

Archaeological Site Monitoring and Cultural Resource Recommendations for the Hungry Fox Site (KIR-289)

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Introduction

The Hungry Fox site (KIR 289), located on the Killik River in Gates of the Arctic National Park and Preserve, is an eroding prehistoric archaeological site. In addition to the wind and water erosion destroying the site integrity, erosion makes the site highly visible to visitors traveling on the Killik River. Site visibility from the river increases the possibility of looting. The purpose of the 2000 field trip to Hungry Fox was to determine site boundaries, record the extent of site erosion, and gather data to make recommendations for future cultural resource management of the site. Specific cultural resource recommendations are presented at the end of the report.

The Hungry Fox site is significant due to its intact cultural features, possible cultural affiliation and research potential. The site is very likely eligible for the National Historic Register under criteria D, although currently more data is necessary to determine eligibility. There are two possible cultural affiliations for the site: a late Athapaskan site or an early Nunamiut site. Hungry Fox may be a late Athapaskan site due to the time period of site occupation (radiocarbon dates of 360 ± 80 BP and 530 ± 80 BP) and the identification of a Kavik point. Kavik points are a typical projectile point type found at Kavik sites, which are late Athapaskan sites in the Brooks Range. If Hungry Fox is a Kavik site it is the western most expression of this archaeological phase and is only the second Kavik site located within GAAR. The wide range of material culture at Hungry Fox (pottery, slate, wood and chert tools) and the faunal remains suggests a high research potential to the site because only a limited amount of research has been conducted on Kavik sites. While Hungry Fox may have a Kavik component, some of the artifacts found are common at Eskimo sites and are not typically found at Kavik sites (e.g., pottery and ground slate). In addition, the wood net float is similar to a net float from a Nunamiut site on Chandler Lake. If Hungry Fox is Nunamiut it could be one of the earliest Nunamiut sites. Of course, the site could have two cultural components, Athapaskan and Nunamiut. At this time the exact cultural affiliation is not clear.

Site Location and Environment

Hungry Fox is located on the west bank of the Killik river approximately 4 kilometers downstream from Enekalikruak Creek and opposite the southern mouth of Togoyuk Creek¹. A large willowed island is located in the channel across from the site. Hungry Fox is located on a steep, eroding, sandy cut bank approximately 10 to 12 meters above the river. At the top of the cut bank the topography is undulating and vegetated with small willows and grasses. To the north of the site the topography grades into a large low hill. To the west of the site are a series of northwest trending, stabilized and heavily vegetated dunes.

¹ All data on previous work at Hungry Fox is from the draft report titled "KIR-289: The Hungry Fox Site" edited by Eileen Devinney (GAAR-00-01). This manuscript compiles all information prior to the 2000 field work about the site generated from NPS field notes and reports.

Erosion at Hungry Fox

The face of the embankment where the site is located is eroding. Large vegetated blocks slump down the cut bank (figure 1). The blocks are bound together by the root growth of the vegetation mat (*artemesia*). Cultural material is located in the slumping vegetated blocks and is also found scattered down the embankment to river level.

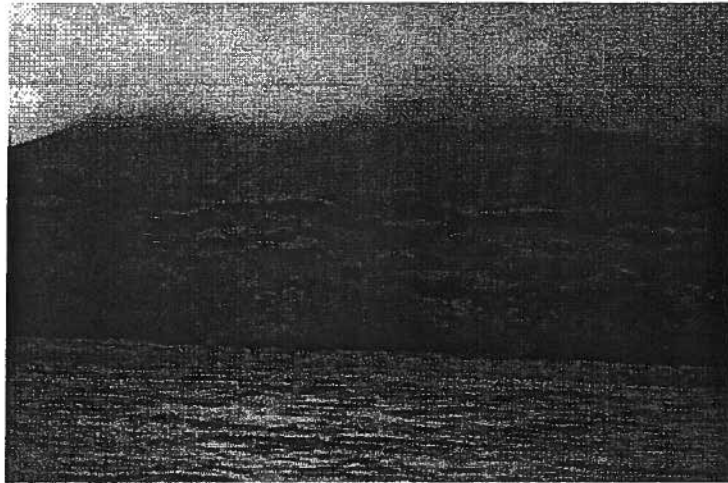


Figure 1, Hungry Fox site, eroding embankment. Killik River in foreground.

The course of the Killik River has changed over the past 10 years, impacting the rate of erosion at the site. Visitors to Hungry Fox in 1992 noted a gravelly beach at the base of the cut bank, with the main channel of the Killik River to the east. By 1993 a small pool of water was present at the base of the embankment. By 1999 the main channel of the Killik River changed and currently, it runs along the base of the embankment where the site is located, increasing the risk of future erosion in addition to making the site more visible to river travelers.

Previous Archaeological Investigations at Hungry Fox

Although the site was first identified in the 1980s and visited four times in the past 15 years the archaeological work and subsequent knowledge about the site is superficial. This is due to the limited time spent at the site. An average site visit to Hungry Fox lasted a few hours, because the researchers were typically en route to another destination.

