

**Final Report**  
**July 2001**

*Results of the FY 1999*  
*Northwest Forest Plan*  
*Implementation Monitoring Program*

*Part II*  
*Watershed Scale Assessment of Compliance*  
*with Northwest Forest Plan Direction*

For  
Management of Habitat for Late-Succession  
and  
Old-Growth Forest Related Species  
Within the Range of the Northern Spotted Owl

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## Executive Summary

The FY 1999 Regional Implementation Monitoring Program reviewed 24 randomly selected timber sales and overall land management actions in 12 watersheds at the 5<sup>th</sup> field scale. Timber sale monitoring findings were reported as Part I which was released in December 2000. *It is acknowledged that this report is being released two years after the 1999 field monitoring effort and a number of findings/recommendations have been addressed in the interim.*

As in the previous timber sale reviews, the FY 1999 watershed-level monitoring program also used a questionnaire to guide the monitoring teams' efforts. However, unlike the timber sale review, the watershed questionnaire contained both "information" questions to indicate progress in implementation the Northwest Forest Plan (NFP) and "compliance" questions to provide an assessment of how well specific Standards and Guidelines (S&Gs) were met.

The overall level of compliance remained high, however, there were a few notable measures which would improve the success of both the implementation process and land management. For example, there is the need to refine monitoring questions annually to remove ambiguity and assure pertinent information is gathered. In addition, direction should be provided to the field units on both the timing for updates and the degree of program analysis in Watershed Analyses to address concerns of insufficient detail in current documents in order for managers to make informed decisions and reviewers to draw informed conclusions. Also, clear and standard definitions would lead to more consistency in results e.g., BLM and FS use different definitions for "Road Decommissioning". Another need is to resolve boundary inconsistencies between the Regional Ecosystem Office (REO) and Field Unit Maps. Other recommendations are found in Chapter Three (Lessons Learned) and Chapter Four (Conclusions and Recommendations).

None of the deficiencies noted in this report warrant any recommendation for corrective actions that would require a plan amendment by land management agencies. Local Forest Service (FS) and Bureau of Land Management (BLM) units are aware of specific findings and are expected to take local corrective action such as planning to update the Watershed Analysis (WA) and to evaluate and mitigate existing programs for attainment of the Aquatic Conservation Strategy Objectives (ACSO).

Local unit managers continue to value this NFP public review process to encourage and enhance public understanding of NFP projects and processes. Provincial Implementation Monitoring Teams (PIMTs) again invited a broad representation of interests, agencies, and disciplines into the review process. Local unit managers also continued to adapt procedures developed for the Regional Implementation Monitoring Program to enhance their own local monitoring efforts.

Costs of the FY 1999 Implementation Monitoring Program continued to be predictable and in line with those of the previous three years. Total direct cost was approximately \$120,000, not counting the overhead costs associated with program development, training, analysis, and reporting. Provincial Implementation Monitoring Team (PIMT) review costs were about \$5,000 per watershed review which required two days each.

## **Introduction**

The FY 1999 implementation monitoring results are presented in two parts: timber sales results (December 2000) and watershed results (Summer 2001). This watershed monitoring report is presented in two ways: first, an analysis of results of the reviews; and second, an evaluation of the review processes. Coupled with an overview and a conclusions and recommendations section, this report is divided into four sections:

Section 1 provides an overview of the monitoring program. It explains the relationship of implementation monitoring to the NFP, describes the approach used to design the monitoring process for FY 1999, and presents information related to the questions asked in the field monitoring reviews.

Section 2 specifically addresses the analysis of implementation monitoring data related to watersheds with the S&Gs of the NFP. This section includes a summary of results followed by a discussion of those results and recommendations intended to improve compliance in the future.

Section 3 describes the process used for implementation monitoring. Like Section 2, it presents results but these results focus on the design and implementation of the process itself. A discussion of program success is followed by recommendations intended to provide helpful direction for future implementation monitoring.

Section 4 addresses overall conclusions and recommendations. This discussion covers four topical areas: management direction, clarification of S&Gs, clarification as to when S&Gs apply, and improvements to the monitoring process.

Except where noted, in this report “ROD direction” refers to both the Record of Decision and the Standards and Guidelines that comprise Attachment A of the ROD. “Provincial Monitoring Team” refers to a Provincial Implementation Monitoring Team (PIMT). Likewise, “Regional Monitoring Team” refers to the Regional Implementation Monitoring Team (RIMT).

## **Section 1 -The FY 1999 Implementation Monitoring Program**

### **Background and Purpose**

FY 1999 marked the fourth year of a regional-scale NFP implementation monitoring. The purpose of the program remains to determine and document whether the ROD for the NFP and its corresponding S&Gs are being consistently followed across the range of the NFP. This monitoring program has been continued under the direction of the Regional Interagency Executive Committee (RIEC) and its associated interagency Monitoring Program Managers (MPM) group. During 1999, the MPM became responsible for overall direction and oversight for NFP monitoring. This report summarizes the implementation monitoring work of NFP field

units and interagency, intergovernmental teams from the twelve NFP provinces.

The NFP, implemented in May 1994, requires federal natural resource agencies to manage public land resources on nearly 25 million acres in Washington, Oregon, and northern California with a common, collaborative approach. The ROD for the NFP amended Regional Guidelines and the planning documents for 19 National Forests and 7 BLM Districts. The management direction in the ROD consists of detailed S&Gs and land allocations that make up a comprehensive set of ecosystem management rules.

The ROD directs three interrelated conservation strategies: aquatic, terrestrial, and socio-economic. Overall NFP management strategy includes monitoring how well the NFP is working and whether BLM and the FS are conducting their activities in ways that satisfy NFP objectives.

In December 1994, U.S. District Court Judge William L. Dwyer stated, “Monitoring is central to the [Northwest Forest Plan’s] validity. If it is not funded, or done for any reason, the plan will have to be reconsidered.” He added, “If the plan as implemented is to remain lawful the monitoring . . . steps called for by the ROD will have to be faithfully carried out, and adjustments made if necessary.”

The ROD (page E-1) explains that implementation monitoring “. . . ensures that management actions meet the prescribed standards and guidelines and that they comply with applicable laws and policies.” The ROD also notes that the NFP calls for three components of monitoring: (1) implementation, (2) effectiveness, and (3) validation. “Monitoring will . . . determine if the standards and guidelines are being followed (implementation monitoring); verify if they are achieving the desired results (effectiveness monitoring); and determine if the underlying assumptions are sound (validation monitoring).”

Additionally, the ROD (page E-1) indicates that “Monitoring will be conducted at multiple levels and scales . . . to allow . . . information to be compiled and considered in a regional context.” Although both BLM and the FS have extensive experience with monitoring, particularly at the project level, there has been little monitoring at broader scales and in areas of the size and scope covered by the NFP.

The ROD and its S&Gs, hereafter referred to as “ROD direction,” is the foundation of NFP conservation and management strategies. The ROD direction determines what questions to ask in implementation monitoring. Specific questions developed from the ROD direction have been applied to specific activities and the applicability of the ROD direction to those projects.

Monitoring results provide the public and public officials with feedback about how well particular activities meet management objectives. The ROD implementation monitoring process is an iterative and adaptive process of learning by doing. As results are evaluated, the process is expected to be adjusted as needed by: (1) determining whether compliance is being achieved, (2) identifying deficiencies in implementation, and (3) identifying needs for corrective actions.

