

# Soil and Water Question 2a Appendix

## Best Management Practices Implementation and Effectiveness Monitoring Petersburg Ranger District Recreation Trip Report - Lake Trail and Cabin September 14, 2012

Summarized by Julianne Thompson

An interdisciplinary group evaluated Best Management Practices (BMPs) on trail work accomplished on the Petersburg Lake Trail in 2012 in the Petersburg Ranger District (PRD). The Petersburg District Ranger signed a Decision Memo (July 6, 2012) categorically excluding the trail improvements from documentation in an environmental impact statement or environmental assessment. Approximately 1,000 feet of boardwalk and unsurfaced trail was improved to address resource damage and slippery conditions. The crew used only hand tools, consistent with wilderness policy. Additional work will be completed as funding allows. This project was randomly selected for Forest Plan BMP Implementation Monitoring in 2012. While on site, the group also evaluated BMPs at the Petersburg Lake Cabin. Due to heavy rains, Petersburg Lake had recently risen around the cabin. Although the water was receding, most of the trail from the lake to the cabin was under water, as was a short segment of Petersburg Lake Trail.

### BMP Implementation

The implementation questions evaluate practices used to minimize water quality impacts. All applicable BMPs were implemented at the cabin and on the trail. A review of the trail project file documented aquatic specialist review and recommendations. Cedar puncheon was installed to avoid mud and minimize water diversion. One suspected fish stream (un-mapped, un-catalogued at the lat/long point shown on the form) was treated by re-routing the trail and constructing an elevated puncheon bridge that spanned the stream (picture 1). No work was performed within ordinary high water, so no Title 16 concurrence was required from the State of Alaska. Although not required, the trail crew routinely works and travels on old boardwalk as it is removed, in order to minimize disturbance. They also have a standard practice of placing local moss on bared soil to protect it from erosion (picture 1).

### Corrective Actions to Improve Implementation

No corrective actions were noted at the cabin, but two corrective actions were suggested on the Petersburg Lake Trail.

- As a result of the high lake level, some sections of puncheon had floated or shifted off the trail (picture 2). We recommended fastening the puncheon in place with long rebar stakes.
- At the location of the re-route, three boards had been left in place. The last board (in the stream) should be removed next year to ensure fish passage is not impaired in this suspected fish stream.



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**Picture 1.** Suspected fish stream crossing. Note placement of moss and minimal disturbance.

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**Picture 2.** Flooded trail where puncheon had floated.

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### **Adaptive Management Actions to Improve Implementation**

No adaptive management actions were noted for other cabins. The use of old boardwalk and placement of moss as mulch are reasonable practices that should be applied on similar trail projects.

### **BMP Effectiveness**

The effectiveness questions evaluate evidence of potential or current impacts to water quality. At the cabin, we found a small area (less than three feet wide) of trampled streambank where the trail from the cabin intersects the adjacent stream (picture 3). We did not consider this a concern since it is not unstable and is commensurate with the level of use we would expect where cabin users enjoy accessing the stream.



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**Picture 3.** Small trampled stream bank near cabin

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On the Petersburg Lake Trail, we found trace evidence of soil erosion and sediment transport caused by recent heavy rains on a sort section of bare ground. Sediment was detained by a log prior to entering a Class IV stream (picture 4).



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**Picture 4.** Trace erosion and sediment deposition on trail

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### **Corrective Actions to Improve Effectiveness**

No corrective actions to improve effectiveness were noted at the cabin or the trail.

### **Adaptive Management Actions to Improve Effectiveness**

No adaptive management actions were noted for other cabins. The trail crew's use of old boardwalk as a working / traveling surface during construction is effective at minimizing disturbance. The placement of moss as mulch is effective at protecting bare soil from erosion.