There are two known site visits during the 1980s. The site was first reported in the mid 1980s by Dave Schmitz a former commercial outfitter, who recognized Hungry Fox as an archaeological site and reported it to the NPS. In 1985, an NPS ranger noted the site and reported its location to GAAR archaeologist Mike Kunz. Kunz flew to Hungry Fox in 1986 via helicopter and recommended further testing at the site.

During the 1990s Hungry Fox was archaeologically investigated twice. In 1992 District Ranger Jon Peterson noticed the site during a river trip due to the large quantity of bleached faunal remains tumbling down the cut bank. Peterson returned to the site that same summer with Grant Spearman (Simon Paneak Museum, Anaktuvuk Pass). The pair spent 6 productive hours at the site. After a brief survey they established a site datum,

collected charcoal samples for dating, video documented the site and collected diagnostic artifacts.

Dale Vinson, an NPS Archaeologist, visited the site in 1993. He continued the 1992 field work by collecting many diagnostic artifacts, examining stratigraphy, and evaluating the faunal remains on the cut bank.²

2000 Archaeological Investigations at Hungry Fox

The research goals of the 2000 archaeological investigations at Hungry Fox were to:

1. Determine site boundaries.
In the past, site research focused on the eroding cut bank. The main research question for the 2000 field work is "Does the site extend back from the cut bank?", and if so, "What are the exact boundaries of the site?". Knowing the site boundaries will determine the percentage of the site that is currently eroding (90% or 10%) and will assist in future management of the site.
2. Measure rate of erosion.
The rate of erosion at Hungry Fox is not known. The erosion rate may be increasing due to the change of course of the main channel of the Killik River which is now directly next to the cut bank.
3. Determine if the site is single or multi-component.
Is Hungry Fox a stratified multi-component site or a single component site dating to one time period? This determination is critical in identifying site significance. Baseline information about the site is necessary in making future management decisions.
4. Determine time of occupation.
More radiocarbon dates are necessary to adequately determine the time of occupation at Hungry Fox. Dates will also help define if the site is single or multi-component. The time of occupation is basic information for determining site significance.

Archaeological Field Methods

Mary Ann Sweeney, NPS Archaeologist, and Dan McRoberts, NPS Law Enforcement Ranger visited the sites for two days, July 24 and July 25, 2000. During the site visit they established a site datum, monitored the eroding cutbank, gathered data to make a site map and conducted subsurface testing at the site.

1. Erosion and Site Datum.
A new site datum, consisting of an 18 inch length of rebarr was established at the site (figure 2). The site datum is located on a slight rise to the north and east of locality 4

² See E. Devinney's report, "KIR-289: The Hungry Fox Site" for a detailed summary of archaeological investigations at KIR-289 between 1980-1999.

(figure 3). The site datum is also the point from which to measure the rate of erosion along the cut bank during future site monitoring.



Figure 3, Hungry Fox site, view north from ridge, site datum.

2. Subsurface Testing

Site boundaries were established by excavating shovel test pits (STPs) on the surface of the cut bank, extending inland from the Killik River bank. Shovel test pits, located behind each of the five localities were excavated. The shovel tests measured 0.75 meter (m) in diameter and approximately 1.30 m below ground surface (b.s.). The pits were excavated following natural stratigraphic layers and the sediments screened through 1/4" mesh. The back dirt was deposited on a tarp and each shovel test pit was back filled immediately after excavation and documentation. Collected artifacts are stored in the NPS collection room in Fairbanks. A total of 9 shovel test pits were excavated and the data is presented below.

3. Site Map

Data for a site map showing the location of all of the site localities and topographical features were collected. This is the first site map generated for Hungry Fox (figure 2).

4. Site monitoring

Each locality was documented, measured, and photographed. Diagnostic artifacts were collected. See the locality description section below for specific information.

