

# 9. Compliance Monitoring Program

## 9.1 Introduction

DNR is mandated by law to conduct compliance monitoring. WAC 222-08-160(4) states “DNR shall conduct compliance monitoring that addresses the following key question: ‘Are forest practices being conducted in compliance with the rules?’ DNR shall provide statistically sound, biennial compliance audits and monitoring reports to the Board for consideration and support of rule and guidance analysis. Compliance monitoring shall determine whether Forest Practices Rules are being implemented on the ground. An infrastructure to support compliance will include adequate compliance monitoring, enforcement, training, education and budget.”

The Compliance Monitoring Program (CMP) that was developed in response to WAC 222-08-160(4), is a key component of the Forest Practices Program. DNR’s compliance monitoring program uses detailed field protocols to produce reliable compliance determinations. Compliance monitoring provides feedback on how well operators and landowners are complying with the Forest Practices Rules when conducting forest practices activities. The information gained through the CMP (as well as from the daily efforts of on-site Forest Practices Foresters) provides critical feedback to the Forest Practices Program about rule implementation – where improvements may be needed in forest practices application review, compliance, or enforcement, and where to focus training efforts.

When initial funding for the CMP was allocated by the legislature in 2006, DNR, along with other stakeholders, developed a compliance monitoring program design and implemented a pilot sampling effort that year. The Compliance Monitoring Program has completed annual compliance monitoring sampling every year since the 2006 pilot. The program has also produced biennial reports that provide and explain results of the field reviews. The first report was the [\*2006/2007 CMP Biennium Report\*](#).

All completed reports can be found on the compliance monitoring program website: [http://www.dnr.wa.gov/BusinessPermits/Topics/ComplianceandEnforcement/Pages/fp\\_cm\\_program.aspx](http://www.dnr.wa.gov/BusinessPermits/Topics/ComplianceandEnforcement/Pages/fp_cm_program.aspx).

The CMP is administered within DNR by a Compliance Monitoring Program Manager and is staffed by the manager and a program specialist. The monitoring is conducted by professional foresters, geologists and biologists from DNR, Ecology, WDFW, and several tribes and tribal organizations in survey teams of four or five members. Landowners are invited to attend the field assessments.

Additional input is provided by the Compliance Monitoring Stakeholder Committee, which includes representatives of the DNR, WDFW, Ecology, Tribes and tribal organizations, the Services, Washington Farm Forestry Association, Washington Forest Protection Association, industrial landowner representatives and the conservation caucus. This forum meets regularly and provides advice on:

- Clarification of rule elements when questions arise,
- Consistent implementation of program protocols, and

- Consensus recommendations from the committee for Compliance Monitoring Program improvement.

Compliance monitoring is limited by mandate, budget, and staffing which results in a focused program with a well-defined, yet limited, scope. Compliance monitoring does not:

- Focus on individual landowners and compliance specific to those landowners, but rather focuses on the two overall groups of small and large forest landowners.
- Implement or enforce forest practices rule violations – when field reviewers encounter rule violations, the appropriate DNR regional staff is notified for further action, or
- Modify water types – field reviewers do, however, record observed differences between water type documentation on forest practices applications and on-the-ground physical features.

The Compliance Monitoring Program evaluates compliance with prioritized forest practices rules considered to have the greatest impact on the protection of aquatic and riparian species and their habitat (riparian, wetland, road construction and maintenance, and haul route rules).

The Compliance Monitoring Program monitors by “rule prescription type”. Prescription types are groupings of similar FP rules that apply to a forest practices activity. Forest practices activities are operations such as timber harvest and forest road construction that are subject to FP rules. For example, forest practices activity types such as road construction and timber harvest are evaluated based on options available for implementing a particular activity – such as the many options available for harvest in the riparian management zone (RMZ) (desired future condition (DFC) Option 1, DFC Option 2, etc.); and by function/feature being protected such as water quality and wetlands. In compliance monitoring reports, for example, DFC Option 1 is called a prescription type. The compliance monitoring program monitors and reports compliance monitoring findings by each of the prescription types.

