

Raven Trail Construction, Petersburg Ranger District, Tongass National Forest

September 8, 2014

Background

An interdisciplinary group evaluated best management practices (BMPs) on completed trail construction. This work was accomplished on Raven Trail in 2014. The Petersburg District Ranger determined (June 22, 2010) that these actions fall under categories of action excluded from documentation in an environmental impact statement (EIS) or environmental analysis (EA) as established by the Chief, FSH 1909.15.30 (31.1b) #4: "Repair and maintenance of roads, trails and landline boundaries". The Raven Trail has been in existence since the 1970s, providing access to Raven's Roost cabin. The trail is 4.2 miles long but only the first 2,600 feet were rebuilt this year. The trailhead was relocated for safety and accessibility reasons. The original trail location was close to the city rock pit creating hazards to hikers. It is now located across Sandy Beach Road from the Sandy Beach Park. The newly constructed trail is free of barriers and fully accessible. The Raven Trail is one of the few substantial trails near the community of Petersburg and is within walking distance of downtown making it one of the most popular trails on Mitkof Island.

BMP Implementation



Raven Trail Photo 1. Trail surface is graded aggregate.

The implementation questions evaluate practices used to minimize water quality impacts. All applicable BMPs were implemented at the trail. A review of the maintenance project files documented aquatic specialist review and recommendations.

The newly constructed trail is 6.5 feet- to 8 feet-wide, graded aggregate with rest areas, benches, culverts and signposts (Photo 1). The contract of work included clearing and grubbing, excavation and construction including seven culverts. Impacts were minimized by including specific measures in the contract that included regular meetings with the COR for inspections and communication with both parties. Special care was taken to dispose of materials off-site, minimize rutting and erosion by using construction mats, installing corduroy or geotextile, grading trail bed and installing temporary drainage. To provide sediment control, filter cloth was installed during construction. The site was re-vegetated using plugs that were originally removed from site during the clearing and grubbing stage (Photo 3).

The group noted culvert locations and spacing's were designated and installed at the designated locations. The trail location was designated on the plans and on the ground. Techniques to construct cross drains and water crossings were specified in the contract. Supplemental erosion control was applied after construction by the Forest Service. Project inspections were performed throughout the contract and at critical times. Corrective actions included rerouting the trail to minimize grade and crossings, as well as bringing in soil to promote vegetation growth to minimize erosion. They also surfaced the trail with fine gravel to compact the trail surface and provide improved tread. The trail overall was in excellent



Raven Trail Photo 2. Low energy water body crossing with minor pedestal erosion.

condition and minimized impacts to the wetland and intermittent stream crossings.

Corrective Actions to Improve Implementation

One corrective action was suggested during the monitoring trip. Specific BMPs in the NEPA document would have been helpful in implementing trail construction.

Adaptive Management Actions to Improve Implementation

No adaptive management actions were noted for the Raven Trail during the monitoring review.

BMP Effectiveness

The effectiveness questions evaluated evidence of potential or current impacts to water quality. No evidence of erosion or sedimentation was noted at the water bodies or their approaches. A 50-foot aquatic management zone (AMZ) surrogate was left adjacent to the wetland because no Class II streams were crossed in the segment of trail monitored. The monitoring crew reviewed a small intermittent drainage that flows from the muskeg down the slope in the V-notch. There was a Class II stream located in the V-notch roughly 200 feet below the trail that

transitions to a Class I stream at the road.

At the minor intermittent stream, a culvert was installed to transport water across the trail. There was evidence of sediment transport as noted in very minor pedestal erosion in isolated locations adjacent to the water flow from the muskeg (Photo 2). The sediment transport amounted to an area two feet by one foot adjacent to a culvert on the fill slope. The low energy water did not transport the sediment beyond the immediate area. This erosion resulted from unhardened crossing approaches on the bare ground from heavy rains. No diversion potential was noted at this crossing. Soil was placed along the fill slope of the trail to provide soil structure for vegetation growth. Later, it was determined that soil contained residual amounts of non-native plant seed. No evidence of chemical or fuel spills were noted.