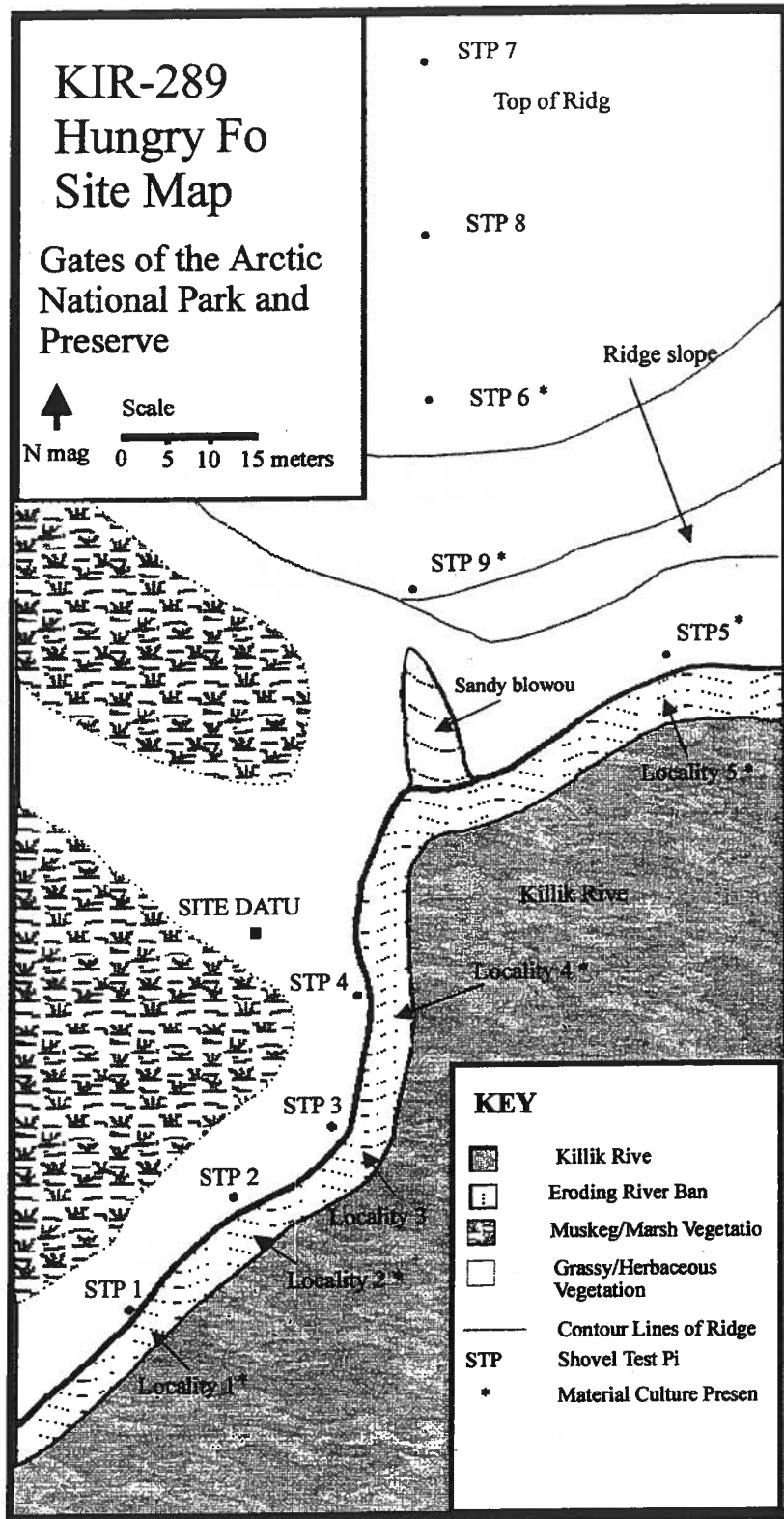


Figure 2, Hungry Fox (KIR-289) site ma

Site Description

Locality 1

Locality 1 is the southernmost scatter of cultural materials found at the site (figure 2).

Locality 1 is located 5.2 m down from the top of the cut bank in the first slump terrace of the eroding slope (figure 4). The vegetated slope is covered with grass and sage. The



Figure 4, locality 1 on eroding slope

diffuse scatter of caribou bones and fire-cracked rock is 7.5 m long and is about 1 m high (figure 5).



Figure 5, faunal remains at locality 1.

Locality 2

Locality 2 is approximately 20 m north of locality 1 (figure 2). During the 1992 site recording, this locality was situated about 1.5 meters below the crest of the cut bank. During our site monitoring locality 2 is 9.0 m below the crest of the cut bank. The material culture scatter extends for 2 m along the cut bank and is scattered further down slope for 1.5 m. The scatter consists of fire-cracked rock, and crushed caribou bones (n=12).

