

11. Road Maintenance and Abandonment Planning for Large Forest Landowners

11.1 Introduction

Forest Practices Rules include a Road Maintenance and Abandonment Program to help prevent sediment and hydrology-related impacts to public resources such as fish and water quality and to fix fish passage barriers. The Road Maintenance and Abandonment Plan (RMAP) rules require large forest landowners to plan and schedule all of the work needed on their lands necessary to improve and maintain their forest roads to meet standards specified in chapter 222-24 WAC. In an effort to minimize the economic hardship on small forest landowners, the 2003 Washington State Legislature passed a RMAP bill (HB1095) that modified the definition of “small forest landowner” and clarified how the RMAP requirements applied to them. Small forest landowners have the option to submit a “checklist” RMAP with each Forest Practices Application or Notification, rather than providing a plan for their entire ownership.

Large forest landowners were required to have all roads within their ownership covered under a DNR-approved Road Maintenance and Abandonment Plan (WAC 222-24-051) by July 1, 2006 and to bring all roads into compliance with forest practices standards by July 1, 2016. This includes all roads that were constructed or used for forest practices after 1974. An inventory and assessment of orphaned roads (i.e., forest roads and railroad grades not used for forest practices since 1974) must also be included in the plan. Forest Practices Rules require large forest landowners to prioritize road maintenance and abandonment work based on a “worst first” principle — starting with road systems where improvements would produce the greatest benefit for public resources. Within each plan, maintenance and abandonment work is prioritized as follows:

- Remove blockages to fish passage,
- Prevent or limit sediment delivery,
- Correct drainage or unstable side-cast in areas with evidence of instability that could adversely affect public resources,
- Disconnect the road drainage from typed waters,
- Repair or maintain roads that run adjacent to streams,
- Minimize road interception of surface and ground water.

11.2 Extension of RMAP Deadline

The Forest Practices Board (Board) amended WACs 222-24-050 and 222-24-051 to allow forest landowners to extend the deadline for completing the road work scheduled in their Road Maintenance and Abandonment Plans (RMAPs). The rule change allows for an extension of the deadline for up to five years, or until October 31, 2021. While landowners have made substantial progress in meeting their RMAP commitments, the Board has adopted this rule amendment because of the impact of the 2008 economic downturn on forest landowners. Landowners depend on the revenue from timber harvests to accomplish their road improvements. On August 9, 2011

the Board adopted the RMAP extension process. During the reporting period, two forest landowners requested and received approved RMAP extensions.

During this reporting period the Forest Practices Program has implemented standardized RMAP data collection and evaluation, and improved the reporting process. Particular attention remains focused on implementation consistency and standardization including even-flow and worst-first assessment and tracking. The program has made the following improvements:

- Applying consistent interpretation of accomplishment reporting elements,
- Standardizing data collection methods,
- Creating a statewide Geographic Information System (GIS) database for RMAP information, tracking, and reporting purposes for fish passage barriers,
- Improving data sharing and transparency,
- Adding two accomplishment reporting elements in order to provide a baseline for improving evaluation of even-flow:
 - Total number of fish passage barriers identified,
 - Total number of forest road miles identified needing improvement.

The Board has amended Board Manual Section 3 *Guidelines for Forest Roads*, which explains requirements and processes in the RMAPs program.

11.3 Road Maintenance and Abandonment Plan Implementation

Following are three tables:

Statewide Road Maintenance and Abandonment Plan Accomplishment Report 2001-2011; *Statewide Cumulative Road Maintenance and Abandonment Plan Accomplishment Report*; and *Fish Passage Barrier Information for Large Landowners*

These tables detail the progress that's been made by forest landowners from July 2001 until December 2011. The information provided in the tables is derived from data supplied by landowners as part of their annual accomplishment review. Following the *Statewide Road Maintenance and Abandonment Plan Accomplishment Report 2001-2011* is a description of each reporting element. In addition, several of the descriptions include reasons why some reporting element numbers fluctuate as well as providing more in-depth information on why earlier accomplishment reports differ from this report.