## **Relationships of Implementation Monitoring to Other Monitoring Activities**

Three different types of monitoring activities have been directed under the NFP: implementation monitoring, effectiveness monitoring, and validation monitoring. This report evaluates implementation monitoring where sampling and reporting are accomplished at a regional scale and where reviews are conducted on a random sample of local projects. Implementation monitoring initially determines compliance with ROD direction across all land allocations in the NFP, serving as an important baseline for both effectiveness and validation monitoring. It also documents actual practices as they are carried out by field units, thus providing an important link between management and NFP assessment.

Various BLM and FS management units monitor a number of projects and activities within and outside the scope of the NFP at multiple scales and for a variety of purposes. For example, monitoring is conducted to address local issues of public interest, management actions not covered by the ROD direction, and land use plan requirements. This report does not address monitoring for these other activities, nor effectiveness or validation monitoring.

## **The Approach to Implementation Monitoring**

### **Overview**

Following completion of the ROD in 1994, an interagency work group attached to the Research and Monitoring Committee of the REO was assigned the task of designing the monitoring approach for the NFP. The group's work culminated in the release of a Final Draft Implementation Monitoring Guidance document in May 1995. The work group chose to systematically evaluate conformance with the ROD direction through an overall strategy that emphasized an interagency, interdisciplinary approach and included members of the public.

To accomplish the objective of conducting monitoring activities systematically, a pilot program was initiated in FY 1996. The pilot program sampled FS and BLM timber sales within the NFP provinces. At the direction of the RIEC, FY 1997 activities for formal review were expanded to include not only timber sales but also road construction and restoration projects. The FY 1998 program called for monitoring timber sales along with an informal feasibility inquiry into watershed-scale activities. Six watersheds (five key watersheds and one non-key watershed) were examined (two per state). The watershed-scale approach tested out sufficiently and it was recommended for expanded application in FY 1999.

### **Sample Selection**

The NFP anticipated that landscape assessments such as watershed analyses, Late-Successional Reserve Assessments, and Adaptive Management Area (AMA) Plans would be used to guide land management decisions. The intent of these assessments was to see how well activities are planned and integrated across the landscape. To accomplish the intent, planning efforts in twelve watersheds were to be reviewed during 1999. This watershed-level program built on the



results of previous monitoring experiences and used the existing project-level review program.

Selection of the twelve watersheds was tiered to the twenty four previously selected timber sales (*Part 1 Timber Sales Report*). The sales were organized by physiographic province and one sale was selected from each province. The 5<sup>th</sup> field watershed containing the selected timber sale was the watershed reviewed. Each PIMT was given a single watershed to review and conducted both the watershed and timber sale reviews.

Like the timber sale reviews, the watershed-level review used a questionnaire to guide the monitoring teams' efforts. However, unlike the timber sale review, the watershed questionnaire contained both "compliance" questions which provided an assessment of how well specific S&Gs were met and "information" questions to reveal the progress of implementation.

## **Section 2 - Analysis of Monitoring Results**

### **Results and Discussion**

#### **Summary of Watershed Analysis Reviews**

This summary corresponds to the questions in the Implementation Monitoring for Landscape Assessments of Watersheds Questionnaire (Appendix A) and is a compilation of the Summary of Responses by Question Number (Appendix B). Each review team answered these questions: first, by the home unit representative in draft form sent to the team prior to review meeting; then as a team, where responses were discussed and finalized after meeting in the field or home unit office.

The following summary is arranged in accordance with the subject areas listed in the Watershed Questionnaire (Appendix A): Background, All Land Use Allocations, Review of Existing Programs, Watersheds, Late-Successional Reserves, Matrix, Adaptive Management Areas, Integration of Management, and Species.

**Background** (Field units were requested to provide information regarding land ownership, late successional habitat and site potential trees. Site potential tree information is used to determine riparian reserve widths if different than the interim boundaries established in the ROD for NFP.)

The twelve watersheds (WS) reviewed involved a total of 1,043,578 acres. Acres and percent of land ownerships are: BLM 137,009 acres (13.1%), FS 541,540 acres (51.9%), other federal 5,712 acres (0.6%) and non-federal 359,317 acres (34.4%).

There are 684,261 acres of federal land in the twelve watersheds reviewed which is approximately 65.6% of the total. Late-successional (LS) allocations on federal land accounted for 234,941 acres. There are approximately 122,819 acres of Old Growth (OG) on federal land

in the twelve watersheds. In two watersheds, LS and OG acres were not included for BLM. LS and OG acres were determined by various methods. Generally, the field units defined their LS habitat as those 80+ years old with LS characteristics, or with a diameter at breast height of 18-21". OG was defined in various ways, but is generally consistent with an age of 180-200+ years displaying old-growth seral stage characteristics.

Field units used different approaches to determine the heights of a site potential tree (SPT). Seven of the twelve watersheds determined their SPT heights on a watershed-wide basis, with the remainder being figured on a harvest unit or localized project area basis. The SPT heights for each watershed reviewed indicate that different approaches in obtaining SPT lead to different answers. In one case, the watershed contained public lands administered by both the BLM and FS, and each agency derived their SPT using different methods with different results. Table 1 is a summary of SPT heights as determined by individual watersheds.

Table 1  
Summary of Site Potential Tree Heights as Determined by Individual Watersheds

WS No.	SPT	WS No.	SPT	WS No.	SPT	WS No.	SPT
1	60'-205'	2	300'	3	150'-220'	4	100'-300'
5	120'-160'	6	200'	7	210'	8	160', 360'
9	150'-174'	10	160'	11	140'	12	100'-150'

All Allocations (Questions were asked regarding map consistencies and tribal issues)

*Land Use Allocation Boundaries*

Large Late-Successional Reserves (LSRs) and Large Managed Late-Successional Areas (MLSA) were mapped as part of the ROD. In addition the ROD established a number of additional LSRs and MLSAs which were expected to be identified and mapped locally. PIMTs were asked to review and determine consistency with REO maps.

The reviews determined that there are widespread inconsistencies of Land Use Allocation boundaries between the REO Land Use Allocation maps and the field units' maps. Some REO maps were unreadable, had fuzzy graphics, or did not show the layers necessary for specific reviews, such as Survey and Manage (S&M) species. Table 2 summarized the extent of consistency between local unit maps and REO maps.

Table 2  
The Extent of Consistency between Local Unit Maps and REO Maps

<b>Local Unit Maps Consistent with REO Maps (number of watershed)</b>	<b>Land Use Allocation - Additional LSR Designations</b>
all: 3      some: 2 none: 0      NA: 7	All LS/OG 1s and LS/OG 2s in marbled murrelet zone 1
all: 0      some: 2 none: 0      NA: 10	All occupied murrelet sites (a 0.5 mile radius area that maximizes old-growth)
all: 2      some: 3 none: 4      NA: 3	The 100 acres of the best habitat around known (as of 1/1/94) spotted owl activity centers
all: 1      some: 1 none: 1      NA: 9	Protection buffer species (see Appendix A, question 1 for the species list.)
<b>Local Unit Maps Consistent with REO Maps (number of watershed)</b>	<b>Land Use Allocation - MLSA Designations</b>
all: 1      some: 0 none: 0      NA: 11	Managed Pair Areas for northern spotted owl. Areas of suitable habitat at least equal in size to the median home range for managed pair areas around known spotted owl sites in the California Cascades and Eastern Washington Cascades provinces
all: 2      some: 1 none: 0      NA: 9	Protection buffer species (see Appendix A, question 2 for the species list.)
<b>Consistent / not consistent (number of watershed)</b>	<b>Are land allocations established by the ROD (April 1994) consistent with land allocation currently in use within the watershed?</b>
consistent: 5      Not consistent: 6 In one WS BLM answered consistent and FS answered inconsistent	Compare local information with those provided for: Key Watershed, Late-Successional Reserves, Managed Late-Successional Areas, and Adaptive Management Areas

*Tribal Issues*

It was reported that management in eight watersheds complied with tribal treaty rights direction and four watersheds reported not applicable because the lands were not covered by an established treaty right. Tribal trust resources had been identified in six watersheds; none were identified in three watersheds; and not applicable was reported in three watersheds. Tribes were consulted in eight watersheds when trust resources may be affected and it was reported for four watersheds as not applicable because specific tribal trust resources were not identified yet tribes were informed of planned projects.