Corrective Actions to Improve Effectiveness

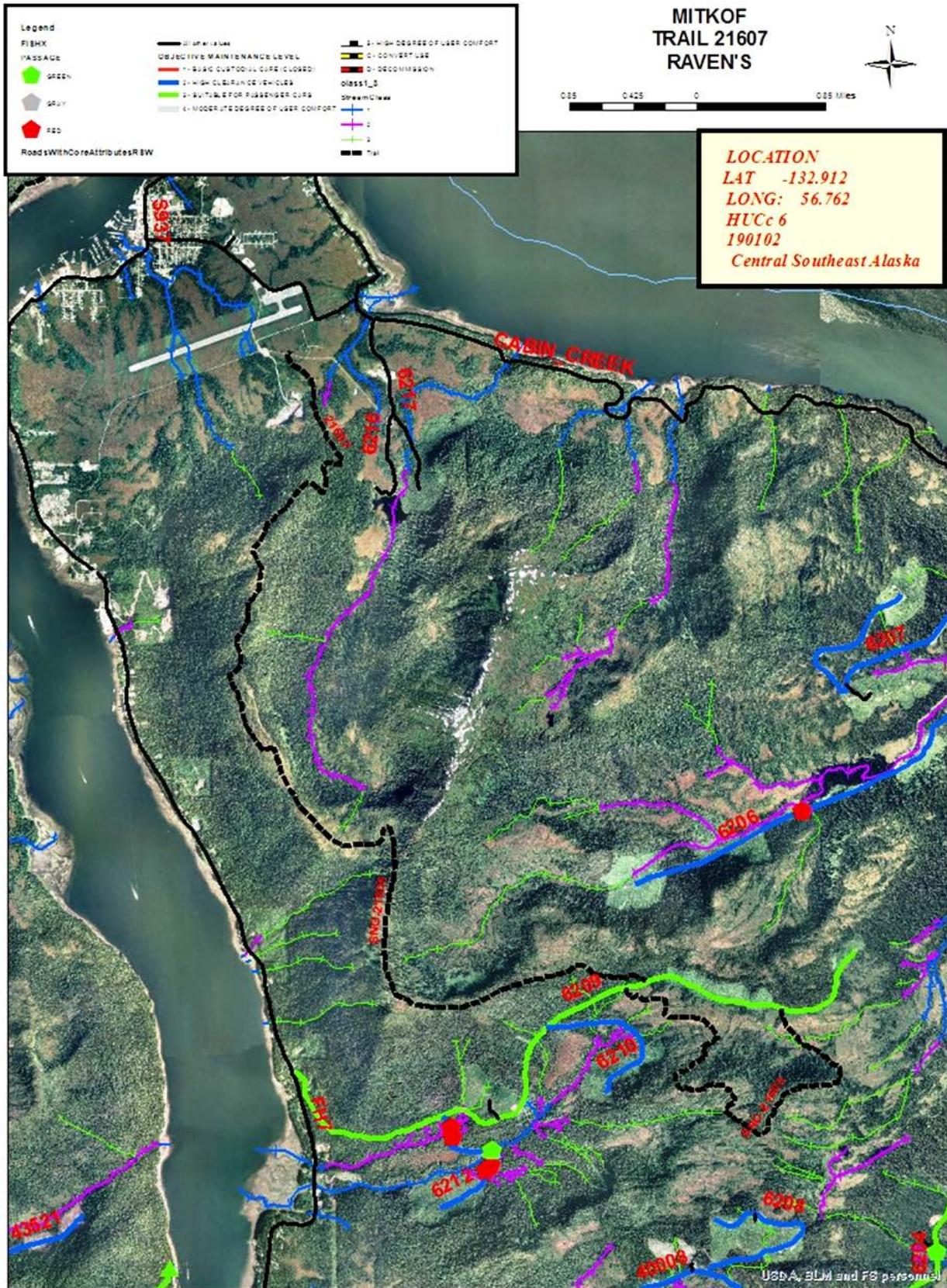
No corrective actions were noted for the Raven Trail.

