Blue Mountain Forests' Monitoring Report – Fiscal Year 1999
Section W - Wallowa-Whitman National Forest

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MONITORING ITEMS NOT REPORTED FOR FY 1999

A few of the Monitoring Items from the Wallowa-Whitman's 1991 Monitoring Implementation Plan are not reported in FY 1999. Some items only need to be reported every few years in order to detect trends. Some items were purposely deferred pending updated monitoring protocols or direction. Others were scheduled for monitoring in FY 1999 but were not reported. Some items not found in this section were reported in Section C, the coordinated monitoring items.

Monitoring Items that were deferred or not reported include the following:

Item 1	Compliance with NEPA and the Forest Plan
Item 2	Forest Plan Standards and Guidelines
Item 6	Precommercial Thinning
Item 14	Range Vegetative Conditions
Item 43	Visuals

The Summary of Recommended Actions, beginning on page W-3, shows all Wallowa-Whitman NF Monitoring Items and whether they were deferred, not reported, consolidated with the other Blue Mountain Forests (Section C), or reported in this section.

FOREST PLAN AMENDMENTS

No Forest Plan amendments were done in fiscal year 1999.

SUMMARY OF FINDINGS AND RECOMMENDED ACTIONS

The Summary of Recommended Actions, beginning on page W-4, is a table showing all Wallowa-Whitman Monitoring Items and whether they were deferred, consolidated with the other Blue Mountain Forests (Section C), or reported in this section (W). The table summarizes the key findings and the recommended actions to be taken because of this year's monitoring for the Wallowa-Whitman National Forest. A more complete analysis of this years included monitoring items can be found later in this section (W) or in the Coordinated Monitoring Section (C).

Categories of recommended actions are identified in the table as follows:

Change Practices (CP) - Indicates that the results of current practices are outside the thresholds of variability and/or are not meeting specific direction set by the Forest Plan. A change in practice or procedure may be needed.

Further Evaluation (FE) - Indicates that results may or may not have exceeded the threshold of variability, but additional information or evaluation is needed to better identify the cause of the concern and/or determine future actions.

Amend Forest Plan (AP) - Indicates that results are inconsistent with the Forest Plan, or the Forest Plan direction was not clear. The Forest Plan may need to be changed or clarified through the amendment or revision process.

Continue Monitoring (CM) - Indicates we will continue with the current scheme.

Not Evaluated (NE) – The monitoring item was not evaluated this year.

Summary of Recommended Action

♦ 1999 Monitoring Report ♦

Wallowa-Whitman National Forest

Report Section*	MI #	Monitoring Item (MI)	1998 Action	1999 Recommended Action			Remarks
				Change Practice	Further Eval.	Amend Forest Plan	
Def	1	Compliance with NEPA and Forest Plan	NE				Deferred for FY 99.
Def	2	Forest Plan Standards and Guidelines	CM				Deferred for FY 99.
Coord	3	Insect and Disease Management	CM				Key insect populations remain low with the exceptions of Douglas fir tussock moths and Douglas fir beetles.
Coord	4	Timber Offered for Sale	FE/AP		X	X	Timber offered (66MMBF) remains far below TPSQ from the Forest Plan. Adjustments will be necessary following completion of ICBEMP analysis.
Coord	5	Silvicultural Harvest Methods	FE/AP		X	X	Changes in Harvest methods need to be evaluated and adjustments to the plan will be necessary following the completion of ICBEMP.
Accomp Report	6	Precommercial Thinning	CM				3,023 acres of timber stand improvement were done in FY 99.
Def	7	Harvest Unit	NE				Deferred for FY 99.
Coord	8	Reforestation	FE				4800 acres were planted and 8000 acres of natural regeneration occurred.
W-W	9	Lands Not Suitable for Timber Management	NE				Use EVG to verify classification.
W-W	10	Vegetation Management	CM				A variety of treatments totaled over 4,100 acres.

* More information on items can be found in: W-W = Wallowa-Whitman; Coord = Coordinated; Def = Deferred (not evaluated FY 99); Accom Report = Accomplishment Report Table at the end of the Wallowa-Whitman section.