**Review of Existing Programs** (Information was gathered regarding the evaluation and mitigation of programs and activities relative to achieving Aquatic Conservation Strategy and Late Successional Reserve objectives)

Results show that fuelwood collection scored the highest among the programs in being evaluated and mitigated to ensure they do not prevent attainment of the Aquatic Conservation Strategy Objectives (ACSO) and the Late-Successional Reserves Objectives (LSRO). Recreational programs, recreation facilities, and existing non-native species also received the most positive responses. Two of the watersheds responded with two answers for each question, one for BLM, one for FS. Table 3 summarized the review of existing programs. As in most cases throughout the watershed reports, answers of “some” and “none” did not mean non-compliance, but instead meant that “some” equaled the population of activities evaluated and “none” meant the activity did not occur. For example, program would be evaluated for consistency on a site specific basis when NEPA was being done as part of a proposed action. Site specific problems are dealt with in NEPA analysis when they become proposed actions.

Table 3  
Review of Existing Programs

	Aquatic Conservation Strategy		Late-Successional Reserves	
	Activity Evaluated	Activity Mitigated	Activity Evaluated	Activity Mitigated
Activities	number of watersheds		number of watersheds	
Recreational program	all 0 some 8 none 2 NA 0 multi-answers 2	all 0 some 7 none 3 NA 1 multi-answers 1	all 1 some 8 none 1 NA 1 multi-answers 1	all 0 some 8 none 2 NA 1 multi-answers 1
Recreational facilities	all 0 some 7 none 1 NA 3 multi-answers 1	all 0 some 6 none 2 NA 3 multi-answers 1	all 1 some 5 none 0 NA 4 multi-answers 2	all 0 some 4 none 1 NA 5 multi-answers 2
Grazing program	all 3 some 1 none 0 NA 6 multi-answers 2	all 0 some 4 none 0 NA 6 multi-answers 2	all 1 some 1 none 1 NA 7 multi-answers 2	all 0 some 2 none 1 NA 8 multi-answers 1
Special Forest Products	all 3 some 6 none 1 NA 1 multi-answers 1	all 3 some 6 none 1 NA 1 multi-answers 1	all 5 some 5 none 0 NA 1 multi-answers 1	all 4 some 4 none 2 NA 1 multi-answers 1
Existing Non-native Species	all 0 some 7 none 1 NA 2 multi-answers 2	all 0 some 5 none 2 NA 3 multi-answers 2	all 1 some 6 none 1 NA 2 multi-answers 2	all 0 some 6 none 2 NA 2 multi-answers 2
Fuelwood collection	all 8 some 2 none 0 NA 0 multi-answers 2	all 0 some 5 none 2 NA 3 multi-answers 2	all 8 some 1 none 0 NA 1 multi-answers 2	all 7 some 1 none 0 NA 2 multi-answers 2

**Watersheds** (Questions were asked relating to roads in Key Watersheds and restoration opportunities, and various other issues covered in watershed analysis)

*Key Watersheds*

There were seven key watersheds reviewed. Six of the watersheds reviewed had avoided road construction. Six watersheds had reduced and one had maintained road net amount. All seven watersheds had decommissioned roads posing the highest risks to riparian and aquatic systems. The remainder of the units reported these questions were not applicable to their watersheds. Road decommissioning selection criteria were briefly described in Appendix B, question 9C.

Of the 1861.2 system road miles existing in 1994, 365.5 (approximately 20%) have been decommissioned and/or improved and 13.3 (.7%) new miles have been added to BLM and FS lands in these watersheds. Of the 127 non-system road miles existing in these watersheds in 1994, almost 12 miles (approximately 9%) have been decommissioned and/ or improved, and almost 11 miles are new (8.6%). Table 4 shows the road mileage since 1994 in Key Watersheds.

Table 4  
Road Mileage Since 1994 in Key Watersheds

Agency	System Road Mileage				Non-system and Temporary Road Mileage				Net since 1994
	Existing in 1994	New since 1994	Decom* since 1994	Improved/ Restored since 1994	Existing in 1994	New since 1994	Decom* since 1994	Improved/ Restored since 1994	
FS	1812.2	13.3	84	274	97	10.9	11.6	0	- 71.4
BLM	49	0	0	7.5	30	0	0.25	0	- 0.25

\* miles of decommissioned or obliterated roads

Note: This road question was very difficult to answer consistently without a clear, standardized definition of "road" and "decommission". System and non-system road information is expected to be used in the Aquatic Riparian Effectiveness Monitoring Plan (AREMP). "To be valuable as input to AREMP analyses, Implementation Monitoring outputs should include information on total system and non-system road mileages, changes in road mileage over time, and road mileage decommissioned and restored. Similar details should be provided on implementing each of the ACS objectives and strategies" (draft AREMP p.35). Therefore, consistent use of the terminology and methods of deriving Key Watershed data is extremely critical.

Five watersheds reviewed were not Tier 1 Key Watersheds, therefore they had no projects in this portion. However, the remaining seven units had lists of projects that are in compliance with ACSO. Reforestation, fuels reduction, road paving and other rehabilitation work, erosion control, trail work and changes in fishing regulations were the most common. Some units identified that no specific actions were initiated to restore or protect anadromous salmonids.

## *Watershed Analyses*

All units, except one, had completed their Watershed Analyses (WA). The one exception had completed a Watershed Assessment instead of an analysis because of minimal federal ownership. Four units had planned to update their WA by FY 2002 and the remaining units did not identify a schedule for updating.

Five watersheds had adjusted interim Riparian Reserve (RR) boundaries and the remaining units did not adjust the boundaries because interim boundaries were found to be adequate or no actions were undertaken requiring adjustment. Of the five watersheds that had changed their RR widths, each had completed a National Environmental Policy Act (NEPA) document for the changes, mostly based on the WA.

All units had identified restoration opportunities in their watersheds. Four watersheds reported that the priority for upgrading stream crossings had been based on risk to ecological value; seven watersheds said some; and one responded none.

All units reported taking management actions that have contributed to watershed restoration and ACSO. The most prevalent were road closures, culvert replacements, and riparian plantings. Seven of the watersheds reviewed reported that all habitat restoration activities had contributed to ACSO; four watersheds said some; and one said not applicable. Responses for eight watersheds indicated that watershed restoration projects had been designed to protect long-term ecological integrity, conserve genetic integrity of native species and attain ACSO; for three watersheds the response was some; and for one the response was not applicable because no activities had been initiated in the watershed. (Note: it was very apparent to the RIMT after reviewing the written explanations provided by the PIMTs that the thought process for selecting the answer “some” varied tremendously and the general outcome was intended to show compliance with meeting S&Gs).

