ALASKA DISTRICT TRIP REPORT

Project: Buckland Mooring Points Evaluation for Denali Commission

Description: Buckland Trip Report

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Jason Norris and Merlin Peterson traveled to the community of Buckland, Alaska on July 15th, 2011. The purpose of the trip was to conduct a site visit and scoping meeting related to potential installation of barge mooring points in the community. Two barge landing sites were investigated during the site visit for the mooring points investigation. An overview of the community, barge landing sites, and possible mooring point locations is shown below.

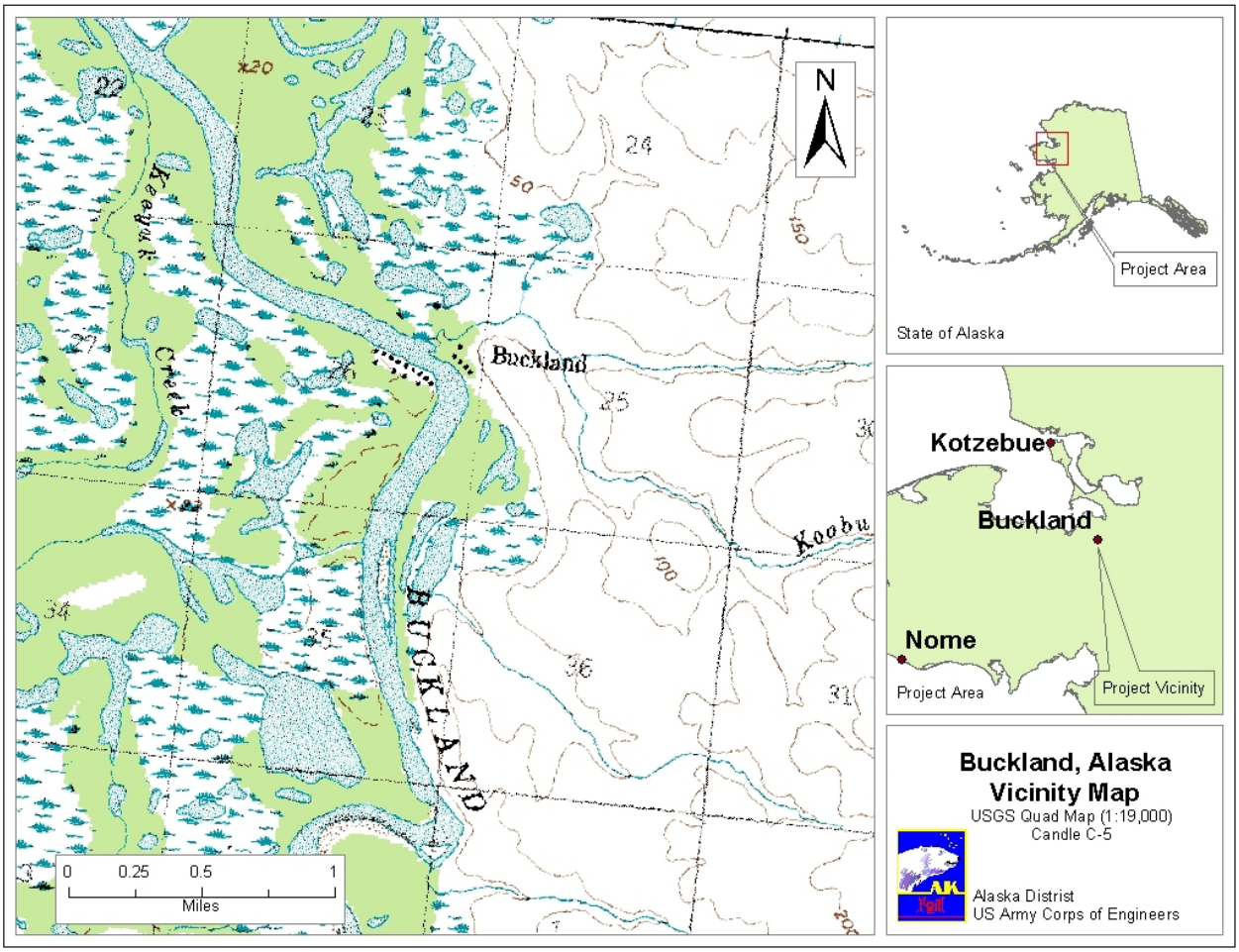

Figure 1. Location of Buckland.