The prescription type rule groupings allow for statistical estimation of compliance by those specific rule groups rather than an overall forest practices compliance rate. This enhances the ability to determine where additional training or education or forest practices compliance efforts might be needed to increase compliance with forest practices rules. The compliance monitoring program, with stakeholder input, determines which forest practices rule prescription types will be sampled each year and then estimates the number of samples required for statistical precision. This number of samples is then visited by the compliance monitoring field team for each of the forest practices rule prescription types.

Some forest practices rules are monitored annually and are referred to as the *Standard Sample*. In addition, certain rule groups (or prescription types) are monitored periodically and these are known as an *Emphasis Sample*. The Standard Sample monitors the following rules:

- Riparian protection ([WAC 222-30-021](#) and [WAC 222-30-022](#))
- Wetland protection ([WAC 222-30-020\(7\)](#) and [WAC 222-24-015](#))
- Road construction, maintenance, and abandonment ([WAC 222-24](#))
- Haul routes for sediment delivery ([WAC 222-24](#))

In addition, the physical criteria of waters (i.e. stream width, stream gradient, etc.) are observed to estimate the number of occurrences where water types recorded on forest practices applications are different than what is observed on-the-ground.

## **9.2 History of Compliance Monitoring Program Design**

**2006** – A statewide working group led by DNR completed a compliance monitoring program design focusing on RMZ Forest Practices rules for all typed waters and road activities. The program design also included a detailed protocol for field assessments, field form revisions, and data collection templates.

**2008** – The Board recommended technical review of the program design. Five reviewers were selected that had operational monitoring experience and the report results were presented to the Board in February of 2008.

**2008** – In response to the 2008 review, four significant changes to sampling were implemented for 2008-2009.

1. A protocol was added to capture observed differences between water type classification at the time of application approval and at the time of the compliance review.
2. Compliance with the rules as they are applied on the ground is assessed in addition to compliance with what was stated on the approved application.
3. The Forest Practices Application selection strategy was modified to sample each DNR region proportional to their representation in the entire population of applications statewide. This is to assure representation of each region in the sample.
4. DNR contracted with a professional statistician to review and approve the program design.

**2012** –The Compliance Monitoring Program made significant changes in the sample design to increase confidence in statistical estimates for each prescription type observed. Previously, the design was based on a random selection of forest practices applications stratified by the proportion of the population found in each DNR region. The sample size for each prescription type was dependent on what prescription types were observed on the selected forest practices applications. Beginning in 2012, the sample design randomly selects instances of each sampled prescription type occurring in the population. An estimated sample size is calculated for each prescription type which meets a desired confidence interval for a biennium sample. This change in selection design allows for some control in the level of statistical confidence in results and provides a larger information set to help determine causes of deviation from the rules. It also adds flexibility in the future to add or remove different prescription types from the sample as needed while still providing the desired confidence intervals for each prescription type.

The sample design was changed again for the 2012 sampling season to improve the confidence of the compliance estimates for the less frequently occurring prescription types. This included using a finite population correction factor to estimate the sample size needed to provide a 12% confidence interval (CI) for all prescription types assessed. The 12% CI was selected because it was perceived to be the best precision achievable within the program budget. As a result, the 2012-2013 sample reviewed more forest practices applications but not as many prescriptions on each FPA.

### 9.3 Compliance Monitoring Program Reports and Findings

In addition to the biennial reports produced by the Compliance Monitoring Program, in 2011, the Commissioner of Public Lands requested an annual report in the intervening years. The [2012 Interim Forest Practices Compliance Monitoring Report](#) is on track to be published in July 2013. While previous [biennial reports](#) summarized results for two-year periods in which randomly selected and approved forest practices applications were assessed for compliance with the forest practices rules, the 2012 interim report describes compliance patterns detected during the first year of the biennial sample cycle (2012 field season). Because interim reports only represent one year of the required two years of data needed for precise estimates, generally conclusions cannot be made based on the data presented in these interim reports.

