

Soil and Water Question 2a Appendix

Best Management Practices Implementation and Effectiveness Monitoring Ketchikan-Misty Fiords Ranger District Timber Trip Report - Boundary II Timber Sale; September 17, 2012

Summarized by Carol Seitz Warmuth

This interdisciplinary trip was conducted on the Ketchikan Ranger District in August 2012. The intent of the best management practice (BMP) review was primarily to provide quality control to the BMP implementation and effectiveness monitoring effort on the Forest. Participants on the interdisciplinary trip included: Christy Gardner (KMRD-Wrangell Timber Sale Administrator), Darin Silkworth (Tongass-KMRD Soil Scientist Program Manager), Bob Lewis (KMRD TMA), Mike Papa (Timber Sale Inspector), and Carol Seitz Warmuth (Tongass Monitoring & Inventory Coordinator).

The Interdisciplinary Team monitored one unit and associated temporary road during this trip to contribute to the Forest BMP implementation and effectiveness monitoring. The unit monitored was unit 5 of the Boundary II Timber Sale.

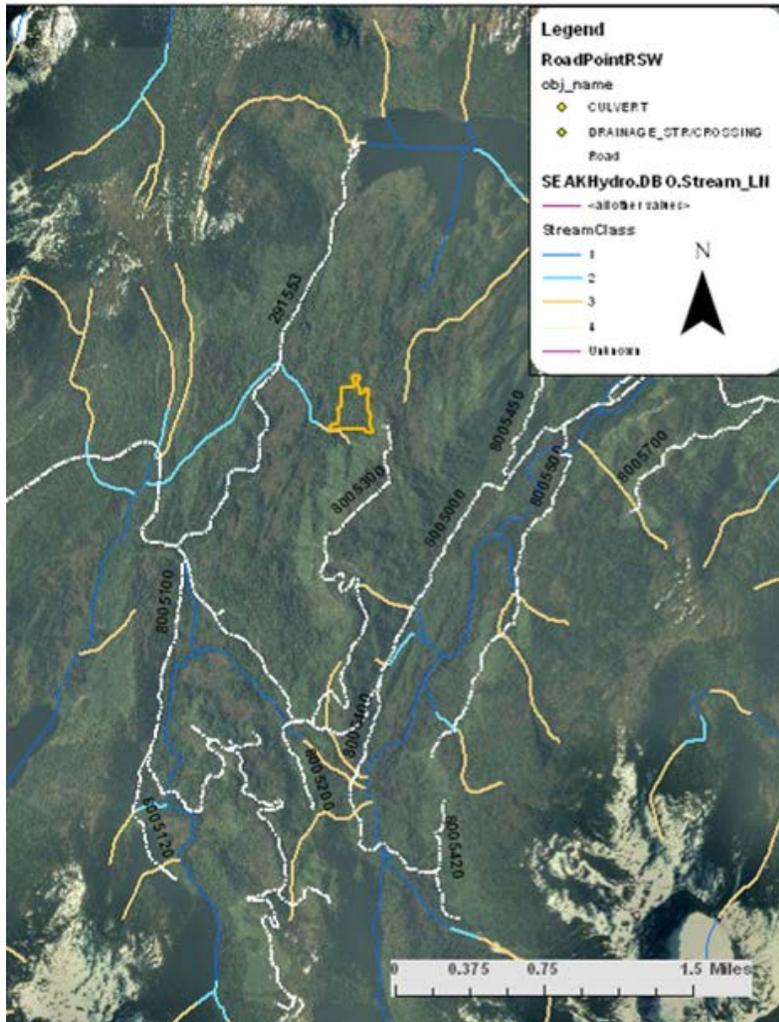
Background

The Boundary II Timber sale is covered under the Boundary Timber Sale Environmental Assessment (EA). The Decision Notice for the Boundary Timber Sale EA was signed June 7, 2004. These units were planned before the 2008 Forest Plan Amendment so the units were reviewed and found consistent with the standards and guidelines of the 2008 Forest Plan Amendment. This EA was reviewed relative to the 2008 Forest Plan and a few changes were made to the timber sale units relative to the standards and guidelines for legacy and scenery. These changes were documented in a change analysis signed August 24, 2010. The Forest Supervisor signed a memo on September 3, 2010 confirming that the implementation of the timber sale as depicted in the change analysis did not result in substantial change to the environmental concerns and proposed actions.