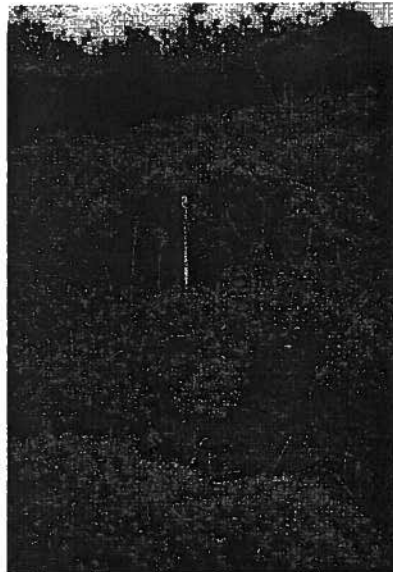


Figure 6, Locality 2 on erosion slope at KIR-289

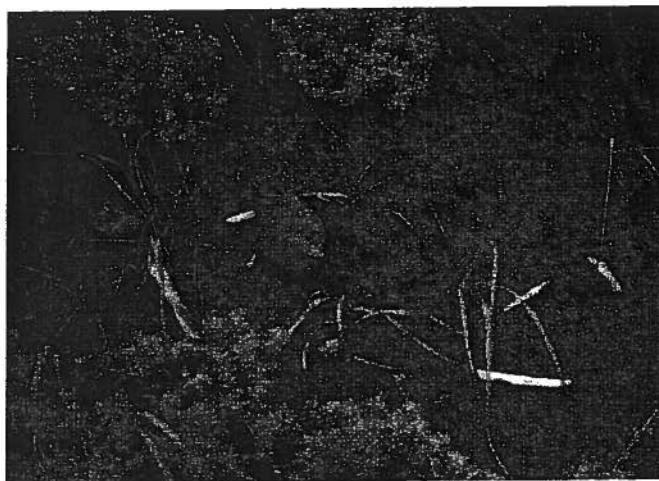


Figure 7, locality 2 close up of fire-cracked rock and faunal remains

Locality 3

Locality 3 is the main concentration of material culture at Hungry Fox (figure 2). The material scatter is approximately 0.8 m below the surface of the cut bank. At its widest, the scatter is 10.3 m long consisting of a series of lenses of fire-cracked rock, faunal remains and lenses of charcoal (figures 8 and 9). The tabular fire-cracked rock consists of conglomerate, igneous and fine grained sandstone rock types. The surface faunal remains consist of *Rangifer tarandus* (caribou) rib, innominate, mandible, scapula, and long bone fragments. Small mammal and axial *Aves* (bird) bones were also noted. No lithics or tools were found. During the 2000 visit 13 pressure reduction flakes of gray chert were collected from the eroding surface. The artifacts are stored in the NPS collections in Fairbanks. The two hearths associated with locality 3, hearth 1 and hearth 2, identified in 1992 were not located and are presumed to have eroded out of the cut bank. A third hearth or charcoal feature was identified and sampled for radiocarbon dating. The sample is on file in the NPS collections in Fairbanks.

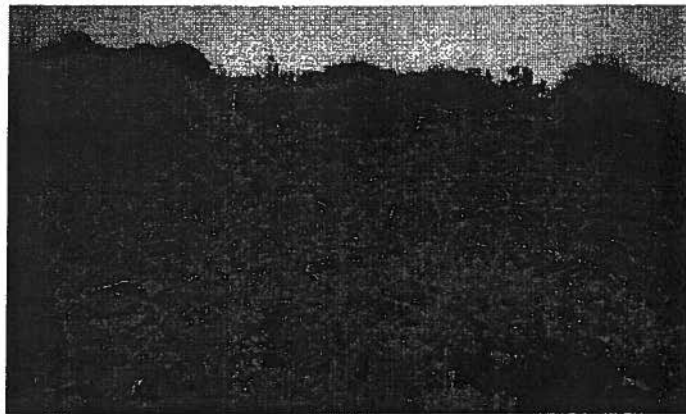


Figure 8, locality 5 on eroding river bank.

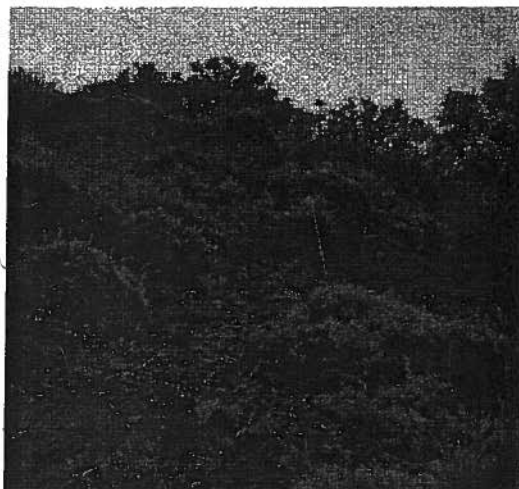


Figure 9, locality 5 on eroding river bank, artifacts in foreground.



Figure 10, locality 3, close up of in situ material culture.

Locality 4

Locality 4 is a diffuse scatter of material culture located on the first slump terrace, approximately 6.7 m below the top of the cut bank (figures 2 and 11). The scatter extends 5 m along the cut bank and continues down almost to river level. This material scatter location does not exactly match up with previous reports of the location of locality 4. This scatter's location is closer to locality 3 than previously reported.

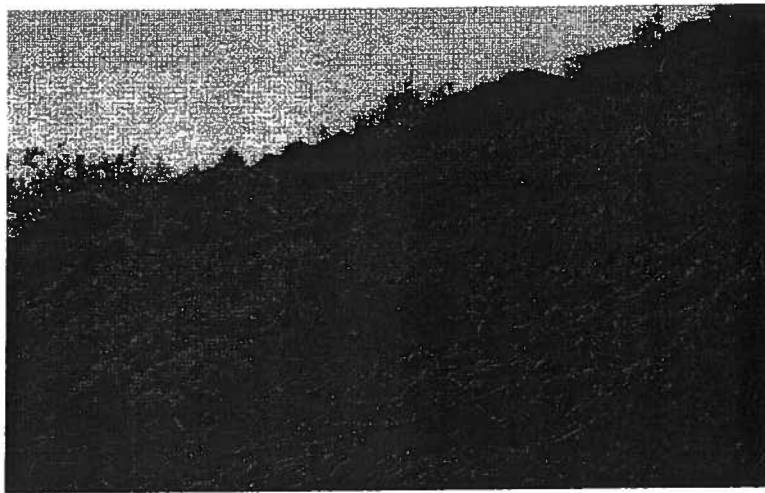


Figure 11, locality 4 on eroding slope.