Beginning with the [2012 Interim Forest Practices Compliance Monitoring Report](#), the Compliance Monitoring Program changed the terminology used to describe compliance (see Section 2.3 of the interim report – *Compliance Assessment and Ratings*). In past compliance monitoring reports, prescriptions (rule groups) have been assessed as either “Compliant” or “Non-compliant”. Now prescriptions are assessed as “Compliant” or a “Deviation”. How the compliance rates are calculated has not changed, nor the methodology supporting the collection of the data. How compliance assessment is labeled has been changed to reflect a more accurate description and to acknowledge that while a prescription as a whole may be assessed as a deviation, many of the forest practices rules that comprise the prescriptions are often compliant.

#### 2012 Interim Report

During the 2012 field season data was collected for the standard sample prescriptions as well as for one Emphasis Sample prescription. The Emphasis Sample described compliance patterns associated with harvest in riparian management zones (RMZs) for exempt 20-acre parcels ([WAC 222-30-023](#)). Sampling of RMZ exempt 20-acre parcels was included in the 2008-2009 biennial report, and was an Emphasis Sample in 2012 to help determine if there has been improvement in the compliance rates. The Compliance Monitoring Program conducted a census of the 2012 population of RMZ exempt 20-acre parcel forest practices applications because the total population size was very small.

While compliance monitoring findings reported in the 2012 interim report only represent one year of the required two years of data needed for precise estimates, it was possible to make two conclusions for specific data not requiring both years of data. The two conclusions resulted from the RMZ exempt 20-acre parcel Emphasis Sample and the haul route Standard Sample. The RMZ exempt 20-acre parcel Emphasis Sample was designed as a one year sample and is compared in the interim report to the RMZ exempt 20-acre parcel Emphasis Sample that was completed in 2008. The 2012 haul route Standard Sample is compared statistically to the 2011 haul route Standard Sample because the sample size in both years was large enough to provide adequate statistical precision.

### ***2012 Riparian Prescription Standard Sample Findings***

<b>Riparian Prescription type</b>	<b>Percent (%)Compliant</b>	<b>Number Observed</b>
Western WA Type F or S No Inner Zone Harvest	63	24
Western WA Type F or S No Outer Zone Harvest	93	14
Western WA Type F or S Desired Future Condition (DFC) Option 1	73	11
Western WA Type F or S DFC Option 2	63	16
Western WA Type Np Activities	82	11
Eastern WA Type F or S No Inner Zone Harvest	85	13
Eastern WA Type F or S No Outer Zone Harvest	83	6
Eastern WA Type Np Activities	100	4
Statewide Type Ns Activities	93	14
Statewide Type A Wetlands	64	11
Statewide Type B Wetlands	100	10
Statewide Forested Wetlands	100	8

Comparisons of these results with those of previous biennia are premature at this point. Comparison may be valid after the full biennium sample is completed and analyzed.

### ***Statewide Water Typing Findings***

In the initial years of compliance monitoring, compliance monitoring field team observations indicated that at times water types observed on-the-ground did not match water type classifications provided on submitted and approved forest practices applications. This led to a concern regarding consistency and accuracy of water type information on forest practices applications because the width and length of riparian buffers required under forest practices rules are directly linked to water type. Stream and wetland type classification is a fundamental aspect of determining which forest practices rules apply to forest management activities taking place adjacent to typed water.

During 2012, the Compliance Monitoring Program evaluated 144 riparian related prescriptions involving typed water or wetlands. The number of typed waters or wetlands where the compliance monitoring field team found discrepancies was 20 or 13.9% of the total observed. The inconsistencies occurred when typed water was under-classified on the forest practices application (i.e. the forest practices application depicts a Type Np water that is found to actually be a Type F stream); or over-classified (i.e. the forest practices application depicts a Type F water that after observation is actually a Type Np stream).