Report Section*	MI #	Monitoring Item (MI)	1998 Action	1999 Recommended Action			Remarks
				Change Practice	Further Eval.	Amend Forest Plan	
Coord	11	Transportation	FE AP		X		About 850 miles of roads need closing to meet Forest Plan Guidelines.
Accomp Report	12	Range Outputs	CM				127,700 AUMs total livestock in FY 99.
Coord	13	Forage Utilization	CP	X			78% of monitored pastures met standards; only 62% of the allotments were monitored. Need to continue emphasis on riparian monitoring.
Def	14	Range Vegetative Condition	NE				Not reported in FY 99.
Accomp Report	15	Range Improvements	CM				23.5 structural improvements were made.
Coord	16	Allotment Management Planning	CP FE	X	X		The Forest completed 4 AMPs plus 1 range NEPA document affecting 3 allotments
Coord	17	Noxious Weeds	NE				The Forest treated over 2,853 gross acres in FY 99.
W-W	18	Watershed Standards, Guidelines, and BMPs	NE				Most S&Gs and BMPs were followed
W-W	19	Riparian Area Cumulative Effects	NE				Riparian exclosures were monitored and repaired where necessary
W-W	20	Peak Flow/Low Flow Cumulative Effects	NE				No specific monitoring for this item occurred.
W-W	21	Soil Productivity	NE				Some monitored areas may have exceeded the 20% threshold for soils standard & guideline #2.
Coord	22	Air Quality	CM				Treated acres in FY 99 produced emission levels well below the established cap.
W-W	23	Fisheries Habitat	CM				4.4 miles of new riparian fencing was constructed and 92 miles maintained. 875 ungulate protection cages were placed on planted vegetation.
W-W	24	Anadromous Fisheries Consultation	CM				Timber, recreation, road, range, and fire projects were monitored.
W-W	25	Columbia River PIG, PACFISH, and INFISH	CM				46 miles of Hankin & Reeves Level II surveys were completed in FY 99.

Report Section*	MI #	Monitoring Item (MI)	1998 Action	1999 Recommended Action			Remarks
				Change Practice	Further Eval.	Amend Forest Plan	
W-W	26	Salmon Summit Action Plan Commitments	CM				About 55 miles of stream were surveyed for proper functioning condition. About 95% were at PFC or in an increasing trend.
W-W	27	Old Growth	FE/AP				About 32% of allocated old growth meets the Forest Plan definition.
W-W	28	Dead and Defective Tree Habitat and Primary Cavity Excavators	NE				35% of 12,850 surveyed acres meet 100% snag density levels.
W-W	29	Pileated Woodpecker	NE		FE		No surveys were done.
W-W	30	Goshawk Populations	NE		FE		2 Districts surveyed finding 2 nests. One nest produced 2 fledglings.
W-W	31	Pine Marten Populations	NE		FE		No surveys were done.
W-W	32	Elk Habitat/Populations	NE		FE		Estimated elk numbers are about 78% of management objectives.
W-W	33	Bald Eagles	NE				Two nests yielded 3 young.
W-W	34	Peregrine Falcons	NE				Two nests yielded 3 young.
W-W	35	Sensitive Species - Wildlife	NE				Biological Evaluations are being completed. Lynx surveys were done.
W-W	35	Sensitive Species - Plants	NE				17 new populations of sensitive plants were found.
W-W	36	MacFarlane's Four-O'Clock	NE				No searches or monitoring occurred. One fence was erected to protect the West Creek population.
W-W	37	Greenman's Lomatium	NE				A conservation strategy was completed and monitoring done but not analyzed.
Coord	38	Minerals	FE/AP		X	X	About 90% of monitored operations met resource objectives.
W-W	39	Wilderness	CM				About 3200 acres of prescribed burning occurred in the Hells Canyon Wilderness. Maintenance and restoration work is occurring.
W-W	40	Wild and Scenic Rivers	CM				Funding is needed to implement River Management Plans projects.
W-W	41	Recreation Setting	CM				The Forest is offering a wide range of opportunities to the general satisfaction of users.

Report Section*	MI #	Monitoring Item (MI)	1998 Action	1999 Recommended Action			Remarks
				Change Practice	Further Eval.	Amend Forest Plan	
W-W	42	Off-Road Vehicle Use	CM		FE		ORV use is slowly increasing. An ID team is reviewing current standards and guidelines.
Def	43	Visual Resource Objectives	CM				Deferred in FY 99.
Coord	44	Cultural and Historic Resource Sites	CM				436 sites were visited; none were impacted.
Coord	45	Budget					Deferred for FY 99.
Coord	46	Costs and Values	FE/AP				Deferred for FY 99.
Coord	47	Community Effects					Deferred for FY 99.
Def	48	Adjacent Lands					Deferred for FY 99.

WALLOWA-WHITMAN Monitoring Item 9
LANDS NOT SUITABLE FOR TIMBER MANAGEMENT

Question: Are lands correctly classified according to their suitability for timber management?