**Late Successional Reserves** (Information was reported for completion of management assessments; project design to improve conditions or avoid habitat reduction for species other than T&E; action review by REO; and project compliance with snag and CWD findings of REO)

It was reported for nine watersheds that management assessments had been completed for LSR or MLSR; in two watersheds management assessments were underway; and for one the process had not started because the unit did not have projects in the LSR yet. Reports for seven watersheds indicated habitat projects in LSRs had been designed to improved condition; some in two watersheds some; and not applicable in three watersheds. Reports for three watersheds indicated that projects for Threatened/Endangered (T/E) recovery had avoided habitat quality reduction for other species; some in one watershed; and not applicable in eight. Table 5 summarized the activities in LSRs which had or not had been submitted to and reviewed by REO.

Projects in nine watershed had complied with snag and Coarse Woody Debris (CWD) finding of

REO; some in two watersheds; and not applicable in one because no projects had been done in the LSR to date.

Table 5  
Activities in LSRs and REO Review

<i>Activity</i>	<i>Review by REO</i>	<i>Exempted via REO Reviewed LSRA</i>	<i>Exempted via REO Exemption Criteria</i>
LSR Assessment	all 10 some 0 none 1 NA 1		
Salvage activities (C13)	all 2 some 0 none 0 NA 10	all 1 some 0 none 2 NA 9	
Risk reduction activities, including prescribed fire (C12-13)	all 3 some 0 none 0 NA 9	all 4 some 0 none 1 NA 7	
Thinnings, and other silvicultural treatments to ensure that treatments are beneficial to the creation of late-successional forest conditions (C12)	all 5 some 1 none 0 NA 6	all 6 some 1 none 1 NA 4	all 6 some 2 none 0 NA 4

**Matrix** (Questions were asked about the amount of LS forest maintained. Units were asked to describe silvicultural objectives for various purposes)

Reports for eight watersheds stated that when harvest of LS forest stands has occurred, more than 15% of federal forested land in LS condition were maintained, and four said not applicable because harvest had not occurred. There were many responses to silvicultural objectives for Matrix and production yields: three units said they cut more volume than expected; four cut less than expected; two not met; two not applicable; and one had two answers.

Silvicultural objectives for matrix and retention of OG snags, logs, green trees are summarized in Appendix B, question 27, and silvicultural objectives for matrix and maintenance of early successional habitat are summarized in Appendix B, question 28.

**Adaptive Management Areas (AMA)**

Only one watershed monitored contained lands within an AMA.

The report indicated that planning documents (AMA Plan) had been developed to guide AMA management and were consistent with Section D of the ROD. The remaining units said AMA questions were not applicable to their watersheds.

**Integration of Management** (Questions related to management around 100 acre Northern Spotted Owl LSRs and activity occurrence, consistency with LSRAs and AMA Plans, etc. See the explanation of Integration of Management provided in the second paragraph as follows).

Reports for three watersheds indicated that management around the 100-acre Northern Spotted Owl LSRs had been designed to reduce risk from natural disturbances; five watershed reports said no management was taken; and four said not applicable.

WA, LSRA, and AMA Plans could influence the planning and implementation of projects within a watershed. Table 6, Relationship of Activities and Planning Documents, summarized PIMT’s responses to identify if the listed activities occurred in the watershed; if the occurring activity was adequately addressed in the listed document; if the WA was used by the decision-maker to support a finding of consistency with ACSO; and if the projects were consistent with LSRAs and AMA Plans.

An example of how to interpret the information in the table would be to examine Regeneration Harvest which occurred in eight watersheds. The activity was addressed in eight watershed analyses at varying levels ranging from detailed to minimal. It was addressed in only four LSRA documents because it did not occur or was not planned in the LSR portion of the watershed. Just one watershed contained an AMA and therefore regeneration harvest was addressed in only one AMA Plan. In turn, information contained in six of the Watershed Analyses was used to support the finding that Regeneration Harvest met ASCO while other means such as EAs were used in five other watersheds monitored to establish that the activity met ACSO. Finally, Regeneration Projects were largely identified as not applicable in terms of being consistent with LSRA and AMA Plans because projects did not occur in these land allocations.

Table 6  
Relationship of Activities and Planning Documents

Activity Types	Activity Occurs in 5th Field	Level to which activity is addressed in document:			WA Used to Support Meeting ACSO	Are Projects Consistent With:	
		WA	LSRA	AMA Plan		LSRA	AMA Plan
<u>Regeneration Harvest</u>	yes 8	detailed 3	detailed 2	detailed 0	all 6	all 1	all 0
	no 4	general 3	general 2	general 0	some 1	some 1	some 0
<u>Riparian Reserve Timber Activities</u>	yes 8	minimal 2	minimal 0	minimal 1	none 0	none 0	none 0
	no 4	none 4	none 8	none 11	NA 5	NA 10	NA 12
<u>Roading Activities</u>	yes 11	detailed 4	detailed 1	detailed 0	all 9	all 5	all 1
	no 1	general 6	general 7	general 0	some 2	some 1	some 0
<u>Risk Reduction</u>	yes 9	minimal 2	minimal 3	minimal 0	none 0	none 0	none 0
	no 3	none 0	none 1	none 12	NA 1	NA 6	NA 11
<u>Risk Reduction</u>	yes 9	detailed 4	detailed 4	detailed 0	all 7	all 4	all 0
	no 3	general 4	general 5	general 0	some 0	some 1	some 0
<u>Risk Reduction</u>	yes 9	minimal 0	minimal 1	minimal 0	none 0	none 0	none 0
	no 3	none 4	none 2	none 12	NA 5	NA 7	NA 12



<u>Salvage</u>	yes 7 no 5	detailed 3 general 2 minimal 3 none 4	detailed 4 general 4 minimal 1 none 3	detailed 0 general 2 minimal 0 none 10	all 5 some 0 none 0 NA 7	all 3 some 0 none 0 NA 9	all 0 some 0 none 0 NA 12
<u>Restoration Activities</u>	yes 11 no 1	detailed 9 general 2 minimal 0 none 1	detailed 6 general 2 minimal 2 none 2	detailed 0 general 1 minimal 0 none 11	all 10 some 1 none 0 NA 1	all 7 some 1 none 0 NA 4	all 1 some 0 none 0 NA 11
Commercial thin (optional)	yes 6 no 0 blank 6	detailed 3 general 3 minimal 0 none 0	detailed 4 general 2 minimal 0 none 0	detailed 0 general 1 minimal 0 none 5	all 2 some 3 none 0 NA 1	all 3 some 0 none 0 NA 3	all 1 some 0 none 0 NA 5
Precommercial thin (optional)	yes 6 no 0 blank 6	detailed 2 general 4 minimal 0 none 0	detailed 3 general 3 minimal 0 none 0	detailed 0 general 1 minimal 0 none 5	all 3 some 3 none 0 NA 0	all 3 some 0 none 0 NA 3	all 1 some 0 none 0 NA 5
Recreation (optional)	yes 7 no 0 blank 5	detailed 1 general 5 minimal 1 none 0	detailed 0 general 4 minimal 1 none 2	detailed 0 general 1 minimal 0 none 6	all 2 some 4 none 0 NA 1	all 1 some 1 none 0 NA 5	all 0 some 0 none 0 NA 7
Mining (optional)	yes 4 no 2 blank 6	detailed 2 general 1 minimal 1 none 2	detailed 1 general 0 minimal 1 none 4	detailed 0 general 0 minimal 0 none 6	all 3 some 1 none 0 NA 2	all 2 some 0 none 0 NA 4	all 0 some 0 none 0 NA 6
Grazing (optional)	yes 5 no 3 blank 4	detailed 3 general 2 minimal 0 none 3	detailed 1 general 3 minimal 1 none 3	detailed 0 general 0 minimal 0 none 8	all 2 some 3 none 0 NA 3	all 2 some 0 none 0 NA 6	all 0 some 0 none 0 NA 8

**Species** (Information was requested for protected, Component 1&2 S&M and Protection Buffer species)

All units reported not having mollusks and vascular plant species which had been identified in the ROD as being protected from grazing. They also did not have any known sites for Component 1 S&M species and thus management areas had not been established and managed.