The units in the Boundary Timber Sale were harvested under the 2008 Tongass Forest Plan Record of Decision. The 2008 Standards and Guidelines apply to all units. Units within this sale are both even and uneven age treatments. The logging systems monitored were skyline cable systems. Erosion control plans was completed for the timber sales and signed by the operator.

The change analysis for the Boundary II Timber Sale focused on changes relative to the environmental effects of key scenery and timber sale economics issues identified by the Interdisciplinary Team (IDT). There were some changes implemented associated with the 2008 Forest Plan Legacy Standard and Guideline that incorporated the marten and goshawk standard and guidelines. Particularly in unit 5, high value marten areas had been identified and tree retention had been prescribed to provide marten habitat in the original unit through uneven age prescription with clumped retention. In the change analysis, the unit boundary was modified and the unit was decreased in size so the high value marten reserves were located outside the unit boundary. On the Boundary II Timber Sale, there were minor changes made during the implementation to drop some low merchantable timber and dropped roughly ½ acre from the unit. The unit boundary was adjusted to delete an area that showed an old landslide. Changes were also documented relative to the temporary road since the purchaser had road access using Cape Fox Corporation roads. The purchaser built a temporary road off Cape Fox Road 2160 to unit 5.

Figure 1. Unit 5 of Boundary II Timber Sale



This monitoring utilized pilot National BMP monitoring forms as well as the June 2011 Tongass Unit and Road Implementation Monitoring forms. The national form completed for this effort was the Best Management Practices Evaluation: Veg B. Cable and Aerial Yarding form. The Tongass BMP Monitoring form for Unit Implementation Monitoring was also completed to track implementation of specific Region 10 BMPs.

The unit monitored was located in T74S, R91E section 9, Copper River Meridian on Revillagigedo Island. The unit is roughly 8 miles northeast of Ketchikan, Alaska and roughly 2.6 mile from George Inlet on saltwater and 0.8 mile from Harriet Hunt Lake and 1.9 miles from Talbot Lake. The unit is located in VCU 7500. The unit is in the Ward Creek watershed; HUC 190101020401.



Picture 1. Unit 5 looking up from the lower part of the unit

Monitoring Results

Unit 5

Unit 5 is located on a side slope of a ridge above a low gradient series of muskegs and a large stream that flows to Talbot Lake. The specific GPS coordinates of the unit are 55 degrees 23 minutes, 06.96 seconds North, 131 degrees, 35 minutes, 46.43 seconds West. This unit was originally planned for a helicopter yarding system; however, road access through Cape Fox Corporation land provided the opportunity for use of a cable yarding system. The unit was accessed by a temporary road built off Cape Fox Corporation (CFC) Road 2160. This road is a spur road off the CFC road 2100. Cape Fox Corporation road 2100 switchbacks along the ridge and initiated off the CFC road 2000 (White River Road). The timber from this unit was hauled to the Leask LTF, which is a non-Forest Service facility.

The unit was originally planned to be 53 acres then changed to 19.5 acres through the change analysis process. The changes in this unit are described in the background discussion. The northern half the unit was dropped primarily for scenery and the area in the low gradient terrain in the western portion of the unit was dropped due to low value timber in the wet areas. The unit boundary was moved in to delete an old landslide area from the unit. The southern boundary was pulled back outside of the HC1 stream v-notch. This class III stream was classified as a HC channel, which is a high gradient channel that is contained in its banks with steep side slopes and bedrock, boulders, and cobbles in the channel substrate. There was timber that was to be retained on the south and north in the original unit for marten retention that is outside the new unit boundary.



Pictures 2 and 3. Class III stream immediately below unit; no sediment transfer noted

The unit is located on a side slope of a ridge that lies above a low lying series of muskegs. The class III stream, which traverses in a HC channel west of the unit, is a tributary of a class III stream that flows approximately 1.3 miles to Talbot Lake. This class III stream is over 100 feet outside the unit. The confluence of the class III streams is roughly 1.4 miles west of the unit, measured approximately along the stream course. The class III stream adjacent to the unit is roughly 2.7 miles along the stream reaches to Talbot Lake. The IDT team reviewed the lower reach of the stream below the unit and found no sediment or evidence of impact to the stream channel or aquatic management zone (AMZ). Within the unit, there were two streams that were not mapped but noted by the IDT team. The streams were treated as intermittent side slope drainages and no treatment was implemented. These intermittent streams flow to a wetland area below the unit. The IDT reviewed the lower reaches of these streams and found no evidence of sediment in the streams. The water was still flowing in the channels and maintained in the reaches below the unit. The unit was yarded using logical setting breaks and the trees were retained adjacent to the class III stream to provide a buffer.