Prior to visiting the community, we spoke with Northland Services and Drake Construction, (who operates a barge into Buckland). Northland stated that they were more interested in staging

area and landing improvements than mooring points. Drake stated that our mooring points were good as proposed. After our visit we were able to speak with Tyler Peterson, Tug Captain, Crowley Marine-Kotzebue. He offered input into the proposed mooring points locations.

PUBLIC MEETING

While there we were able to meet with Riley Armstrong, City Administrator and Mayor Glenna Parrish, both with the City of Buckland.

Following is a summary of the information learned during the site visit.

SITE DESCRIPTION

Buckland is located approximately 25 river miles up the Buckland River, 75 air miles south-southeast of Kotzebue, and 475 air miles northwest of Anchorage (Figure 1).

UPSTREAM (FREIGHT) LANDING SITE

The upstream landing site (Figure 2) is located at a bend in the Buckland River on an accreting beach composed primarily of sand with some rock present. It is served by an access road (Figure 3) running parallel to a berm located 30-60 feet from the water depending on area and tide stage. The road is protected by a rock revetment (Figure 8). This site has a minimal amount of uplands for staging freight. While in Buckland we were able to witness the Northland barge "Greta" moored at this site while making a delivery.

Figure 2. Northland's "Greta" making a delivery at the upstream landing.

Figure 3. Upstream landing access road.

It was observed during the delivery that Northland used one of their bulldozers as an upstream mooring point (Figure 4) and left their downstream engine running during the delivery (Figure 5). The thrust from the engine was directed squarely at the far bank.

Figure 4. Northland using their bulldozer as an upstream mooring point.

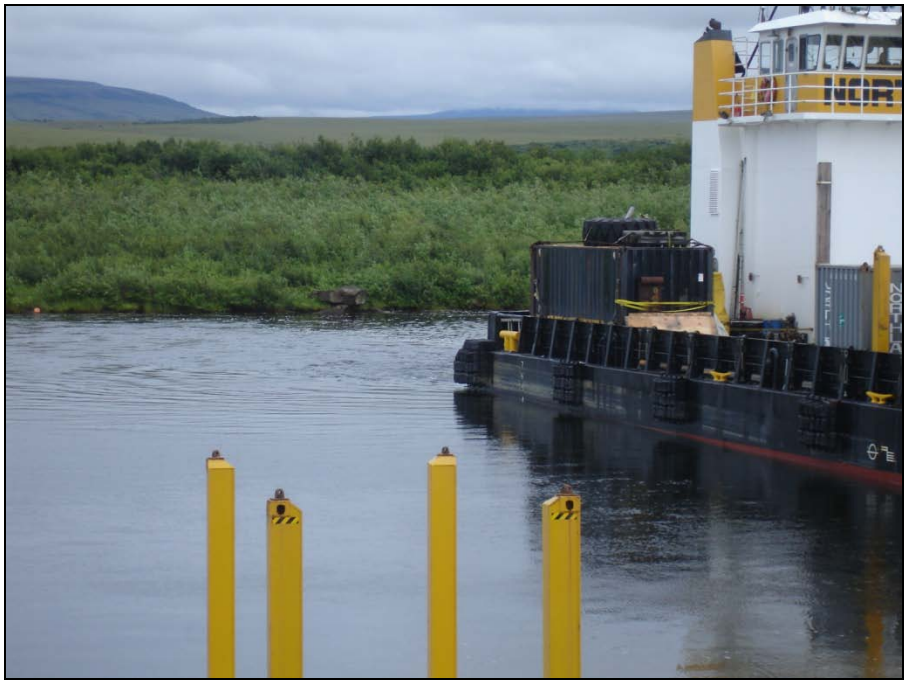

Figure 5. Downstream engine running during delivery.

Figure 6. Portion of the revetment protecting the access road to the upstream landing.

It is proposed that two mooring points be installed at this location. The downstream point should be located approximately 45 feet inland on the side of the access road at the top of the revetment. The access road slopes down for approximately 150 feet from the top of the bank to the beach. The mooring point should be located approximately 100 feet up the road from its terminus at the beach. For traffic safety reasons this mooring point should be of the below-grade variety. The

upstream point was approximately 50 feet inland located near the bottom of the bank, approximately 100 feet upstream of the access road's terminus at the beach. For ease of location and use, this mooring point should be of the above grade variety. It is above the beach on a vegetated slope, therefore traffic safety is not a concern.

GPS readings were obtained and are shown below. Approximate locations are shown in Figure 7.