Two watersheds reviewed indicated that management had evaluated and managed to minimize disturbance in recreation areas with known sites of Component 1 S&M species fungi and lichen species and ten reports stated no known sites existed in the recreation areas. Six watershed reports indicated units had identified, tracked, and managed known sites for Protection Buffer (PB) species and Component 1 S&M species; three watershed reports said some met; and three said not applicable.

Required surveys for PB species and Component 2 S&M species had been conducted in six watersheds; some conducted in three watersheds; none conducted in one; and not applicable in two watersheds.

Answers of none, some, and NA reflect that protocols were not available for timing of projects which negated the need for surveys.

## Compliance with Applicable S&Gs

The watershed questionnaire contains both “compliance” questions that provide an assessment of how well we are meeting specific standards and guidelines and “information” questions that tell us how far along we are in implementation. Both “compliance” and “information” questions are analyzed in Section 2. The 26 compliance questions are numbers 4-6, 8, 9a, 9b, 11-12, 14, 17-22, 24-25, 29-32, and 34-38. However, many responses to the questions had to be interpreted to determine compliance with applicable S&Gs. Examples are:

In response to question 5, Have analysis and planning efforts in watersheds identified tribal trust resources, if any? One unit reported resources not identified and explained that based on NEPA analysis and tribal consultation completed thus far, no tribal resources have been identified to occur within the watershed. The RIMT determined that the answer should be considered a YES for compliance.

In response to question 11, Has a watershed analysis been completed for the entire watershed? The ROD anticipates that ultimately, watershed analysis will be completed on all watersheds. One unit answered “not started” and there is not a watershed analysis for the entire 5<sup>th</sup> field watershed. It explained that the 5<sup>th</sup> field watershed is mostly in private ownership, and a watershed analysis was completed for the 6<sup>th</sup> field, a portion of the 5<sup>th</sup> watershed. Again this was determined to be YES for compliance.

There were many questions which required a selection of an answer as “all”, “none”, “some”, or “NA”. It was initially difficult to determine if “some” meant compliance or non-compliance with the S&Gs. However, after a detailed analysis of narrative responses, the RIMT determined answers of “some” and “none” actually described compliance in the vast majority of instances. Table 7 shows PIMT responses and RIMT assessment of the responses with applicable S&Gs, and Table 8 shows the response regarding applicable S&Gs by individual watersheds. The overall response was “Yes” at 84% level and “some” at 16% level.

Table 7  
PIMT Responses and RIMT Assessment of Responses for Compliance with Applicable S&Gs

No.	Brief Question Statement	PIMT Responses to Questionnaire	RIMT Assessment of Responses			
		Summary Responses	Yes	Some	None	NA
4	Watershed management complied with tribal treaty rights direction.	Complies (7); not applicable (5)	7			5
5	Tribal resources identified.	Resources identified (6); not identified (3); NA (3)	9			3
6	Planning efforts consulted tribes.	Consulted (8); NA (4)	8			4
8	Road construction avoided in Key Watersheds.	Yes (6); NA (6)	6			6

9a	Road net amount reduced or maintained.	Reduced (6); maintained (1); NA (5)	7			5
9b	Decommissioned roads highest risks to riparian and aquatic systems.	Yes (7); No (5)	7			5
11	Watershed analysis completed for the entire watershed.	Completed (11); not started (1)	12			
12	Interim Riparian Reserves boundaries in the watershed adjusted.	Yes (5); NA (7)	7			5
14	Restoration opportunities identified in the watershed analysis.	Yes (12)	12			
17	Priority for upgrading stream crossing based on risk to ecological value.	All (4); some (7); none (1)	4	7		1
18	Habitat restoration contributed to ACSO.	All (7); some (4); NA (1)	7	4		1
19	Restoration projects to protect long-term ecological integrity, conserve genetic integrity of native species and attain ACSO.	All (9); some (2); NA (1)	9	2		1
20	Management assessments completed for each LSR or MLSA.	Completed (9); underway (2); not started (1)	9	3		
21	Habitat projects in LSRs to improve conditions for fish. Wildlife or watershed and to provide benefits to LS habitat.	All (7); some (2); NA (3)	7	2		3
22	Projects for T/E recovery avoided habitat quality reduction for other species.	All (3); some (1); NA (8)	3	1		8
24	Projects comply with snag and CWD finding of REO.	All reviewed (9); some (2); NA (1)	9	2		1
25	At least 15% maintained when harvest of LS forest stands.	>15 % (8); no LS harvest (4)	8			4
29	AMA Plan developed to guide AMA management.	Final (1); NA (11)	1			11
30	AMA planning documents consistent with Section D of the ROD.	Consistent in all (1); NA (11)	1			11
31	Management maintained at least 15% of federal LS forest.	Met (1),NA (11) not in AMA	1			11
32	Management around 100-acre NSO LSRs designed to reduce risk from natural disturbance.	Management reduced risks (3); no mgt undertaken (5); NA (4)	8			4
34	Mollusks and vascular plant species identified in the ROD being protected from grazing.	No grazing and species in watershed (12)				12
35	Management areas established and managed for Component 1 S&M species.	Neither established nor managed (1); NA (11)				12
36	Recreation areas with known sites of Component 1 S&M species identified,	Sites evaluated and managed (2); no known		2		10

	tracked and managed.	sites (10)				
37	Protection Buffer and Component 1 S&M species identified, tracked and managed.	All met (6); some met (3); NA (3)	6	3		3
38	Required survey for PB and Component 2 species conducted.	All conducted (6); some (3); none (1); NA (2)	6	3		3
<b>TOTAL 26 questions</b>			<b>154</b>	<b>29</b>	<b>0</b>	<b>129</b>
% of Responses			84%	16%		

Table 8  
Individual Watershed Responses of Compliance with Applicable S&Gs.

Watershed No.	PIMT Responses to Questionnaire					RIMT Assessment of Responses			
	Yes	Some	None	NA	Total	Yes	Some	None	NA
1	11	2	2	11	26	12	2		12
2	14	1	1	10	26	15	1		10
3	14	1	1	10	26	14	1		11
4	14	3	0	9	26	14	3		9
5	17	1	2	6	26	18	1		7
6	8	3	3	12	26	9	3		14
7	10	1	3	12	26	12	1		13
8	14	4	0	8	26	14	4		8
9	12	1	3	10	26	15	1		10
10	12	6	1	7	26	13	6		7
11	12	1	1	12	26	13	1		12
12	5	5	1	15	26	5	5		16
<b>TOTAL</b>	<b>143</b>	<b>29</b>	<b>18</b>	<b>122</b>	<b>312</b>	<b>154</b>	<b>29</b>		<b>129</b>
<b>% of Responses</b>						<b>84%</b>	<b>16%</b>		

### Section 3 -Analysis of the Monitoring Process

This section of the report summarizes the methods for monitoring implementation of watersheds in FY 1999. Further, it also summarizes process critiques from the FY 1999 PIMTs. Additionally, it presents opportunities for continuous improvement in the FY 2000

implementation monitoring program. Program costs to the government, as noted in the previous three years of cost accounting, are summarized as simply a matter of how much time was devoted to monitoring and how many federally-funded people were engaged in the monitoring effort. Finally, this section again recounts the major lessons learned in this fourth-year monitoring effort.