Statewide Road Maintenance and Abandonment Plan Accomplishment Report 2001-2011

DNR Region	Number of approved RMAPs	Miles of forest road assessed	AVAILABLE 2012 Miles of forest road identified needing improvement*	Miles of road improved	Miles of road abandonment	Miles of orphaned roads	Number of fish passage barriers identified	Number of fish passage barriers corrected	Miles of fish habitat opened	Total of RMAP checklists from small forest landowners
Northeast	89	7,625	1,144	5,119	302	96	832	651	326	2,716
Northwest	27	5,614	1,349	2,477	1,008	726	560	336	101	1,573
Olympic	24	7,648	376	540	128	353	1,392	620	312	844
Pacific Cascade	74	21,942	3,417	9,140	640	712	2,978	1,891	1,028	3,268
South Puget Sound	18	7,906	929	1,064	442	235	619	353	182	700
Southeast	15	6,500	198	398	570	271	689	407	240	595
Statewide Totals	247	57,235	7,413	18,738	3,090	2,393	7,070	4,258	2,189	9,696

The content of this table is based upon data provided by landowners who are responsible for the facts and accuracy of the information presented herein.

Note:

In 2008, in order to get a sense of overall RMAP accomplishment, Large Forest Landowners with approved RMAPs made a good-faith effort to quantify the number of forest road miles needing improvement. DNR Forest Practices began reporting this number in the 2009 *Forest Practices HCP Annual Report* and calculated an annual accomplishment rate in subsequent reports. As described below under *Miles of Road Improvement* (and in the 2009 Annual Report) there were limitations with the data.

*Beginning with the 2011 RMAP reporting cycle (January 1, 2011 to December 31, 2011), landowners provided the new data element — “miles of forest road identified needing improvement” — this has been incorporated in the 2012 *Forest Practices HCP Annual Report* and has replaced the road miles that were initially reported in the 2009 *Forest Practices HCP Annual Report*. Miles of forest road identified needing improvement only captured information submitted by landowners who accomplishment reporting date is January 1, 2012 through April 15, 2012 for this reporting year. Totals for this column will be complete in 2013 HCP annual report due to large landowners reporting cycle.

Reporting Elements

Number of Approved RMAPs

The number of approved Road Maintenance and Abandonment Plans (RMAPs) represents those plans submitted mostly by large forest landowners. Many large landowners have more than one plan. There currently are 18 small forest landowners that could have opted to submit a “checklist” RMAP, but have chosen (in writing) to continue to follow their pre-2003 submitted RMAP, or have decided to submit a plan as described in 222-24-0511(2). This does not include land previously owned by a large landowner covered under an approved RMAP, which has been sold to a small forest landowner that chooses not to continue/implement the plan.

Previously, this number was reported as either:

- 1) *Number of landowners* having an approved RMAP (i.e., 11 landowners within one region would equal 11 RMAPs), or
- 2) *Number of approved RMAPs* (i.e., 11 landowners within one region, each having 3 separate RMAPs, would equal 33 RMAPs).

Beginning with the 2010 RMAP reporting cycle (compiled and reported the next spring), and thereafter, this number is reported as '*Number of approved RMAPs*'. The program chose this reporting strategy due to the importance of monitoring and tracking the number of approved plans rather than the number of landowners.

The number of approved RMAPs is dynamic in nature and can change over time. Large landowners may have one RMAP for large holdings or multiple RMAPs covering several blocks within the large holding. A landowner may choose to change their strategy on the number of RMAPs they manage. Property transactions can lead to an increase or decrease in the number of approved RMAPs. Small landowners that decide to discontinue their plan and obtain a checklist would result in a decrease of RMAPs reported. Another reduction in the number may be due to a large forest landowner's decision to discontinue or reduce the amount of harvest, and submit a request to be released from the program due to qualifying as a small forest landowner (WAC 222-16-010).

Miles of Forest Roads Assessed

Landowners arrived at this number by conducting an inventory and assessment of all forest roads contained within a specific RMAP. This number includes roads that meet Forest Practices Rule standards as well as those that need to be improved.

This information is currently incomplete. Large landowners have not completed a full year reporting cycle using the new RMAP annual accomplishment reporting form. As a result only a partial year of data is reported this year. Once landowners complete a one year reporting cycle, data should be complete. Once complete, the data is not expected to fluctuate significantly over time.