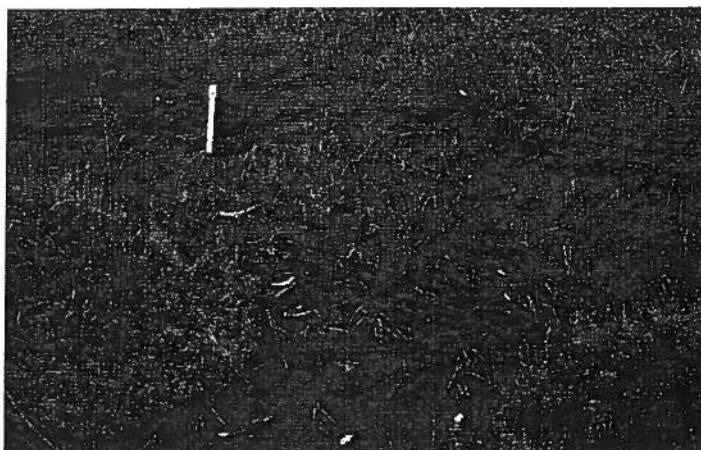


Figure 12, locality 4, material culture concentration on slope.

Material culture includes fire cracked rock, crushed *Rangifer tarandus* bones, one ceramic fragment and undiagnostic gray chert flakes. A lense or concentration of black or organic dirt with possible charcoal concentration is present in locality 4 on the erosion face. This lense was sampled for radiocarbon dating. A ceramic rim fragment (sand tempered and undecorated) was collected (figure 13). Two gray pressure reduction flakes were also collected from the surface. These artifacts and the radiocarbon sample are stored in the collection room at NPS in Fairbanks.



Figure 13, locality 4, ceramic rim sherd.

Locality 5

This locality is the northern most material culture concentration present along the eroding cut bank (figures 2 and 14). The diffuse material culture concentration (n=30) consists of fire-cracked rock, crushed long bone fragments (*Rangifer tarandus* and other mammal), and black chert waste flakes.

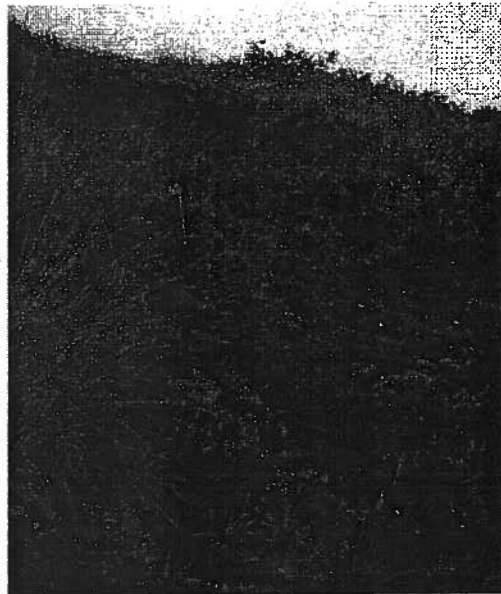


Figure 14, locality 5 on eroding slope.

Locality Summary

The localities are actively eroding. Since the last site monitoring in 1993, erosion continues to send cultural material tumbling down the embankment. The bleached faunal remains and other cultural material are visible from the river. Every year cultural information is lost due to rapid erosion at the site.

Shovel Test Pits

The purpose of the testing was to determine if the site extended back from the river bank or if the only cultural remains present are currently eroding. Shovel test pits were excavated 'behind' each locality on the stable ground surface. No cultural remains were found in the STPs associated with localities 1-4, and, therefore, the site does not extend to the west beyond what is currently eroding on the cut bank. STP 5, situated on the stable land surface above locality 5 and two other STPs located on the ridge contained artifacts, illustrating that the site boundary extends north (figure 2).

STP 1

STP 1 is located on top of the cut bank about 4.5 m to the west of locality 1 (figure 2). Surface vegetation consists of willow. The dimensions of the STP were 0.5 m in diameter and 1.10 m deep. The stratigraphy consisted of one stratigraphic unit of grayish

brown medium to fine sand. There was no organic mat or A horizon present. No cultural remains were found in STP 1.

STP 2

STP 2 is located on the stable ground surface to the west of locality 2 (figure 2). The surface vegetation consists of grass/herbaceous plant community. The 0.5 m diameter STP was dug to a depth of 1.20 m. The stratigraphy consisted of a thin organic mat 0.07 m thick. The rest of the soil consists of a single stratigraphic layer of medium gray sand. Rootlets are present from the surface down to 0.86 m below surface. No cultural remains were found.

STP 3

STP 3 is situated to the west of locality 3 (figure 2). The STP dimensions are 0.48 m in diameter and excavated to a depth of 1.24 m b.s. (figure 15). The surface vegetation consists of grasses and herbaceous plants. The first stratigraphic layer consists of medium gray fine to medium sand with rootlets (0 – 1.24 m b.s.). Starting at 0.56 m b.s. are three thin lenses (0.03 m thick) of darker gray medium to coarse sand with no rootlet inclusions. STP 3 was devoid of any cultural remains.



Figure 15, Dan McRoberts excavating STP 3.

STP 4

STP 4 is located on top of the stable bank in a grassy/herbaceous vegetation area to the west of locality 4 (figure 2). The diameter of the STP is 0.50 m and the depth is 1.27 m b.s. Like the other STPs the surface vegetation consists of a grass/herbaceous plant community. No cultural remains were found in STP 4.