The FY 1999 Implementation Monitoring Program built upon experiences from the 1996 Pilot Implementation Monitoring Program and the 1997 and 1998 Implementation Monitoring Programs. As in previous years, the FY 1999 program featured successful interagency, interdisciplinary, and public participation, although it is evident that a few provinces, both public and agency interest in the program is decreasing. The program requires broad participation to be fully successful.

The FY 1999 program, as in the previous three years, used a teamwork approach with discussions facilitated by questionnaires (see Appendix A). Questionnaires for FY 1999 had been modified according to recommendations from previous years' program critiques. Please refer to the report, *Results of the FY1996 (Pilot Year) Implementation Monitoring Program*, pp. 30-34 (Alverts et al., 1997), for more in-depth background information on how questionnaires have been applied by provincial teams.

Following are the findings and results of continuing improvements to monitoring processes, along with a summary discussion about the direct costs of a provincial program.

## **Results of the Watershed Monitoring Process**

Field reviews continue to be noted as the most satisfying parts of the monitoring experience. Provincial team leadership; interagency, interdisciplinary, and public participation; local unit openness and quality hosting—all added up to another summer season of successful field reviews.

The challenge now has become how to ensure long-term stability and accessibility of all accumulated implementation monitoring data. Implications for data base stability and accessibility are as significant as determination of compliance and progress in meeting ROD S&Gs form the foundation for effectiveness monitoring.

Complete disclosure, openness, and a *jury system* for deliberating over controversies again characterized the FY 1999 program. Team participation typically crosses agency and public interest boundaries. Team member diversity continues to be a key attribute in achieving successful monitoring results (see Appendix C).

## **Lessons Learned**

### **Questionnaires**

For the fourth year, results have further established that regional questions drawn from ROD

direction can be effectively answered through an objective process carried out by PIMTs. The questionnaire remains the key instrument in the review process. After each year's program, the questionnaire receives editorial improvement to bring clarity to the S&G-based questions. The primary value of the questionnaire continues to be as an objective instrument for determining compliance with ROD direction. In sum, the questionnaire continues to importantly serve as a neutral focus for PIMT discussions that usually lead to consensus answers. However a general observation was the questions could have been better worded; the teams spent significant amounts of time trying to figure out what the questions were asking, and the meaning of the response choices was ambiguous, especially in the tables. The tables (question 33 in particular which discussed project consistency with ACSO, LSRA and AMA plans) seemed to cause widespread confusion as to what information was really being sought, what the monitoring is supposed to reveal, and exactly how and what kind of information needed to be relayed to the REO as significant. In question 9D Table, clear definitions of "road" and "decommissioning" were lacking, making the review process confusing, leading to potentially inconsistent and inaccurate findings among units. This is a key point that should be resolved prior to conducting future monitoring efforts because the expectation is that watershed analysis review results will be used to determine attainment of ACS objectives in the Aquatic Riparian Effectiveness Monitoring model. There must be consistency from the provinces in evaluating and answering the watershed analysis review. In addition, there is no opportunity to address/identify road closures outside key watersheds. Revising future questionnaires to address the beginning point of road closures, regardless of land use allocation would more accurately reflect what's happening in the watersheds.

Specific Questionnaire Recommendations are summarized in Appendix D.

## **Maps**

The map exercises were very frustrating, and revealed a high incidence of inconsistency. Comparing field units' maps of land use allocations and species locations to those distributed by the REO confused the units about what information to pull, what was actually being compared and the significance of the exercise. Some of the REO maps were poor quality and unusable. One team concluded the local data were more accurate, detailed and current than the REO data. The REO areas shown as administratively withdrawn did not relate to unit maps.

## **Other**

Across the board, the teams did not receive documents such as the WA, LSRA, and project Environmental Analyses (EAs) pertinent to the review process early enough to provide adequate review prior to the meeting. Many times there were too few copies of the documents available at the meeting, and home units failed to identify the location of the answer in the reference documents, causing confusion and delay at the review. In most instances the team had to defer to the home unit's responses without the benefit of verifying the information, leading to uncertainty about the accuracy of the responses.

PAC Interagency participation has waned significantly. One review lacked any PAC members at

all. Of those PAC members present, many suggested moving on from monitoring just timber sales to other projects, including recreation projects, grazing, under burning and other vegetation management projects.

When reviewing timber sales in watersheds where both the sale and watershed analysis are under review, team members should be shown and/or notified of other projects completed within the watershed. In addition, the associated timber sale should be detached from the WS monitoring. More time ends up being spent trying to link the two and determine what significance to the watershed analysis monitoring there is to issues surrounding the project than there needed to be. Many times the monitoring teams answered the questions based on what they saw in a few units of the timber sale they visited, and did not have the opportunity to visit one or two other profiled projects in the watershed. This confused the discussion and may not have provided an accurate picture of what is actually happening in the watershed.

Several timber sales were incomplete at the time of review, and members thought that they could not do an adequate review of watershed projects because of this. It is recommended that the same team be involved in both the project and Landscape Assessment review in future.

The monitoring team should be sensitive to fact that their presence and questions may be perceived by the field unit as an "interrogation". Managers are generally not present at the reviews to help facilitate the session. During one of the reviews, significant tension among team members obviously stifled the free exchange of information and ideas.

In all cases, it was stated the presence of an REO/RIMT member at each review would probably be very helpful in clarifying some of the discussion points.

### **Summary Lesson Learned**

The summary statement about the implementation monitoring process taken from the last four years' reports still holds. The repeated and overriding lesson about the implementation monitoring process that has been learned from four years of NFP implementation monitoring is that public natural resource agents, in collaboration with citizens of diverse interests, can render credible judgments about public natural resource project compliance and implementation progress.

### **Costs**

Costs of the FY 1999 Regional Implementation Monitoring Program again fell within expectations. The range of direct costs to the government for two days of implementation monitoring by a PIMT can be from less than \$2,000 to more than \$10,000; with an average of about \$5,000; depending on the numbers of federal employees engaged. Program costs are essentially a function of the complexity of the subject projects, review team size, and the numbers of projects reviewed at one time.

The total estimated direct cost for the 1999 Implementation Monitoring Program (24 timber sales

and their associated watersheds, i.e., two days of field review) was \$120,000. Regional interagency program development, training, analysis, and reporting (regional overhead) costs added another \$200,000. With provincial indirect costs related to training, review preparation and reporting (provincial overhead) at an estimated \$100,000; total estimated regional interagency program costs for implementation monitoring was \$420,000.

## **Discussion**

### **Process Observations**

The *jury system* continues to be the way that effective judgments about compliance are rendered. Teams reached consensus on most question responses but were occasionally unable to agree on a single response to a question. In these instances, the Interagency Oversight and Analysis Team and members of the RIMT determined the most appropriate responses through a group leveling process that aimed for consistency of interpretation as its main discussion criteria.

The sample size of 12 watersheds allowed for inclusion of all provinces. Sample stratification lent some balance to the workloads of FS and BLM field units.