Miles of Forest Road Identified Needing Improvement

This reporting element has not been formally tracked. In 2008, in order to get a sense of overall RMAP accomplishment, large forest landowners with approved RMAPs made a good-faith effort to quantify the number of forest road miles needing improvement. As described below under ‘Miles of Road Improvement’ (and in the 2009 *Forest Practices HCP Annual Report*) there were limitations with the data. Data from landowners that have a RMAP accomplishment reporting date after January 1, 2012 and prior to April 15, 2012 has been included in this Annual Report. Data from all other large forest landowners will be added to the numbers and included in the 2013 FPHCP Annual Report.

Miles of Road Improvement

For Road Maintenance and Abandonment Plan purposes, an improved road or road segment is defined as locations where actions have been taken to address issues associated with:

1. fish passage;
2. delivery of sediment to Typed waters;
3. existing or potential slope instability that could adversely affect public resources;
4. roads or ditch lines that intercept ground water, and
5. roads or ditches that deliver surface water to any Typed waters.

The improvements are to meet the current Forest Practices Rule requirements and are identified in the landowner plan, or problematic road conditions are subsequently discovered and actions are identified for inclusion within the time period associated with an approved RMAP.

DNR began reporting this number in 2008 for the 2009 *Forest Practices HCP Annual Report*. This reporting element has been difficult to calculate, leading to data inconsistencies. In addition to inconsistencies in how road improvement miles were measured, the greatest challenge was the lack of a clear, working definition as to what constitutes ‘road miles improved’. Beginning in reporting year 2010, and thereafter, this number is calculated using the definition above.

Once a landowner identifies that a road or road segment is brought up to current rule standards, it is captured in that year’s accomplishment report. Provided the DNR RMAP Specialist concurs, the road no longer will be identified as an RMAP obligation; therefore, the road or road segment would not be included in subsequent reporting years for miles of road needing improvement. Over time, the “miles of forest road identified needing improvement” will decrease as the “miles of road improved” increases. All roads not under an RMAP obligation are subject to standard Forest Practices Rules found in Chapter 222-24 WAC.

Miles of Road Abandonment

The number of road abandonment miles includes those that have been reported under an approved Road Maintenance and Abandonment Plan as abandoned per WAC 222-24-052(3).

Roads are not considered ‘officially abandoned’ until the DNR RMAP Specialist or Forest Practices Forester reviews the on-the-ground abandonment to ensure it meets the requirements. Reported road abandonment miles reflect some road miles that may not have been officially abandoned at the time this report was distributed.

Miles of Orphaned Roads

The number of miles of orphaned roads includes those that have been reported under an approved RMAP as orphaned. Inventory and assessment of orphaned roads will be used to help in the evaluation of the hazard-reduction statute and to determine the need for cost-share funding (RCW 76-09-300).

This information is challenging to track precisely due to the difficulty in locating orphaned roads on the landscape; they often are obscured by brush and forest cover and do not appear on any map. Some orphaned roads have been converted to active forest roads, some abandoned, and some may be scattered throughout the landscape with present status unknown.

Number of Fish Passage Barriers Identified

The total number of fish passage barriers includes those identified as part of an approved RMAP inventory.

In 2006, the revised water-type map was used as an additional tool to identify potential fish passage barriers. The total number of fish passage barriers will fluctuate over time, depending on when landowners verify on-the-ground physical characteristics and/or perform a protocol survey or other approved methodology for verifying fish presence or absence. In cases in which a stream type has been changed from ‘Type F’ to ‘Type N’—therefore negating the landowners’ obligation to remove fish passage barriers—sizing of the culvert will be assessed to ensure that it is able to pass a 100-year flood level event. Due to limited habitat gained, barriers also may be removed from the total number, if the structure was determined by WDFW to be sufficient to remain until the end of its functional life. Also, a barrier may be removed from the list if the structure was determined to play an important role in maintaining pond or wetland habitats; these decisions are made with stakeholder consultation.

Number of Fish Passage Barriers Corrected

The corrected number of fish passage barriers includes the total number that have been permanently removed or fixed with a fish-passable structure.

Previously, this number included some streams that had been downgraded from a ‘Type F’ to a ‘Type N’, which did not meet the intent of this reporting element. Beginning in the 2010 RMAP reporting cycle, and thereafter, this number is reported as the number of actual fish passage barriers corrected.

Miles of Fish Habitat Opened

The ‘miles of fish habitat opened’ refers to stream habitat opened for fish use after the fish passage barrier has been removed or replaced. This number is an estimate, due to the inability to always measure stream length on the ground. The measurement often is based upon aerial photos or maps.