The current Forest Plan is based on the following classification for land suitability:

- 1,411,925 acres classifed as forested lands
- 1,090,072 acres classified as tentatively suitable forested land
- 820,500 acres classified as suitable forested land

A map of existing vegetation (EVG) has been installed in the geographical information mapping system (GIS). All forest land has been mapped, and the associated stand data is stored in a database.

The Forest has issued direction in the Timber Resource Planning Handbook, FSH 2409.13, outlining steps for field examination crews to use in identifying and recording land suitability.

The level of re-evaluation of land suitability and the level of recording of this data in the EVG database is unknown at this time.

Recommended Actions:

- Continue to monitor and emphasize need for re-evaluation of land suitability during project level planning.
- Continue to update total acreage of suitable forest land as new information is obtained.
- Determine the area of verified classification recorded in the EVG database through queries to that database.

WALLOWA-WHITMAN Monitoring Item 10
Vegetation Management

Purpose: To determine if vegetation management is effective in achieving resource management goals and to determine if there is a reduction in the need for vegetation treatments, particularly the application of herbicides and prescribed burning.

The final version of the Forest's "Monitoring Guide for Vegetation Management Activities" was approved and published in June of 1993. The guide initiates a process to assure compliance with Forest Plan goals and the Vegetation Management Final EIS and its associated Mediated Agreement.

Accomplishment data has been collected as required by the guide for the past six years and is displayed in the following tables. Table W-1 displays treatment methods by activity type. Table W-2 compares the herbicide and prescribed fire activities to the total program, revealing an increase in herbicide use, and a decrease in prescribed fire activities from 1992 to 1999. Herbicide treatments are anticipated to increase slightly but will continue at a relatively low level for the next few years while a backlog of difficult non-stocked sites are reforested and a more intensive noxious weed control program is conducted. The level of prescribed fire activity is uncertain based on the perceived need to increase this activity Forest-wide for ecosystem management needs, but at the same time follow the Environmental Protection Agency's recommended Air Quality Standards.

Table W-1
ACRES TREATED BY VARIOUS VEGETATION MANAGEMENT METHODS
Wallowa-Whitman National Forest

Activity	Manual	Mechanical	Biological	Rx Fire	Chemical	Total
Silviculture						
REF Site Prep	21	43	0	456	259	779
TSI Release	0	0	0	0	0	0
Tree Genetics	3	264	0	0	79	346
Research	0	0	0	0	0	0
Facilities Mtnc.						
Rec Sites	1	0	0	0	18	19
Admin Sites	0	0	0	0	4	4
Range Improvement	0	0	0	0	0	0
Noxious Weeds	508	25	245	0	2,075	2,853
Wildlife Habitat Improvement	0	0	0	0	0	0
Right-of-way mtnc.						
Roads	0.5	0	0	0	0	0.5
Trails	152	0	0	0	0	152
Special Uses	0	0	0	0	0	0
Easements	0	0	0	0	0	0
Utility Corridors	0	0	0	0	0	0
TOTAL ACRES	686	332	245	456	2,435	4,154
% by Treatment	17%	8%	6%	11%	58%	100%

Table W-2
ACRES TREATED WITH HERBICIDES AND PRESCRIBED FIRE
Wallowa-Whitman National Forest

Fiscal Year	Total Acres Treated	Treated with Herbicides		Treated with Prescribed Fire	
		Acres	% of Total	Acres	% of Total
1992	29,925	721	2%	17,455	58%
1993	9,698	972	10%	5,525	57%
1994	9,945	1,338	13%	5,201	52%
1995	9,089	1,654	18%	2,781	31%
1996	8,974	1,773	20%	3,643	41%
1997	8	1	21%	4,014	46%
1998	8	1	24%	1,919	24%
1999	4	2	58%	456	11%

Recommended Actions:

- Continue to monitor according to the procedure outlined in the Forest's "Monitoring Guide for Vegetation Management Activities".
- Analyze the goals and objectives of prescribed fire in ecosystem management in light of the recommendations in the "Eastside Forest Ecosystem Health Assessment," and the "Blue Mountains Ecosystem Restoration Strategy".

WALLOWA-WHITMAN Monitoring Item 18
WATERSHED STANDARDS, GUIDELINES AND BMPS

Purpose: To determine if watershed standards and guidelines (S&Gs) and best management practices (BMPs) are being properly implemented within each project area. To determine if watershed standards and guidelines (S&Gs), and best management practices (BMPs) are effective in meeting project objectives and State water quality standards. To determine, for watershed improvement projects, if prescriptions and the project as a whole are effective in meeting project objectives.