The 1999 Implementation Monitoring Program built upon experiences from the 1996 Pilot Implementation Monitoring Program and the 1997 and 1998 programs—all characterized by successful interagency, interdisciplinary, and public participation.

The 1999 program was also characterized by monitoring team discussions facilitated by questionnaires. The struggle to interpret and answer questions together as monitoring teams is a driving feature of a review process that does more to foster understanding and trust between team members than any other aspect of the program. The 1999 questionnaires were refined according to PIMT recommendations from 1998 program critiques. Questionnaire revision is an annual part of the monitoring process. Refer to the report, *Results of the FY1996 (Pilot Year) Implementation Monitoring Program*, pp. 30-34, for more in-depth background on the uses of the questionnaires by provincial teams. The RIMT remains committed to principles of random sampling, simplicity, and interagency cooperation.

Developing and maintaining consistent region-wide evaluation is critical to the success of NFP implementation monitoring. FY 1999 PIMT reviews improved further on consistencies noted in previous years' reviews as monitoring and evaluation experience has been gained.

There continues to be some irrelevant questions. The RIMT, based on PIMT feedback, continues to evaluate and weed out questions that have low levels of applicability.

## **Section 4 - Conclusions and Recommendations**



Summary conclusions and recommendations are presented in four categories: management direction, clarification of S&Gs, clarification of when S&Gs apply, and improvements to the monitoring process. These categories provide a framework for follow-up needs by focusing on general problem areas and specific actions.

The management direction category contains issues for which recommendations are based on findings where S&Gs are clearly stated and understood. For these issues, the recommended action is for regional management to reaffirm commitment to these S&Gs and communicate the expectation of full compliance in the future.

The clarification of the S&Gs category addresses issues for which the monitoring results indicate difficulties in understanding, interpretation, and implementation of particular S&Gs. As recommended in previous years' reports, issue resolution teams or interagency groups should address S&G inconsistencies and field interpretations. Results of these (now ongoing) efforts continue to lead to greater consistency and efficiency in implementation of the S&Gs.

The third category, clarification of when and where S&Gs apply, contains issues concerning when, where, and to which agency a specific S&G applies. Many of these issues were resolved through rewording of questions and redesign of the FY 1998 questionnaire. Some of these issues arise when the ROD implies that the S&G applies to all activities, when the intent would have been more appropriately applied to some activities (e.g., timber sales) and not others (e.g., hazard tree removal, road right-of-way blow down removal). Others apply to programmatic matters rather than site-specific issues.

The fourth category, improvements to the monitoring process, contains issues related to the monitoring process that arose during the year's review and reporting efforts. In these cases, the continuous improvement process based on PIMT feedback to the RIMT continues to bring efficiencies to the NFP Implementation Monitoring Program.

## **Management Direction**

The PIMTs who conducted the field monitoring reviews; the RIMT who analyzed the PIMT reports and prepared the draft and final reports; and the members of the RIMT who further analyzed the field data all concluded that FY 1999 findings demonstrate high levels of compliance with the ROD and its S&Gs. Instances of "some" compliance are anticipated to have minor biological effects at the regional scale and generally low-to-moderate effects at the local project-level scale.

Based on that summary conclusion, the RIMT recommends no major changes in management direction. The RIMT does, however, recommend the following actions to improve NFP implementation. Emphasize direction, training, and information for the following:

- Distribution of the Regional FY 1999 Implementation Monitoring Report to field offices with direction to adopt procedures and recommendations as appropriate.

- Land Management Agency Executives should develop a strategy to obtain funding for the highest priority watershed restoration projects.

## **Clarification and Improvements to the ROD and its S&Gs**

The FY 1999 Monitoring Program, as in the previous three years' programs, provided field units, through the PIMTs, opportunities to identify difficulties with understanding and interpreting the ROD and its S&Gs. Although a number of S&Gs continue to be cited as being ambiguous and difficult to understand and interpret, there were no significant problems identified in FY 1999. There continues to be room, however, for improving and clarifying S&Gs to reduce multiple interpretations at the field level and to increase field unit efficiencies through clarification of ROD and S&G direction for:

- Recommend REO maps for LSR, AMA, and Land Tenure Adjustment be reviewed and updated for consistency with field unit maps.
- A recent revision has occurred for transportation section of the FS manual. BLM should review it's manual to determine consistency e.g., agencies need to reconcile differences in definitions.

Such clarification can be facilitated by findings generated not only through implementation monitoring, but also through effectiveness monitoring and validation monitoring.

## **Clarification of When S&Gs Apply**

Some S&Gs are allocation-specific, others agency-specific, others time-specific, and others apply to programs rather than projects. Most of the pilot year recommendations in this area were considered in the design, training, and instruments used in the FY 1999 program.

## **Recommendations**

- Provide guidance regarding silvicultural prescriptions in the LSRAs on how to analyze the effect of large tree removal on attaining LSROs.
- Provide guidance on how to evaluate non-native species and to determine whether they prevent the attainment of ACS and/or LSR objectives.
- Provide guidance to clarify if "Riparian Reserves timber activities" include activities such as skid roads, hauling, and use of equipment, in addition to harvest.

## **Improvements to the Monitoring Process**

NFP implementation monitoring features continue to facilitate: credible results; intergovernmental and interagency team selection; training; project selection; field review

evaluations; and cost containment.

The following list contains suggestions and recommendations from the PIMTs over the past four years for implementation monitoring process improvement.

## **Recommendations**

### **Monitoring Objectives**

- Continue project-level reviews of key activities recommended by the PACs.
- Continue to develop implementation monitoring to assess S&Gs that address programmatic functions and planning issues in landscape-level and watershed-level contexts.
- Seek to establish summer monitoring program and schedules early in the fiscal year.

### **Training and Orientation**

- Continue the one-day, pre-season workshop for PIMT leaders and capitalize on the experiences of past years' leaders.
- Continue to improve guidance on how to answer questions.

### **Provincial Implementation Monitoring Teams**

- PIMTs could be strengthened through active, personal recruitment of team members from federally recognized Tribes.
- Continue to draw non-federal team membership from Provincial Advisory Committees (PACs).
- It is desirable to have representatives from REO and/or RIMT attend field reviews.

### **Sampling**

- Continue to stratify sample populations so that maximal effort will go to projects having greater complexity or importance.
- Continue to focus monitoring reviews on actions that have been implemented on the ground.

### **Cost Containment**

- Continue to limit project selection to the highest priorities identified by the PACs, the field units, and the RIEC.
- Continue to address monitoring cost efficiency.

- Keep cost accounting requirements to those of past years' programs.

### **Communication**

- Field units need ongoing information sources and contacts for specific applications, changes, updates, guidance, and clarification on the ROD and its S&Gs (e.g., map consistency).

### **Follow-Up**

- Agencies should inform field units about specific monitoring concerns so that corrective actions can be taken.
- Continue to use monitoring as a tool to extend the useful life cycles of BLM and FS land management plans.

### **The Questionnaire**

- Continue to refine questionnaires based on PIMT critiques (Appendix D).
- Continue to provide opportunities for the PIMTs to identify and help clarify monitoring questions (or the associated S&Gs) that are unclear, ambiguous, or of questionable biological value.
- Continue to improve the annual workshop for PIMTs to achieve better consistency in responding to the monitoring questions.

### **Information Management**

- Develop an automated questionnaire whereby input can be electronically compiled.
- Develop a regional database to track monitoring programs and establish a process for updating data including a central location for ease of data access.
- Develop a database to track status of "Recommendations" made in Annual Implementation Monitoring Reports.

