

## Wetlands

**Goal:** Minimize the destruction, loss, or degradation of wetlands and preserve and enhance wetland functions and values.

**Objectives:** Avoid alteration of or new construction in wetlands whenever there is a practicable environmentally preferred alternative. Implement Best Management Practices (BMPs) and Estuary, Riparian, and Soil and Water Standards and Guidelines specific to wetlands.

**Background:** Wetland implementation monitoring currently uses two independent methods. The first method follows established protocols for 100 percent BMP implementation monitoring. A representative sample of harvest units and associated roads will be monitored annually using an interdisciplinary approach. Avoidance of wetlands will be monitored Tongass-wide each year, through GIS and field reconnaissance analyses.

Use of a second method began in FY 2006. Standard forms were created to qualitatively rank the implementation and effectiveness of the 15 Federal Baseline Provisions documented in 33 CFR 323.4 and BMP 12.5. The standard forms are completed by a team of wetland scientists on a randomly selected group of newly constructed road segments in wetlands. Field work using these forms was completed in FY 2006. The report documenting the results of the field work was completed in FY 2007. Future wetland monitoring under this protocol will occur on a two year cycle, one year for data collection and one year for literature review and report writing. FY 2008 will be the next data collection year, with FY 2009 being the next report writing year.

The revised wetland monitoring protocol (Landwehr, 2006) also provides a procedure for documenting wetland avoidance in project-level NEPA documents. The first timber sale NEPA projects including a wetland avoidance discussion at the project scale will be the Scratchings Project on the Craig Ranger District and The Iyouktug Project on the Hoonah Ranger District. These EISs are scheduled for completion in FY 2008.

### **Wetland Question 1: Are Wetlands Standards and Guidelines being implemented?**

The information provided in Table Wet-1 was from project implementation of Category 3 and 4<sup>1</sup> timber sales, those timber sale projects for which the project-level NEPA was done after the 1997 Tongass Land and Resource Management Plan Record of Decision (Forest Plan ROD), or for projects which were completed prior to the 1997 ROD had subsequent revisions to the project standards and guidelines to reflect the Forest Plan standards for wetlands. The activities that took place in 2007 were developed to achieve consistency with the revised Forest Plan.

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<sup>1</sup> Category 1 and 2 timber sales were sales that were just or nearly completed when the Forest Plan ROD was signed and so did not include all of the Forest Plan Standards and Guidelines. Category 3 and 4 timber sales had environmental documents not as complete and were required to incorporate the Forest Plan Standards and Guidelines.

**Table Wet-1.** Total Acres of Wetlands Harvested and Miles of Road Constructed for the Tongass National Forest Managed in FY 2007

Total Wetland Acres <sup>1</sup>	Wetland Acres Harvested	% Total	Wetland Acres <sup>2</sup> Affected by Road Construction	% Total
5,709,069	120	<0.1%	16	<0.1%

<sup>1</sup> Total acres of mapped land (excluding private lands and some wilderness areas); data was from Tongass Soils GIS layer (CLU, or Common Land Unit), managed stands, and roads database.

<sup>2</sup> Based on an average of a 40-foot wide road

## Monitoring Results

One hundred and twenty acres of wetlands were affected by timber harvest in FY 2007. This accounts for less than 0.1 percent of the total wetlands on NFS lands with soil mapping. Forested wetland and palustrine emergent wetland complexes were most affected by timber harvest. Wetlands comprised approximately 20% of the 586 acres harvested in FY 2007. Prescriptions were developed and implemented to minimize impact to wetlands. Timber harvest and related road development are not restricted activities on wetlands under the Clean Water Act.

In FY 2006 four newly constructed road segments on the Skipping Cow Timber Sale Project received a more intensive look at the implementation of baseline provisions. The four road segments totaled 6,459 feet in length. Qualitative assessments of the implementation and effectiveness of the baseline provisions were completed by a team of four soil scientists and one ecologist. The team found that documentation of wetland avoidance on the Skipping Cow road cards was generally good. The report was completed in FY 2007 (Landwehr 2007). A summary of the findings from the draft report were included in the FY 2006 Monitoring and Evaluation report.

## ***Best Management Practices (BMPs) Implementation Monitoring***

BMP implementation monitoring for wetlands (BMP 12.5) was completed following protocols of the Tongass National Forest Best Management Practices Implementation Monitoring Strategy (June 1998). Results from that monitoring are reported in the annual BMP Implementation Monitoring Report, Appendix. Refer to the 2007 BMP Monitoring Report for details on how the monitoring was conducted. A summary of the findings for soil and water resources is given below in Tables Wet-2.

The Wetland Standards and Guidelines were monitored on the Tongass through guidelines described in the Tongass Monitoring Strategy. The strategy was developed to provide direction for Tongass Land and Resource Management Plan implementation monitoring. The BMPs evaluated are included in the Soil and Water Conservation Handbook (FSH 2509.22, October 1996).