Implementation Monitoring

For Level 1 (project planning) Implementation Monitoring, Watershed S&Gs and BMPs were properly considered and incorporated into all project plans that were reported on, except for Watershed S&G #17. Watershed S&G #17 requires analysis of presence of and potential impacts to wetlands within a project area during project planning. Since some wetlands may not be identified and evaluated during the planning process, they are protected through application of mitigation measures as they are encountered during project implementation.

For Level 2 (on-going project) Implementation Monitoring, watershed S&Gs and BMPs were properly implemented in all projects that were reported on. For some projects, monitoring identified inadequate implementation by contractors, which was corrected before the project was completed. An example of this is waterbar reconstruction during the Bark Beetle 99 project on Pine District, reported in the "Pine Creek Watershed Monitoring Report, 1999," discussed below.

For Level 3 (post-project) Implementation Monitoring, watershed and related S&Gs and BMPs were reported to have been properly implemented for the monitored projects, except as noted in the "Pine Creek Watershed Monitoring Report, 1999," discussed below. Also, see results of the Blue Mountain Forest's monitoring review of projects on Pine Ranger District.

The "Pine Creek Watershed Monitoring Report, 1999" was prepared to comply with the terms and conditions in the USFWS Biological Opinion for ongoing and proposed actions in the Pine Creek Watershed. Level 1, 2, and 3 Implementation Monitoring are discussed in the report, though not by specific reference to monitoring type. The only (Level 3) Implementation Monitoring problem reported was poor fence maintenance around a livestock exclosure along Fish Creek. This resulted in stream bank and vegetation damage by cattle inside the exclosure in contrast with good condition noted in 1998 after 6 years of improvement.

Effectiveness Monitoring

Water Temperature Monitoring - Baseline/Trend/BMP Effectiveness

More than one hundred water temperature stations were operated across the Forest in 1999. Hobo and Ryan Temp Mentors are used to collect maximum and minimum temperature data during the summer. The data are being used to determine baseline water temperature, to determine if stream water temperatures exceed state water quality standards, and to evaluate the effects of management activities and wildfire. Monitoring sites are being mapped in GIS. Data are being entered into the Forest "Water" computer database for tracking and analysis. Monitoring is being coordinated with and/or data is being shared with local watershed councils and county monitoring groups.

Road Drainage Monitoring - Baseline/Trend/BMP Effectiveness

Road drainage that does not meet Forest Plan S&Gs and BMPs is a Forest-wide problem. Transportation S&G #7 requires protection of water quality in all aspects of road management. Most roads with drainage problems were constructed before implementation of the Forest Plan. Engineering zones in consultation with watershed personnel have set up a process for identifying problem roads so zone maintenance engineers can plan corrective measures. Stream and road inspection reports are used to recommend roads for obliteration, closure and stabilization, or reconstruction.

Channel Morphology Monitoring - Baseline/Trend/BMP Effectiveness

Many new channel cross-sections were established in 1999; many old cross-sections were reread. Channel cross-sections are used to evaluate channel stability or recovery with respect to new management activities, as well as with respect to cumulative effects of past tree harvest, skidding of logs, road construction, mining, and grazing in ephemeral draws, and ephemeral, intermittent, and perennial stream channels. Recent watershed rehabilitation efforts in ephemeral and intermittent channels have included placement of large woody material, including pieces with branches attached, to provide channel stability. Monitoring of sites on the Wallowa Mountains Zone indicates the woody material placement BMP is promoting desirable stream channel characteristics.

Cumulative Effects Monitoring – BMP Effectiveness

Cumulative effects of past timber harvest, skidding logs in ephemeral draws, road construction, and cattle grazing, trailing, and trampling in the Marr Flat Allotment has resulted in several water quality and riparian protection S&Gs and BMPs not being met in isolated locations throughout the allotment. Action is being taken to place these areas on the watershed improvement list and to evaluate potential changes in the grazing management strategies within the allotment.

A review of categorically excluded mining projects in the North Fork Burnt River watershed in 1999 by a concerned citizen resulted in a protest of Decision Memos for those projects. The appellant pointed out that the cumulative effects of mining and other legacy activities in the North Fork Burnt River has degraded watershed conditions sufficiently for ODEQ to list the North Fork Burnt River as water quality limited for temperature-summer, sediment, flow modification and habitat modification. The appellant also pointed out that the Forest has not completed a cumulative effects analysis for the North Fork Burnt River Watershed to show how those mining projects would affect the listed water quality parameters. In a December 1999 letter to the appellant, the Forest agreed to complete a cumulative effects analysis for the North Fork Burnt River.