<u>GPS Points for Proposed Moorings at the Freight Landing:</u>

Upstream Mooring Point: N65° 58' 45.04" W161° 7' 23.97"

Downstream Mooring Point: N65° 58' 45.90" W161° 7' 28.16"

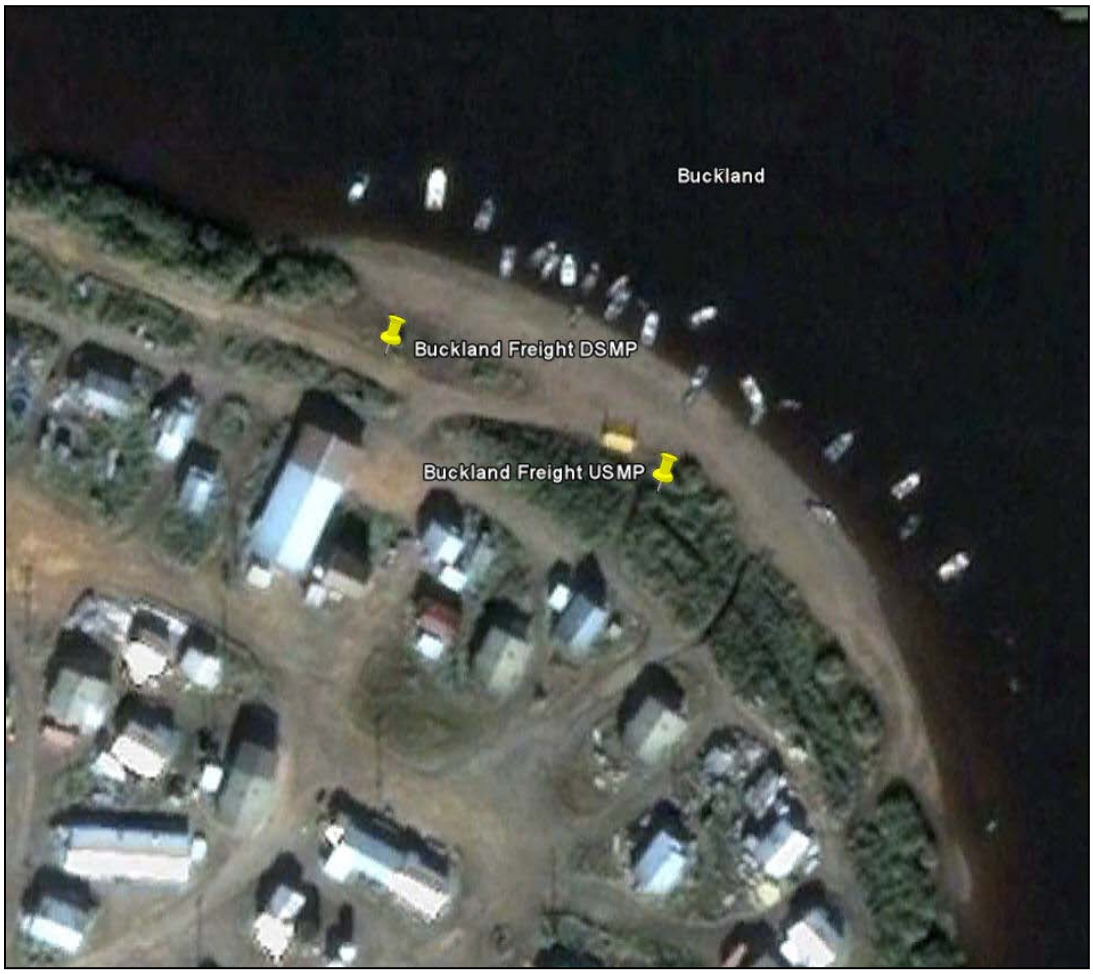

Figure 7. Approximate mooring points locations at Buckland freight landing

Figure 8. Proposed location of downstream mooring point, approximately 100 feet up the road from the bottom of the beach.

Figure 9. Proposed location of upstream mooring point.
Note: (Bulldozer used for mooring pictured at right.)

DOWNSTREAM (FUEL) LANDING SITE

The downstream landing site (Figure 10) is located approximately 1,300 feet downriver of the upstream landing. A fuel header for the Bulk Fuel Storage Facility is located at the top of the

bank, approximately 50 feet from the waterline. The landing is served by a small access road, pictured in Figure 10. The beach along this stretch of river is very narrow with vegetation extending all the way to the water line in many areas.