This number of miles of fish habitat opened may fluctuate depending on when, or whether or not, a stream type verification survey occurs. If there are no protocol surveys to pinpoint exact breakpoints, this number is reflected by large forest landowner data or topographical information. It also is difficult for landowners to determine this number if the stream enters another ownership.

Number of Checklists Submitted by Small Landowners

The ‘number of checklists’ is the total submitted to the DNR regions by small forest landowners since the 2003 rule change. Small forest landowners may submit more than one RMAP Checklist.

Beginning in the 2007 RMAP reporting cycle and thereafter, checklists have been separated from the ‘Number of Approved RMAPs’ and tracked separately.

The following table, *Statewide Cumulative Road Maintenance and Abandonment Plan Accomplishment Report* displays the data cumulatively by year, rather than by DNR region.

Statewide Cumulative Road Maintenance and Abandonment Plan Accomplishment Report

Year	Number of Approved RMAPs & Submitted Checklists	**Total # of RMAP Checklists from Small Forest Land-owners	Miles of Forest Road Assessed	Miles of Road Improved	Miles of Road Abandonment	Miles of Orphaned Roads	Miles of Habitat Opened	# of Fish Passage Barriers Corrected
2001-2002	4,066	---	15,484		645	502	52	46
2001-2003	5,530	---	27,072		1,007 / *362	1,246	175 / *123	355 / *309
2001-2004	7,401	---	48,051		1,587 / *580	1,944	647 / *472	1,217 / *908
2001-2005	8,419	---	58,843		1,856 / *269	2,107	775 / *128	1,363 / *146
2001-2006	9,950	---	59,220		2,068 / *212	2,313	982 / *207	1,819 / *456
**2001-2007	107	8,121	56,936	13,140	2,153 / *85	2,293	1,221 / *239	2,248 / *429
2001- 2008	130	8,628 / *506	57,442	15,019 / *1,879	2,431 / *278	2,305	1,448 / *227	2,871 / *623
2001-2009	126	8,804 / *176	57,442	16,195 / *1,176	2,621 / *190	2,305	1,569 / *121	3,141 / *270
2001-2010	262	9,187 / *383	57,442	18,475 / *2,280	2,915 / *294	2,333	1,772 / *203	3,769 / *628
2001-2011	247	9,696 / *509	57,235	18,738 / *263	3,090 / *175	2,393	2,189 / *417	4,258 / *489

* Number represents the increase from the previous year's report.

** Beginning in reporting year 2007 and thereafter, checklists have been separated from the 'Number of Approved RMAPs' and tracked separately.

Fish Passage Barriers

In addition to the fish barrier information in the above tables, the following table, "*Fish Passage Barrier Information for Large Landowners*" displays how many barriers have been repaired cumulatively since 2001; the total repaired in calendar year 2011, and the percent of total repaired as of December 31, 2011.

Fish Passage Barrier Information for Large Forest Landowners

DNR Region	Number of fish passage barriers identified*	Number of fish passage barriers corrected from 2001-2011	Number of fish passage barriers corrected in 2011	% of total fish passage barriers corrected as of 12/31/2011
Northeast	832	651	18	78%
Northwest	560	336	82	60%
Olympic	1,392	620	196	45%
Pacific Cascade	2,978	1,891	217	63%
South Puget Sound	619	353	9	57%
Southeast	689	407	67	59%
Totals	7,070	4,258	589	60%

*This number may fluctuate annually as water types are confirmed and/or modified.

11.4 Washington Department of Fish and Wildlife Efforts

Biologists from the Washington State Department of Fish and Wildlife (WDFW) provide an essential role in the review and implementation of RMAPs. In Fiscal Year 2012, WDFW biologists reviewed approximately 650 Road Maintenance and Abandonment Plans statewide and issued approximately 400 Hydraulic Project Application (HPA) permits associated with those plans. As many HPAs include multiple projects or locations, these 400 HPAs equate to more than 700 projects or locations associated with RMAPs.

WDFW biologists reviewed RMAPs as landowners made annual changes pertaining to fish passage structures, fish habitat, stream typing, and sediment delivery. Ownership changes have also been occurring at a relatively high rate, which require additional RMAP revisions and review. The complexity of technical assistance and HPAs needed from WDFW biologists has increased as work is shifting from the easier barrier fixes to the more challenging crossing structures, especially those higher in the watersheds.