Watershed Improvement Project Monitoring – BMP Effectiveness

Instream structures and riparian plantations were monitored and/or maintained at several locations on the Forest. For example is a summary report for Elk Creek instream structures, a tributary of Joseph Creek.

Recommended Actions:

Continue to monitor implementation of watershed S&Gs and BMPs during project planning, on-going project, and post-project stages. Continue the above-listed baseline/trend/BMP effectiveness monitoring activities; summarize and report effectiveness monitoring when studies are completed.

Complete a cumulative effects analysis for the North Fork Burnt River by March 2000. Also, continue preparation of the North Fork Burnt River Water Quality Restoration Plan for National Forest Lands in the watershed.

WALLOWA-WHITMAN Monitoring Item 19
RIPARIAN AREA CUMULATIVE EFFECTS

Purpose: To determine if desirable riparian vegetation and stream channel characteristics of riparian and aquatic ecosystems are being maintained over the long-term, or if in poor condition, are being improved after proper implementation of appropriate standards and guidelines (S&Gs) and best management practices (BMPs).

Baseline/Trend Inventories

The focus of current monitoring is collection of baseline and trend data. Trend may be apparent in as little as one to two years, or may not be apparent for five to ten years. Data may be quantitative, qualitative (such as photos), or both.

Baseline inventories for determining riparian area cumulative effects include, but are not limited to, use of the Proper Functioning Condition (PFC) inventory methodology for lotic and lentic wetlands, the Region 6 stream inventory methodology, the Rosgen stream type inventory methodology, and range utilization monitoring in key areas of livestock allotments. An example of baseline PFC monitoring is reported in the "Pine Creek Watershed Monitoring Report, 1999" which was prepared to comply with the terms and conditions in the USFWS Biological Opinion for ongoing and proposed actions in the Pine Creek Watershed.

No riparian inventory data for fish-bearing streams and lakes and for non-fish bearing streams is being reported here at this time. Data for fish-bearing streams and lakes is reported under Monitoring Items 23 and 25. Data for non-fish-bearing streams is included in project planning analysis files; no data has been summarized for this report.

Forage Utilization Data for Riparian Key Areas

Forage utilization data for riparian areas is reported under Monitoring Item 13, but is not currently reported in a format that can be used to evaluate riparian area cumulative effects. The following table includes data from Monitoring Item 13, plus data on riparian areas not reported there for 1999. Additional baseline and trend data would have to be collected within and adjacent to riparian key areas before utilization data could be used to infer cumulative effects in adjacent riparian areas. Presently, "standard met" does not mean there are no riparian area cumulative effects; neither does it infer trend. Conversely, "standard not met" does not mean there are riparian area cumulative effects. However, where there has been long-term livestock grazing, legacy riparian area cumulative effects probably exist.

Table W-3
FORAGE UTILIZATION IN RIPARIAN KEY AREAS

	Number	Percent
Total pastures within active allotments	499	100%
Monitored pastures	311	62%
Monitored pastures – "standard not met"	43	9%
Monitored pastures – "standard met" uncertain	24	5%
Total monitored pastures	311	100%
Monitored pastures – "standard not met"	43	14%
Monitored pastures – "standard met" uncertain	24	8%
Monitored pastures – compliance determined by a riparian key area	152	49%
Monitored pastures – "standard not met" determined by a riparian key area	35	11%
Monitored pastures – "standard met" for riparian key area uncertain	14	5%
Total monitored pastures – compliance determined by a riparian key area	152	100%
Monitored pastures – "standard not met" determined by a riparian key area	35	23%
Monitored pastures – "standard met" for riparian key area uncertain	14	9%
Total monitoring data collections	1066	100%
Monitoring data collections within riparian key areas	731	69%

Tin Shed and Camp Creek Terrace Erosion Monitoring

Since construction of the Idaho Power Company Hells Canyon Project, sediment capture by the project dams coupled with fluctuating water releases from Hells Canyon Dam has caused severe erosion of sand bars and terraces and loss of some riparian areas along the Snake River. Terrace and sandbar erosion was monitored in the Tin Shed and Camp Creek areas along the Snake River in 1999. Terrace erosion monitoring consisted of bank profiles and erosion pin measurements. Written reports are available from the Wallowa Mountains Office. Sand bar erosion was measured by individuals from Idaho Power Company and Utah State University as part of the Tin Shed and Camp Creek Terrace Erosion and Hells Canyon Dam re-licensing process. Written reports are being prepared.

