp.

Testing hypotheses about Paleo-Eskimo life-ways
Some researchers have suggested there is evidence that Denbigh people spent their winters in the mountains and the summer on the coast, but the presence of at least one caribou fetal bone, fish, and migratory birds at Matcharak Lake supports the hypothesis that, at some point, Denbigh occupied Matcharak Lake in early summer or spring. If Denbigh hunters were specialized caribou hunters, the expectation would be to find mostly caribou bones. So, what explains the fish, birds and other mammals represented in the midden?

Learning about Denbigh
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Archeologists dig for bone and artifacts in the permafrost (left).

The Matcharak Lake site is in western Gates of the Arctic (location as dot and circle on maps).

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