## **Acknowledgments**

Special thanks to PAC members, PIMT leaders, and PIMT members who gave their energies to another successful implementation monitoring year.

## Acronyms

ACS	Aquatic Conservation Strategy
ACSO	Aquatic Conservation Strategy Objectives
AMA	Adaptive Management Area
AREMP	Aquatic/Riparian Effectiveness Monitoring Program
BLM	Bureau of Land Management
BMP	Best Management Practice
CWD	Coarse Woody Debris
DBH	Diameter at Breast Height (tree)
EA	Environmental Analysis
FS	Forest Service
FWS	Fish and Wildlife Service
GIS	Geographical Information System
LS	Late Successional
LS/OG	Late Successional/Old Growth
LSR	Late Successional Reserve
LSRA	Late Successional Reserve Assessment
LSRO	Late Successional Reserve Objectives
MLSA	Managed Late Successional Area
MPM	Monitoring Program Managers
NEPA	National Environmental Policy Act
NFP	Northwest Forest Plan
OG	Old Growth
PAC	Provincial Advisory Committee
PB	Protection Buffer
PIMT	Provincial Implementation Monitoring Team
REO	Regional Ecosystem Office
RIEC	Regional Interagency Executive Committee
RIMT	Regional Implementation Monitoring Team
RMP/LMP	Resource Management Plan/Land Management Plan
ROD	Record of Decision
RR	Riparian Reserves
S&Gs	Standards and Guidelines
S&M	Survey and Manage
SPT	Site Potential Tree
T/E	Threatened/Endangered
WA	Watershed Analysis
WS	Watershed

### Appendix A - 1999 IMPLEMENTATION QUESTIONNAIRE: WATERSHEDS

Implementation Monitoring for Landscape Assessments of Watersheds  
Version 2.2 (June 16,1999)

The Northwest Forest Plan expected that we would use landscape assessments such as watershed analyses, Late-Successional Reserve Assessments, and AMA Plans to guide land management decisions. The intent of these reviews is to see how well we are planning and integrating activities across the landscape. To do that, we will review planning efforts in 12 watersheds during FY 1999. This watershed-level program has tried to build on the results of previous monitoring experiences and to fit the existing project-level program as much as possible.

Twelve 5<sup>th</sup> field watersheds will be reviewed in FY 1999. Selection of watersheds for review is tiered to the 24 previously selected timber sales. The timber sales will be organized by physiographic province and one sale will be selected from each of the provinces. The 5<sup>th</sup> field watershed containing that selected timber sale is the watershed that will be reviewed. Provincial Implementation Monitoring Teams will each be given a single watershed to review and will conduct both the watershed-level monitoring program and the review of timber sales. Like the timber sale reviews, the watershed-level review will also use a questionnaire to guide the monitoring teams' efforts. However, unlike the timber sale review, the watershed questionnaire will contain both "compliance" questions that provide an assessment of how well we are meeting specific standards and guidelines and "information" questions that tell us how far along we are in implementation. These latter questions should provide information that is important to agency managers.

The Regional Implementation Monitoring Team anticipates that the Provincial monitoring teams will need to spend no more than two days on the watershed review that they will conduct. In addition, the Provincial teams will probably spend one to two days reviewing documents and information pertinent to the review area. The administrative units that manage the reviewed watersheds will probably need to devote several days or a week towards collating and presenting material. To reduce workloads, the review process is intended to use as much "preassembled" information as possible (i.e., completed watershed analyses, AMA plans, and LSR assessments). The Regional Implementation Monitoring Team will also provide a number of review products that should reduce the work of administrative units.

In addition to the site visits to the selected timber sale within the reviewed watershed, Provincial monitoring teams may, at their discretion, conduct supplemental field visits to other areas or projects.

Items expected to be provided by the Regional Implementation Monitoring Team:

- Maps (or electronic GIS layers) of the selected watershed showing:
  - land use allocations
  - northern spotted owl and marbled murrelet locations
  - marbled murrelet zone lines
  - LS/OG 1 s and LS/OG2s
  - Known sites for Survey and Manage Species and Protection Buffer Species
- Clarification or new guidance documents pertinent to watersheds (e.g., Riparian Reserve module).
- GIS coverages of watersheds, the questionnaire, and other documents will be placed on the REO website (**<http://www.reo.gov>**).

Items expected to be provided by Administrative Units:

- Copies of pertinent planning documents, such as:
  - Watershed Analyses
  - LSR Assessments
  - AMA plans
  - local NF plans or BLM District plans
- Maps of the selected watershed to compare to maps provided by the Regional Implementation Monitoring Team.
- Maps of the selected watershed showing the locations of (existing and proposed):
  - timber sales
  - roads
  - restoration projects
  - recreation projects
  - grazing allotments

Final reports will be due to the Regional Implementation Monitoring Team on October 15, 1999.

Fiscal Year 1999  
 Implementation Monitoring for Landscape Assessment of Watersheds  
 (v2.2: 6/16/1999)

**BACKGROUND**

WATERSHED NAME:

ASSOCIATED TIMBER SALE NAME:

- What are the land ownerships in the watershed:

Landowner/ Agency	Administrative Unit (National Forest/ BLM District)	Subunit (Ranger District/ Resource Area)	Acres				
			LSR	Matrix	AMA	Other	Total
BLM							
Forest Service							
Other Federal							
Non-Federal							
Total							

- What is the height(s) of a site potential tree, how was it derived, and over what area is it being used (e.g., 5th field watershed, administrative unit, or project)? C-31
- Late-Successional Habitat Information: What are the current amounts of the following habitats in the 5th field watershed (C-44, D-11, and REO memorandum date October 24, 1997):

Watershed (5th field)	Federal Forest Land		Federal Late- Successional habitat*		Federal Old-growth habitat*	
	Acres	%	Acres	%	Acres	%

\* Identify or describe the definition used.



## IMPLEMENTATION MONITORING: WATERSHED QUESTIONNAIRE

### ALL ALLOCATIONS:

#### *Land Use Allocation Boundaries*

- Large Late-Successional Reserves were mapped as part of the Record of Decision (ROD, p. A6). In addition, the ROD established a number of additional LSRs which were expected to be identified and mapped locally. Review the following table and determine consistency with REO maps.

Additional LSR Designations	Consistent with REO Maps	Explain Any Inconsistencies
All LS/OG 1 s and LS/OG 2s in marbled murrelet zone 1 (C9)	all some none NA	
All occupied marbled murrelet sites (a 0.5 mi. radius area that maximizes old-growth) (C9-10) [Note: includes all historic, current, and future sites]	all some none NA	
The 100 acres of the best habitat around . known (as of 1/1/94) spotted owl activity centers (C9-11) [Note: includes all historic and current sites on or before 1/1/94) but does not include new sites after 1/1/94]	all some none NA	
Protection buffer species [Note: includes all historic, current, and future sites] (C3, 10, 19-20): - Ptilidium californicum, - Ulota meglospora, - Aleuria rhenana, - Otidea leporina, - Otidea onotica, - Otidea smithii, - Shasta salamander (the greater of one site potential tree or 100 feet), and - great gray owl nest areas (0.25 mile radius)?	all some none NA	

- Large Managed Late-Successional Areas were also mapped as part of the Record of Decision (ROD, p.A6). The ROD established a number of MLSAs which were expected to be identified and mapped locally. Review the following table and determine consistency with REO maps.