Riparian Area Exclosure Monitoring

Many stream and spring exclosures are monitored and maintained each year to ensure protection and improvement of riparian areas. Long-term monitoring occurs in many of these areas. For example, 46 miles of streamside exclosure fence and 65 upland spring/seep exclosures were monitored for effectiveness on the Wallowa Mountain Zone in 1999. Corrective action was taken when needed to ensure continued achievement of exclosure objectives. Refer to Item 23 for more information.

Recommended Actions:

Resolve data reporting overlap between Monitoring Items 23 and 19. Most riparian base line, trend and cumulative effects data is being summarized under Monitoring Item 23 for mostly indirect effects on fish habitat, although riparian data can be interpreted to also affect far more than fish habitat, including floodplains, soils, wildlife, grazing, recreation, etc. It may be more appropriate to limit Monitoring Item 23 to aquatic fish habitat, and clarify that reporting under Monitoring Item 19 is to address all riparian area cumulative effects, including effects on fish habitat.

Continue to obtain baseline and trend information for riparian area reference sites.

Continue to maintain riparian area exclosure fences.

WALLOWA-WHITMAN Monitoring Item 20
PEAK FLOW/LOW FLOW CUMULATIVE EFFECTS

Purpose: To determine if standards and guidelines (S&Gs) and best management practices (BMPs) that may affect peak and low stream flow are being properly implemented within each project area. To determine if standards and guidelines (S&Gs) and best management practices (BMPs) are effective in meeting project objectives for peak and low stream flows. To determine if stream flow models being used on the Forest accurately predict peak and low stream flows in watersheds with different hydrologic regimes and management systems (i.e., use data to validate models).

Implementation Monitoring

For Level 1 (project planning) Implementation Monitoring, Watershed S&Gs and BMPs that may affect peak and low stream flow were considered and incorporated into all project plans that were reported on. Considerations included factors such as equivalent clearcut acres (ECA), structural stage, existing water rights, road density and condition, gullies, mined stream channels, and so forth. Harvest prescriptions are designed to move the structural stages of vegetation towards the historic range of variability. If vegetation conditions are within the historic range, then peak flows and low flows are assumed to also be within the historic range, unless there are substantial influences from roads, gullies, and ground cover reducing activities.

For Level 2 (on-going project) Implementation Monitoring, watershed S&Gs and BMPs were properly implemented in all projects that were reported on; see Monitoring Item 18. No monitoring specific to peak flows and low flows was reported.

For Level 3 (post-project) Implementation Monitoring, watershed and related S&Gs and BMPs were reported to have been properly implemented for the monitored projects; see Monitoring Item 18. No monitoring specific to peak flows and low flows was reported.

Effectiveness Monitoring

No specific peak flow or low flow stream studies were conducted in 1999. Permanent stream channel cross-sectional transects have been established on several streams on the Forest to monitor long-term trends in channel conditions, such as sediment aggradation and degradation.

Stream Discharge Monitoring

Stream flow information is collected at cooperative stream gauging stations and Forest Service staff gauges at many locations within and adjacent to the Forest. This information is needed to characterize stream discharge and potential peakflow/lowflow effects related to land management activities.

No reliable stream flow information exists for the Joseph Creek Watershed. Staff gauges were installed on Elk Creek and Chesnimnus Creek in 1997 to begin characterizing low and high flows. These staff gages were read in 1999 and a rating curve is being developed.

Recommended Actions:

- Revise the protocol/methods for peakflow/stream channel cumulative effects analysis. Consider using the methods described in documents developed by the Forest Service Stream Systems Technology Center in Colorado. The current protocol (WWPEAK) will probably not achieve the objectives due to the difficulty in using the program and the underling assumptions that make interpretation difficult.
- Complete the agreement between the Oregon Water Resources Department and Wallowa-Whitman N. F. for continued operation of the stream gage at Imnaha.
- Continue cooperative agreements for operation of stream gauges on the Burnt River and Grande Ronde River systems.
- Continue to read and establish channel cross-sections. Analyze and report the results as the databases build.

WALLOWA-WHITMAN Monitoring Item 21
SOIL PRODUCTIVITY

Purpose: To determine if soil productivity standards and guidelines (S&Gs) are being implemented, especially the standard which limits detrimental soil conditions within each activity area to no more than 20% of activity area acreage.