GPS readings were taken 125 feet upstream and downstream of the center of the landing and approximately 35 feet inland. After speaking with Crowley post-visit it was determined that the points should be located closer together, with a final spacing of approximately 200 feet. The points would be located on a slope in heavily vegetated areas. (See Figure 11 and Figure 12).

Figure 10. Access road at center of landing.

Figure 11. Looking downstream from access road. Point would be located 35 feet back from water.

Figure 12. Looking upstream from access road. Point would be located 35 feet back from water.

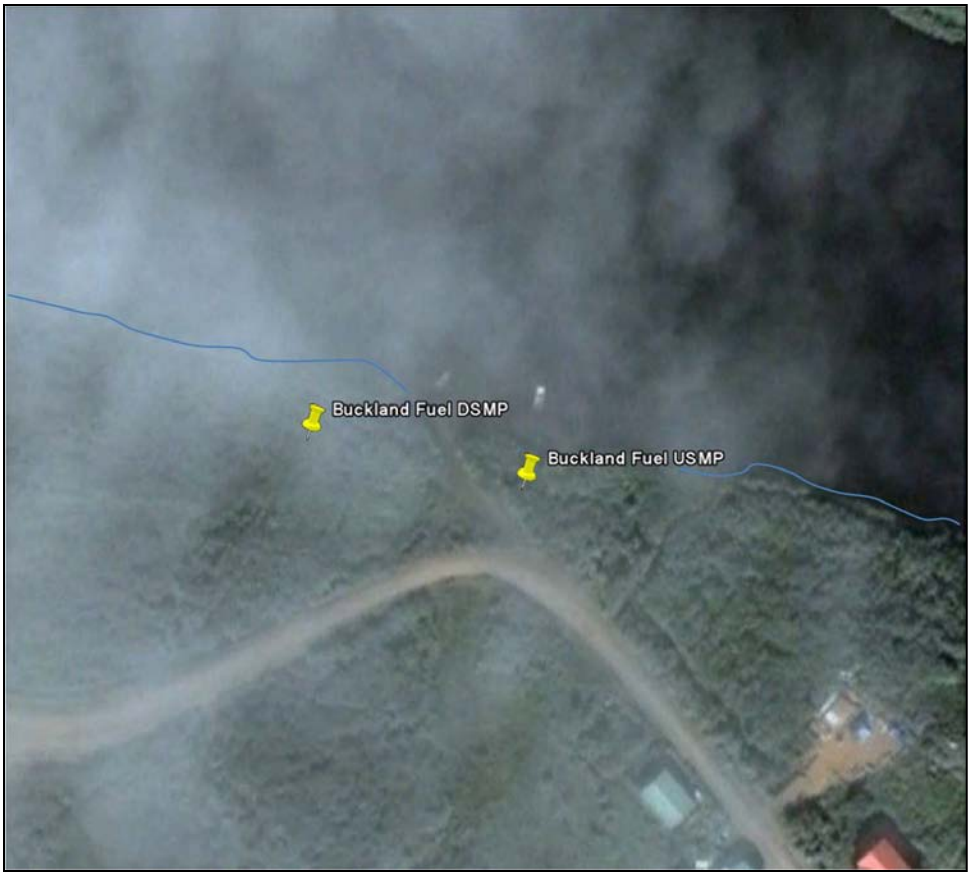

Figure 13. Approximate locations of Buckland fuel landing mooring points
Source: Google Earth with USACE appendings
Note: Blue line is approximate water line.

It is proposed that two above grade mooring points be installed at this site. The above grade variety will aid in location and use as the area is heavily vegetated. Approximate mooring points locations are shown in Figure 13. GPS coordinates are located below.

<u>GPS Points for the Proposed Moorings at the Fuel Landing:</u>

Upstream Mooring Point: N65° 58' 50.40" W161° 7' 56.30"

Downstream Mooring Point: N65° 58' 50.84" W161° 8' 1.00"

RECOMMENDATIONS

It is recommended that two points be installed at the upstream (freight) landing. The upstream point should of the above grade variety and be located on the bank approximately 45 feet from the water line at the indicated GPS point. The downstream point should be below grade and located at the top of the revetment approximately 50 feet from the water line at the indicated GPS point.

It is recommended that two above grade points be installed at the downstream (fuel) landing. They should be located at the indicated GPS points which are approximately 200 feet apart and approximately 35 feet from the water line.