Overall the unit card had identified the slopes in the original unit were 10-85+ percent slope gradient. The average slope was noted to be 50% slope gradient although approximately 14 acres are noted to exceed 85 percent slope. The unit was not field reviewed by a soil scientist prior to layout or harvest. Partial suspension was not required in the unit; however, steep slopes up to 85 percent slope gradient were identified in the unit. Partial suspension was achieved in the unit through application of the cable yarding system. The unit card identified low to moderate risk of management induced landslides or other impacts to water quality. The IDT agreed that field review by a soil scientist should have been completed and would have resulted in a prescription of partial suspension throughout the areas that showed a slope gradient over 72 percent slope and dropped the unstable landslide terrain during planning.

The landing had been graded during operation; however, a few ruts, rills and water ponding were noted on the landing. The four to eight ruts and rills noted on the landing were 4 to 6 inches deep, 10 to 15 feet long. The disturbed soil was limited to the landing deck and the sediment was retained by slash on the edge of the landing. The group noted the landing location provided the operator the opportunity to achieve deflection in most of the unit although there was a short blind lead below the landing.

Cable yarding was monitored in the unit. The group noted that the unit was harvested within the boundaries as designated on the sale area map. The cable system required yarding logs up a steep 85 percent slope face to the landing and these steep pitches showed some bared soil and soil disturbance. The ground disturbance was within 3 percent of the unit area, which is less than the 15% allowable detrimental soil conditions described in the soil quality standards. In few isolated areas, water rills and sheet erosion was noted in the one cable corridor; however, the erosion extended for less than 40 feet length. An area roughly 6 feet by 40 feet along the steep bluff in the unit showed bared and displaced soil where logs had been yarded up the steep slope in a blind lead. Reviewing the unit card, no suspension was required in the unit. Soil erosion was isolated on the steep bluff and did not extend to the stream management zone. Planning should have been made to design settings to minimize yarding up the steep slope face. There was no noted erosion in the intermittent streams and minor impact from the cable operation.



Picture 4. Some of the steep slopes in the unit

The temporary road that accessed this unit was closed. There were ruts and erosion noted on the running surface of the road. This road was not on Forest land as the operator had accessed the unit through Cape Fox Corporation land. A water bar was excavated to provide cross drainage across the road surface and limited water from running down the road to the landing. The water bars did not provide effective water transport; although did serve to limit water flowing on the road surface. Grading of the road surface as well as shaping the water bars should have been required prior to removing equipment from the site to limit surface erosion if the road was a Forest temporary road.

Overall, the unit harvest was completed to implement the best management practices. There was only minimal disturbance shown in the unit and not impact was noted relative to the class III stream that is shown outside the unit boundary. The construction of the landing and temporary road on non-Forest land limited the ability of the Forest to require grading and limited the requirements for cross drains and water bars.



Picture 5. Landing in foreground with temporary road in background

Corrective Actions

Corrective actions noted in this unit are focused on the landing and temporary road and suspension prescriptions. The IDT recommends the following:

- Units with slopes over 72 percent slope gradient need to be field reviewed by a soil scientist. If field review does not occur during planning, it should be completed prior to layout and definitely prior to harvest. This review is necessary to limit potential slope stability concerns and detrimental soil disturbance.
- Units showing evidence of old landslides and slope stability issues should be field reviewed by soil scientists during planning. Deletion high mass movement index terrain should be considered during planning.
- The landings and temporary road constructed on non-FS land needs to be considered and the best management practices employed on private or state land defined.

Adaptive Management Actions

The adaptive management suggestion is primarily associated with changes in logging systems. Potential soil and water impacts associated with a change in logging system from helicopter to cable need to be considered and field reviewed. Input from soil scientist should be sought when logging systems are changed on terrain where the slopes exceed 72 percent slope gradient or there are high mass movement index soils.