To determine if soil productivity S&Gs, and accepted soil management practices that are believed to achieve soil productivity S&Gs, are effective methods for maintaining or enhancing soil productivity. These studies may be short or long term, and require pre-project and post-project data collection. Included are studies designed to test if specific soil management practices are preventing or ameliorating detrimental soil conditions as planned.

Implementation Monitoring

For Level 1 (project planning) Implementation Monitoring, Soils S&G's were reported to have been considered in the design of monitored projects. Some level of soil productivity and soil stability assessment occurred during the planning phase of all projects affecting soil resources. More intensive field assessments were completed and considered during the planning phase for the Basin-Bennet, California, McCully and Wolf planning areas, discussed below under Level 3.

For Level 2 (on-going project) Implementation Monitoring, Soils S&Gs were properly implemented in all projects that were reported on. Most monitoring data is maintained in contract files. For some projects, monitoring identified inadequate implementation by contractors which was corrected before the project was completed. An example of this is waterbar reconstruction for erosion control during the Bark Beetle 99 project on Pine District, reported in the *Pine Creek Watershed Monitoring Report, 1999*.

For Level 3 (post-project) Implementation Monitoring, Soils S&Gs are reported to have been properly implemented for the monitored projects, except as noted below. Pre-project soil condition field assessments for the Basin-Bennet, California, McCully and Wolf planning areas found soil conditions in past activity areas that do not appear to comply with the 20% detrimental soil condition threshold in Soils S&G #2. Sampling intensity was insufficient to prove exceedence of the threshold; exceedence was inferred from one to a few transects within each sampled unit. Detrimental soil conditions at some of the problem sites were made after approval of the Forest Plan in 1991.

Basin-Bennet Planning Area

Pre-project monitoring in the Basin-Bennet planning area in the Eagle Creek watershed identified 4 past timber harvest units where detrimental soil conditions appear to exceed the 20% threshold in Soils S&G #2. These activity areas were tractor logged, sometimes with additional prescribed burn and/or historic mining effects. All observed burn impacts and some observed logging impacts post date implementation of the Forest Plan. Other unsampled units in the planning area may also exceed standards.

California Planning Area

Pre-project monitoring in the California planning area in the North Fork Burnt River watershed identified 11 past timber harvest units where detrimental soil conditions appear to exceed the 20% threshold in Soils S&G #2. These activity areas were tractor logged, sometimes with additional prescribed burn and/or historic mining effects. All observed burn impacts and some observed logging impacts occurred after implementation of the Forest Plan began.

McCully Creek Planning Area

Pre-project monitoring in the McCully Creek planning area in the upper Powder River watershed identified 3 past timber harvest units where detrimental soil conditions appear to exceed the 20% threshold in Soils S&G #2. These activity areas were tractor logged, sometimes with additional prescribed burn effects. All observed burn impacts and some observed logging impacts post date implementation of the Forest Plan.

Wolf Planning Area

Pre-project monitoring in the Wolf planning area in the Mud Creek watershed identified 5 past timber harvest units where detrimental soil conditions appear to exceed the 20% threshold in Soils S&G #2. These activity areas were tractor logged, sometimes with additional prescribed burn effects. All observed burn impacts and some observed logging impacts occurred after implementation of the Forest Plan began.

Rehabilitated Mining Areas

Due to the nature of mining activities and rights of miners under the 1872 mining law and mining regulations, Soils S&Gs 1, 2, and 3 generally have not been applied to mining claims. Rehabilitated areas usually have compacted and displaced soils, mixed soil horizons, and may have no topsoil due to legacy mining activities. Water tables usually are lower in legacy placer mined areas. Compacted or puddled soils are seldom subsoiled. Revegetation does not involve replacement of original vegetation and ground cover that provided erosion control and nutrient recycling. Therefore, soil productivity objectives in Soils S&Gs 1, 2, and 3 cannot be said to have been fully implemented for rehabilitated mining areas.

Decommissioned Roads

When roads are taken off the transportation system, decommissioning methods may include construction of a barrier at a single point, (such as removal of a culvert and/or fill, excavation of a trench, or construction of an earthen barrier), subsoiling of the compacted roadbed, pulling up of fills to contour the slopes along the road, placement of wood on the reclaimed road, and revegetation with grass. Therefore, soil productivity objectives in Soils S&Gs 1 and 2 cannot be said to have been fully implemented for decommissioned roads unless there has been full obliteration.