A total of 20 timber harvest units and 18 roads/road segments (includes 5 bridge and 1 culvert replacement sites) were monitored this year through the 100 percent implementation monitoring process. A subset of the total BMP implementation monitoring pool, consisting of 5 units, 6 road construction segments including 3 fish pass improvement culvert replacements (located on 1 road), 1 bridge removal and 2 log transfer facilities. The tables discussed below reflect results from the total units and roads monitored in the 100 percent and IDT monitoring

efforts. Table Wet-2 shows the number of times the BMPs specific to wetlands were monitored and implemented. The Best Management Practice relative to wetlands is BMP 12.5 – Wetland Protection Measures.

The BMP for Wetland Protection Measures was monitored on the 444 acres monitored and documented through the 100 percent implementation monitoring effort and the 97.64 in the IDT quality control monitoring. On the monitoring forms, 2.5 acres of wetlands were noted in the 100 percent monitoring effort from documentation in the planning unit and road cards and 1 acre was noted in the IDT reviews.

**Table Wet-2.** Summary of BMP Use, Number of Departures and Corrective Actions for 100% & IDT Monitoring in FY 2007

<b>BMPs Applied</b>	<b>Number of Times the BMP was Appropriate for Use</b>	<b>Number of Departures from Full BMP Implementation</b>	<b>Number of Times Corrective Action Applied</b>
12.5 Wetland Protection Measures	15	0	0

The tables reflect results from the total units and roads monitored in the 100 percent and 10 percent IDT monitoring efforts. Results of the 100-percent monitoring of units and roads for BMP 12.5 in FY 2007 concluded that the BMP was implemented.

Wetlands were identified in a few of the units, isolated wetland areas were deleted or boundaries changed to avoid impact to muskeg and fen areas. At the culvert reconstruction sites in wetland areas, efforts were noted minimize impact to the wetlands water levels. In units where forested wetland was harvested, partial to full suspension measures were prescribed and implemented. Specific yarding systems were designed and used under the close supervision of the sale administrator in wetland areas. Very little soil disturbance was noted in the harvested wetland areas monitored. No departures were noted relative to wetlands delineation and protection.

### **Evaluation of Results**

The BMPs are being implemented on the Tongass National Forest. The high quality work of the individuals involved with the site investigations, layout, unit design, environmental assessment, and contract administration has contributed to this success. Training on wetland identification and protection conducted on the Tongass and communication about wetland protection has increased the knowledge of sale administrators and engineers. The sale administrators actively avoided wetlands and implemented protective prescriptions on wetlands. The sale administrators deleted wetland areas to protect wetlands. The logging systems were specifically designed with prescriptions for wetlands. Continued emphasis needs to be placed on identifying these wetland areas during environmental assessment and layout. In several of the older environmental assessment documents, the wetland areas were not identified on the unit and road cards or specified by unit in the documents. Particular focus on identification of wetlands and avoidance needs to be conveyed to contractors preparing EIS and EA documents. Increased inspection of this work at the planning and

layout phases is necessary.

Review shows that less than 0.1 percent of the total wetlands affected by road construction and timber harvest. The Tongass National Forest has fulfilled the intent of implementation of Wetland Standards and Guidelines in avoiding wetlands where practicable. Even with the combined effects of 1998 to 2007 activities on wetlands, the Forest is illustrating avoidance of wetlands in its management activities. Overall, BMPs are being implemented where applicable, according to the 100 percent sampling results, by sale administrators and engineering representatives and the sampling conducted by the Tongass BMP oversight team. This has been the case for the last eight years of monitoring. Trends indicate that BMPs are being prescribed site specifically and are being fully implemented.

## **Action Plans**

As described in the action plans associated with Soil and Water Question 3, recommendations follow to involve district specialists throughout the environmental assessment, layout and implementation of the BMPs. Most of the corrections and unit deletions to exclude wetlands from units occurred on environmental documents developed and laid out by contractors. More oversight and careful inspection of the contacted work is required to ensure the units do not include large inclusions of wetlands. Native riparian vegetation should be replaced if the vegetation is excavated during construction.

The wetland monitoring report recommends continuing with routine BMP implementation monitoring and the protocols developed in FY 2006. Future NEPA documents that include activities on wetlands will include a section that describes wetland avoidance at the project scale. An example will be included in the Scratchings Timber Sale Final Environmental Impact Statement.

## **Wetland Question 2: Are Wetland standards and guidelines effective in minimizing the impacts to wetlands and their associated functions and values?**

During FY 2007, the Forest ecology group continued the Tongass non-forest vegetation classification project (most non-forested areas are wetlands). Work in 2007 concentrated on the Stikine and Taku River Valley Subsection. Seventy-eight integrated field plots (vegetation, physiography, and soils) were sampled in FY 2007. Data are currently being analyzed to develop a draft non-forested community classification for the subsection.

The wetland monitoring report for the data collected on the Skipping Cow project area was finalized in 2007 (Landwehr, 2007).

## **Action Plans**

The wetland monitoring report (Landwehr, 2007) recommends continued wetland implementation monitoring and quantification of the impacts of roads through wetlands. This wetland monitoring will occur on a two year cycle, FY 2008 will be a data collection year and FY 2009 will be a report writing year. Data collection for the non-forest vegetation classification will continue.

## **Citations**

Landwehr, Dennis J. 2007. Implemenation and Effectiveness Monitoring of Wetland Best Management Practices on the Tongass National Forest.