Adaptive Management Actions to Improve Effectiveness

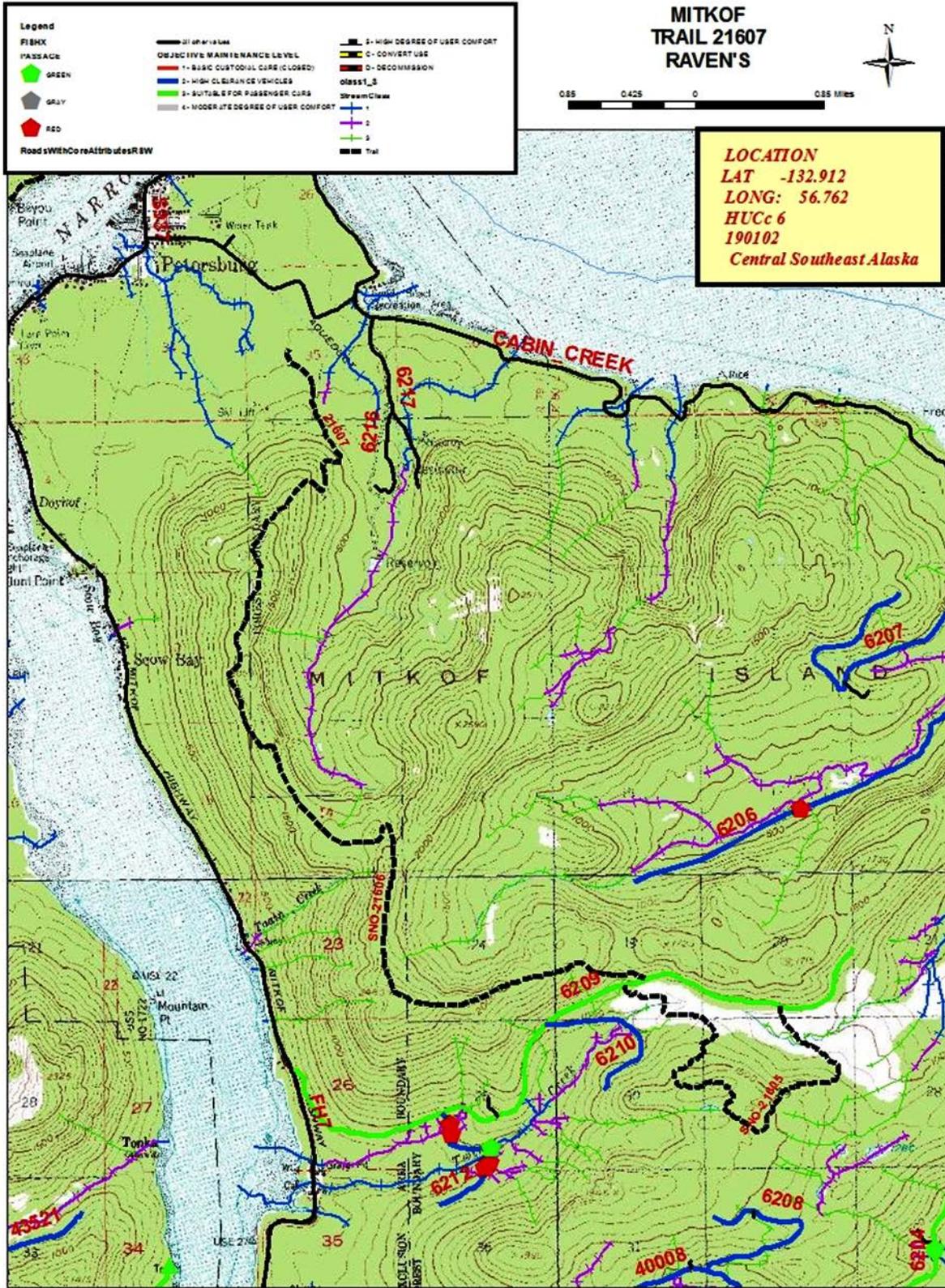
No adaptive management actions were noted for the Raven Trail.



Raven Trail Photo 3. Vegetative plugs near the rest area.



Raven Trail Figure 1. Raven Trail construction map 1



Raven Trail Figure 2. Raven Trail construction map 2