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Forest Service Handbook 2409.13 – Timber Resource Planning Handbook

Chapter 50 - Monitoring and Evaluation

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Approved by: F. Dale Robertson, Chief

Date approved:

Responsible Staff:

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Digest: Following is an explanation of the changes throughout the directive by section.

This amendment is a reissuance of FSH 2409.13 to conform the format and structure of the Handbook to the requirements of electronic directive issuance.

This amendment makes no substantive changes to the text. The only changes made are those necessary to meet new format requirements or to correct spelling, punctuation, or unit names.

This Handbook is now available electronically in the National Information Center in the same format as the paper copy. Henceforth, amendments to this Handbook will be issued to Forest Service units electronically on a document basis.

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51 - Monitoring and Evaluation

Monitoring of timber practices, outputs, and the resource base provides the foundation for determining whether or not the planned timber objectives in the forest plan are being achieved.

Evaluation is an analysis process used to determine the significance of deviations from the plan or from assumptions underlying the plan. Together, monitoring and evaluation provide the documentation necessary for continuing, amending, or revising the forest plan.

Monitor timber product outputs and acres treated through the timber sale reporting procedures contained in FSM 2490 and the Timber Management Information System (TMIS), FSH 2409.14. Records shall be in sufficient detail to identify timber volumes that are chargeable to the allowable sale quantity versus those that are not chargeable but are a part of the annual program. Record fuelwood and volume removed from unsuitable forest land separately.

Monitor costs in units defined in the Management Information Handbook (MIH) FSH 1309.11(a). It is not necessary to record costs in dollars but costs may be recorded in hours, by grade level, vehicle miles, and other such measurements, which permit conversion to dollar values.

Evaluate outputs and effects by planned prescription/management area combinations at a minimum of every 5 years. For forests where timber sales and silvicultural programs are significant issues or concerns, conduct analysis and evaluation at the end of the third year and as often as necessary thereafter to ensure accomplishment of plan objectives, or if necessary, amend or revise the plan.

Generally, base the effects and outputs on estimates of a forest-wide average condition or an aggregated condition within a specific area. Local conditions on sites scheduled for treatment can differ enough from the average to require a shift in scheduling of specific treatments or in the proportion of an area receiving a given treatment. The monitoring process tracks any divergence from planned practices and the resultant outputs, effects, and costs, in order to provide complete information for plan evaluation and to point to any needed plan amendment. Base the degree of management practices monitoring on:

1. The requirement of 36 CFR 219.12(k) monitoring and evaluation.
2. The potential for deviations from projected outputs, effects, or costs.
3. The state of the art and difficulty of application of the practice.

4. The degree to which the practice reflects issues, concerns, or opportunities identified in the planning process.
5. The cost of monitoring the practice.
6. Type of data analysis.

Management practices affect many other resources, but the effect of greatest importance to the timber resource is response to treatment. This response may be in the form of regeneration, growth rate, and/or mortality. How well these effects are projected by the growth processors or yield tables significantly affects timber yields during the plan period as well as future yields. Monitoring of these effects must be precise enough either to validate the projection used or identify sources of error. Relatively small, precisely measured permanent samples are more appropriate for measuring treatment response than broad, rough measurements.

The participation of appropriate Experiment Station Research work units in the development of a sample design for monitoring effects is recommended. An efficient design must not only minimize costs but also provide the data necessary to improve projection techniques.

51.1 - Regional Guide

(36 CFR 219.9(a)(6)). Use the Timber Management Information System (TMIS), FSH 2409.14, to monitor, annually and accumulatively, outputs in relation to the timber sale schedule for the 10-year planning period.

Annually prepare a management summary that displays the current and accumulated status of the progress attained by the forests in meeting annual timber sale program quantity and annual allowable sale quantity. Display accomplishment in terms of both volume and area and by harvest methods and management in the forest plans. The source of the data is in FSH 2409.14.

51.2 - Forest Plan

51.21 - Monitoring

The Forest plan contains the qualitative, quantitative, and descriptive detail necessary to meet the monitoring requirements of the Regional guide.

As a minimum this section specifies:

1. The management practices that require monitoring.

2. A reference to the standards or guides appropriate to each practice monitored.
3. The special qualifications, if any, required of personnel who monitor each practice.
4. The timing of the monitoring in relation to the execution of the project.
5. The percentage or minimum number of projects to sample in each activity.
6. The sample design and plot configuration for sampled activities.
7. A listing of the field or office techniques appropriate for monitoring each practice. Techniques may include observation, measurement, calculation, or a combination of these methods. The methods used shall be consistent with initial data gathering efforts.
8. The method for maintaining records of monitoring activities and results.
9. The maximum acceptable limits for each key timber output or effect that influences management decisions.
10. The maximum allowable deviation from the Regional standards.

51.22 - Evaluation

Base the criteria for evaluation of planned outputs and effects upon the ability to measure the outputs and effects and on the maximum allowable deviation, as specified by the Regional standards and guidelines.

Use the evaluation of the monitoring results to determine if:

1. Plan monitoring processes are appropriate to meet evaluation needs.
2. Implementation of the plan is proper.
3. Implementation is causing the anticipated results and production of outputs.
4. Land and resource base has remained stable or changed according to assumptions in the forest plan and if the changes are acceptable.

5. Data identified as required, but which were not available during the development of implementation of the forest plan, are still inadequate or lacking.

6. Timber-related issues, concerns, and opportunities incorporated into the plan are still pertinent.

If the answer to any of these points is no, or the difference is significant, consider a revision or amendment of the forest plan in accordance with 36 CFR 219.10(e), (f), and (g).