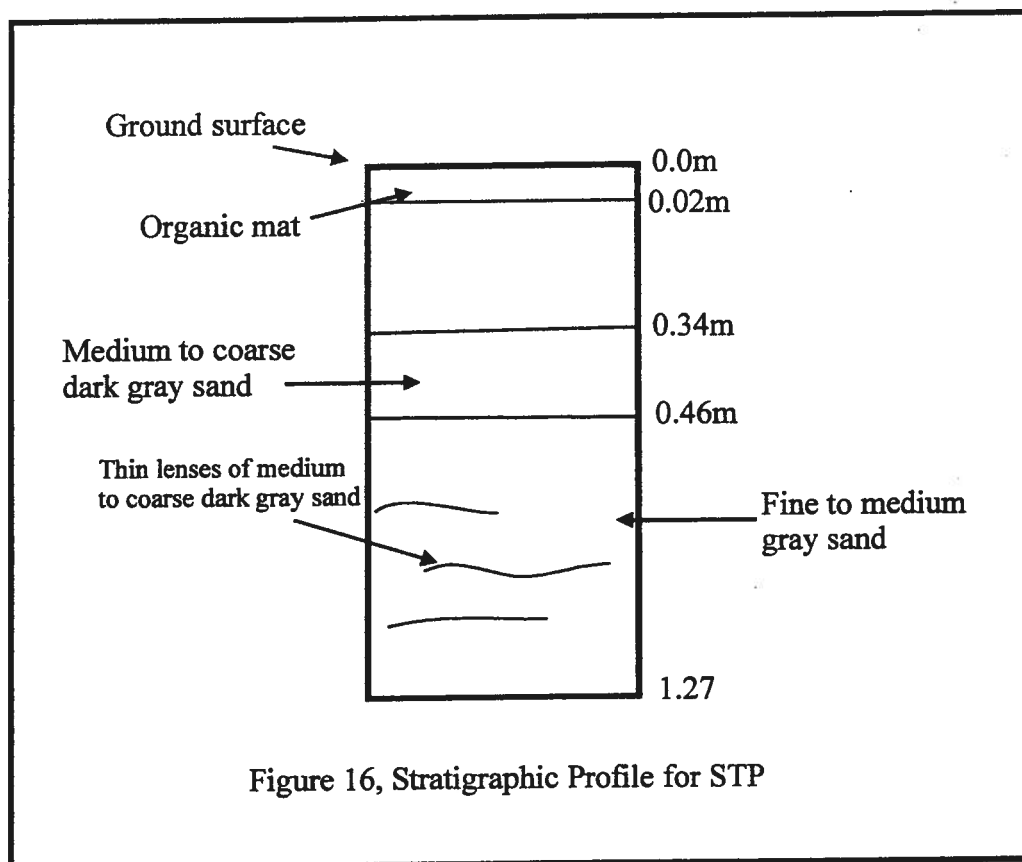


Figure 16, Stratigraphic Profile for STP

STP 5

STP 5 is located to the north of locality 5, on the stable ground surface. The dimensions of the STP were 0.53 m in diameter and 1.29 m deep. Grasses dominate surface vegetation. The stratigraphy is similar to the other STP's. A thin organic mat of grasses and sage roots and roots comprise the first layer. The second stratigraphic unit consists of medium gray colored, fine to medium sand, with thin lenses of darker gray medium sand with inclusions of Hunt Fork shale. At a depth of 1.03 m b.s. found a *Rangifer tarandus* long bone fragment. The bone exhibits perimortem breakage. Since the long bone fragment is consistent with the material culture found at the other localities, it was decided to excavate additional STPs on the ridge located to the north of locality 5 (figure 2).

STP 6

STP 6 is located on the southern edge of the ridge (figure 2). The vegetation on the ridge consists of grasses and other herbaceous plants (figure 17). The dimensions of STP 6 are 0.50 m in diameter and 1.28 m deep. The stratigraphy is similar to the rest of the site. The organic mat is shallow, only 0.02 m b.s. Between 0.02 and 1.18 m b.s. the layer consists of the medium gray colored fine to medium sand. The third layer, 1.18 to 1.28 m

b.s. consists of a very compact coarser dark grayish sand with gravel inclusions. Cultural material was found in the STP. In the 0.80 to 1.00 m b.s. layer were found gray chert waste flakes and mammal bone fragments (table 1). From 1.00 to 1.20 m b.s. found undiagnostic gray chert flakes. No artifacts were found in the very compact coarser dark grayish sand layer, which begins at a depth of 1.18 m.

Table 1, STP 6 Artifacts

Artifacts found from 0.80 to 1.00 m b.s.	Artifacts found from 1.00 to 1.20 m b.s.
1 antler fragment (<i>Rangifer tarandus</i>)	1 mammal bone fragment
4 <i>Rangifer tarandus</i> long bone fragments	47 platform reduction flakes, gray chert
19 platform reduction flakes, gray chert	



Figure 17, location of STP 6 on ridge.