### ***RMZ Exempt 20-Acre Parcel (Emphasis Sample) Findings***

The compliance monitoring team sampled RMZ exempt 20-Acre parcel RMZs. Non-conversion Forest practices applications associated with RMZs for exempt 20-acre parcels with fish bearing

streams comprised 2.1% of total approved forest practices applications submitted to DNR during this reporting period. Findings showed a compliance rate of 57% was not significantly different from the 2008 findings in which 62% of the samples were assessed as compliant.

The low rate of compliance for the RMZ exempt 20-acre parcel prescription type in 2008 led to the 2011 Compliance Action Plan) designed to help increase compliance. Actions included adding a condition to the approved forest practices application for the landowner to notify DNR 48-hours prior to beginning harvest operations, as well as a minimum of two on-site forest practices forester evaluations during the active period of the forest practices application. Compliance with the notification condition was not successful. Foresters had successfully inspected some of the active exempt 20-acre parcel forest practices applications twice. The Forest Practices Program will pursue options to help improve compliance for this prescription type.

### ***Roads and Haul Routes Findings***

In 2012, road construction and abandonment activities were assessed as compliant on all sites sampled.

The rate of compliance for haul routes was 87%. Comparison between 2011 (96%) and 2012 haul route rates shows that the rates are not significantly different statistically, which means they are considered the same. Both years' rates are near or above DNR's compliance goal of 90%.

## **9.4 Forest Practices Program Changes Based on CMP Feedback**

One of the primary goals of the Compliance Monitoring Program is to provide feedback from compliance monitoring for the purposes of improving compliance with the forest practices rules. Following are some of the changes made in 2011-2012 to address issues identified as a result of compliance monitoring:

### ***Water Typing***

- The Water Type Classification Worksheet and the Water Type Modification Forms have been revised to provide better detail about the location of water type breaks and stream physical characteristics.
- Water Type and Bankfull Width Training was presented to all region Forest Practices Staff to help provide consistent statewide interpretation and understanding about how water types and bankfull widths are determined. The staff that served as instructors will train all Regional TFW stakeholders.

### ***Shade Documentation***

Review of the shade procedures by the CMP showed that there was no requirement for applicants to include a shade assessment with their Forest Practices Application (FPA) when harvesting within 75 feet of a Type S or F water (with the exception of RMZ exempt 20-acre parcels). As a result, the Forest Practices Program has revised the FPA form (July 2012) that directs all applicants to include the stream shade analysis (as per Board Manual Section 1) with the FPA.

The effectiveness of these measures will be determined by future compliance monitoring results.

### **9.5 Future Plans for the Compliance Monitoring Program**

Currently the Compliance Monitoring Program is reviewing protocol changes for the 2014-2015 compliance monitoring field seasons. Particularly, there are challenges with the existing protocols used to assess compliance with the forest practices rules pertaining to shade requirements. The Compliance Monitoring Program protocols are not currently designed to determine the adequacy of information submitted with the forest practices application that document pre-harvest site assessment for shade.

Other issues to address include evaluating whether combining some prescription types would provide operational efficiencies without a loss of information. Combining the no outer zone harvest and no inner zone harvest may be an example. Any new approaches will be reviewed by the Compliance Monitoring Stakeholder Committee for recommendations and changes.

### **9.6 Funding**

On an ongoing basis, the Forest Practices Program actively seeks state funding from the legislature and support from the program's partners to effectively implement the Compliance Monitoring Program. DNR has received funds from the Legislature since 2005 that allows one full-time staff each from the Department of Ecology and the Department of Fish and Wildlife to work with DNR in the CMP. At this writing budget allotments have not yet been assigned for 2013-2015.