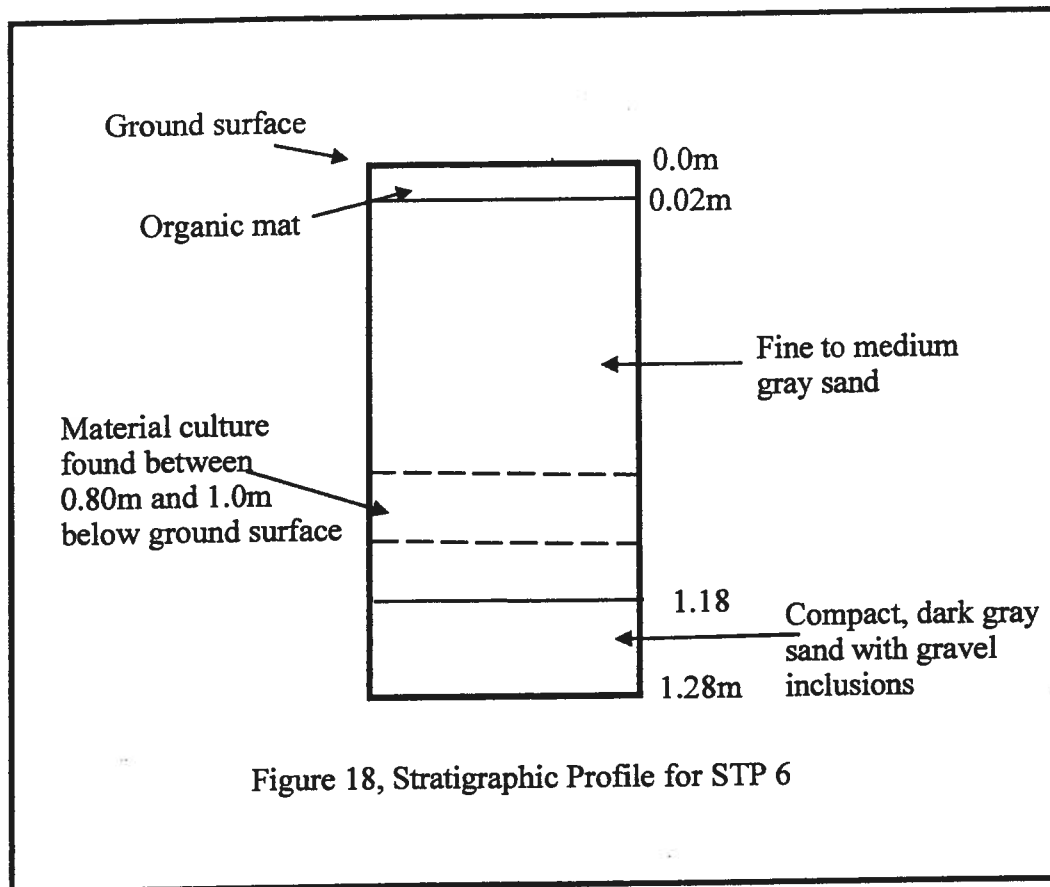


Figure 18, Stratigraphic Profile for STP 6

STP 7

STP 7 is located on top of the ridge and is the northern most STP excavated (figure 2). The diameter of the STP is 0.57 m and the depth 1.27 m. The surface vegetation consists of sage, scrub willow and grasses. The stratigraphy consists of three layers. The organic mat is shallow, only 0.02 m thick. The second layer, from 0.02 to 1.20 m b.s. is the medium gray fine sand. The third layer, from 1.20 m to 1.25 m, is the medium to coarse, gray sand. No cultural remains were found in STP 7. Therefore, STP 7 defines the northern boundary of the site.

STP 8

STP 8 is located on the ridge in between STP 6 and STP 7 in an attempt to further define the northern boundary of the site (figure 2). The surface vegetation in this area consists of herbaceous plants. The diameter of the STP is 0.53 m and a depth of 1.13 m b.s. The stratigraphy consists of a thin organic mat only 0.02 m thick. The rest of the STP consists of one stratigraphic unit of uniform medium gray fine-medium sand with inclusions of the darker gray medium sand with shale inclusions. There is no indication of the compact coarse light gray sand and gravel that was found underlying the cultural remains in STP 6. No cultural remains were found in STP 8.

STP 9

STP 9 is located on the southern edge of the ridge to the northwest of STP 5 (figure 2). Surface vegetation in the area consists of grasses and other herbaceous plants. The STP diameter is 0.64 m and depth 1.28 m b.s. The stratigraphy consists of three layers; a thin organic mat of 0.02 m, the uniform layer of medium gray fine to medium sand with inclusions of the darker gray medium sand with shale inclusions (0.02 m to 1.26 m b.s.), and a compact coarse light gray sand and gravel (1.26 to 1.28 m b.s.). Material culture was found at 0.65 to 0.85 m b.s. and includes one platform reduction flake of gray chert and a weathered *Rangifer tarandus* caudal vertebrae fragment.

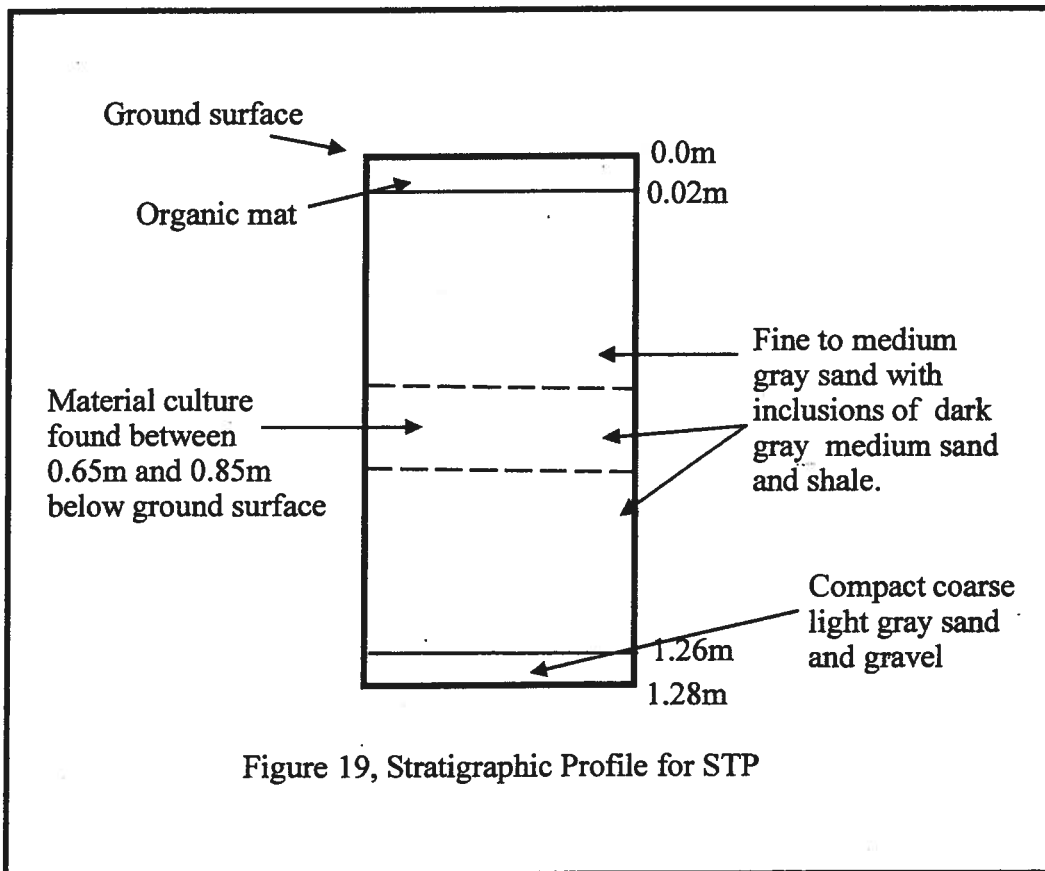


Figure 19, Stratigraphic Profile for STP

STP Summary

Nine STPs were excavated at KIR-289 in an effort to define site boundaries. The STPs located on the stable land surface above the eroding localities of 1,2,3 and 4 were devoid of cultural remains. STP 5 located to the north and in association with locality 5 produced fire-cracked rock, and *Rangifer tarandus* bone fragments which spurred on

further testing on the ridge to the north. STP 6 and STP 9 contained material culture including flakes and animal bones at a depth of 0.80 – 1.20 m b.s. and 0.65 -0.85 m b.s., respectively. STP 7 and STP 8 were sterile of material culture indicating the northern boundary of the site.

Cultural Resource Management Recommendations

1. The localities that contain significant cultural information are on the actively eroding cut bank. Subsurface testing indicates that the archaeological component of localities 1, 2, 3, and 4 do not extend further back from the erosion face. The cultural material found in localities 1, 2, 3 and 4 contains diagnostic artifacts such as pottery, net floats, and stone tools in addition to cultural features (hearth 1 and hearth 2, in locality 3). All of the localities are immediately threatened by erosion. Archaeological investigation and analysis of the cultural information at the localities will determine the eligibility of the site for the National Register of Historic Places (under criteria D) Therefore, immediate controlled archaeological excavation is recommended at localities 1, 2, 3, 4 and 5.
2. Although cultural remains were found in STPs 5, 6, and 9 on a stable landscape, the material found (fire-cracked rock, faunal remains and undiagnostic waste flakes) do not have the same research and data potential as the localities. STPs 5, 6, and 9 did not uncover any subsurface features or diagnostic artifacts. In fact, the contemporarity of the cultural material on the ridge and the material on the eroding bank is not known since no suitable dating material was found in these STPs. The localities and the ridge could represent two different components. Since the cultural remains on the ridge (STPs 5, 6, and 9) are neither significant nor threatened by erosion, no further testing is recommended in this area of the site.

Conclusion

Hungry Fox is an actively eroding, highly visible, significant, prehistoric archaeological site in the Killik River valley. As per Section 110(a)(2) it is the National Park Service's responsibility to identify, evaluate and nominate historic properties to the National Register. To determine eligibility to the National Register of Historic Places it is recommended that controlled archaeological block excavation at the 5 localities at Hungry Fox occur during the 2001 field season. In addition, further subsurface testing and excavation at Hungry Fox is supported by the NPS Cultural Resource Management Guideline for Archeological Resources, which states that significant archaeological data threatened with loss from the effects of natural processes be recovered, recorded or otherwise preserved.