Effectiveness Monitoring

The Salmon Creek Prescribed Fire area in the Baker City Watershed was monitored before and after the fire in the fall of 1998. The fire area needs to be monitored in 2000 to further document extent of detrimental burn effects, and to determine if the prescription was effective in preventing excessive detrimental burn effects.

Refer to Monitoring Item 19 for a discussion of terrace and sand bar erosion monitoring along the Snake River associated with FERC re-licensing.

Post-harvest soil damage surveys were conducted on Eagle Holcomb Timber Sale in 1999. Results will be summarized to determine if soil management practices were effective in limiting detrimental soil conditions.

Recommended Actions:

- Continue to prioritize and evaluate detrimental soil conditions for more controversial projects.
- Begin a concerted effort to monitor long-term soil erosion, soil productivity, and biological crust sustainability throughout the forest.
- Assign Tri-Forest Monitoring teams to review mining reclamation and road decommissioning projects with respect to soil productivity concerns, and to recommend consistent Tri-Forest policy for mining reclamation and road decommissioning for planned Forest Plan revisions.

WALLOWA-WHITMAN Monitoring Item 23
Fisheries Habitat

Purposes: Ensure that Forest Plan targets for anadromous fish are being met. Determine if stream temperature and habitat restoration projects are effective in meeting aquatic habitat objectives as stated in the Forest Plan, Policy Implementation Guide, and Salmon Summit.

Fisheries Habitat Structures: Approximately 200 boulders or large wood materials (LWM) were machine-placed in streams. Another project hand placed LWM in 65 miles of streams. This compares with Forest Plan average annual projected output of 250 acres and 500 structures of fish habitat improvement work. Approximately 20 acres of stream riparian area were planted with conifer and shrub species.

Stream Structure Monitoring: Monitoring indicated that approximately 355 structures were functioning properly across the Forest.

Stream Structure Maintenance: No structures required repair.

Riparian Fencing: 4.4 miles of riparian exclosure fencing were built for protection from livestock. More than 92 miles of riparian fence were checked and maintained. Other protection/monitoring items included:

- Placement of 875 ungulate protection cages on planted vegetation.
- Monitoring of riparian planting (planted in 1998) along 2 miles of Deer Creek. Re-seeding of 3 miles of Gumboot Creek Road cut/fill slopes (monitoring revealed that contract hydroseeding had failed).

Inventory of Fish Habitat and Fish Distribution

Stream Inventory: The Forest completed 46 miles of aquatic habitat inventory using the Region 6 protocol (Hankin and Reeves methodology).

Species Distribution Inventory: Forest biologists conducted species presence/absence inventories on 40.1 miles of stream habitat to determine species composition, distribution, and relative abundance. The primary purpose of this work was to assess bull trout distribution and abundance.

Recommended Action:

Continue to monitor and inventory.

WALLOWA-WHITMAN Monitoring Item 24
Anadromous Fisheries Consultation (Snake River drainage Chinook salmon, summer steelhead, and bull trout)

Purpose: To ensure that projects are being implemented under the terms and conditions of the Section 7 Biological Opinion (BO) agreed to with the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS) that result in a project being "not likely to adversely affect" listed species or their designated critical habitat. To determine whether the prescribed modifications are effective in meeting the "not likely to adversely affect" criteria.

Timber Sales

Pine Ranger District monitored 1 active timber sale and road obliteration project. La Grande District monitored 1 active timber sale.

Snake River Fall Chinook Protection (Hells Canyon NRA)

Monitored redd sites for Chinook as affected by jet boats and grazing on the Snake River in Hells Canyon NRA in compliance with BO Terms and Conditions. The compliance report is available upon request from Wallowa Valley Ranger District.

Prescribed Fires

Interdisciplinary teams of fire, fisheries, and wildlife personnel visited the Minam II Burn and Skull Burn Projects. The Minam II burn was monitored via aircraft and on-the-ground observation. The team concluded that riparian protection objectives had been met, and that more area could have been burned without further loss of riparian resources.

Road Flood Repair

Interagency field trips with NMFS, FWS, Federal Highway Administration, and USFS were made to the Gumboot Creek and Carrol Creek Road Projects.
The Carrol Creek Bridge Replacement and Road Reconstruction Project included 2 miles of road and a bridge replaced across Big Sheep Creek.
The Gumboot Creek Road Reconstruction Project encompassed 5 miles of road and one culvert replacement.

Detailed reports were prepared and submitted the regulatory agencies (NMFS and FWS) in accordance with terms and conditions in the BOs for Snake River Chinook salmon, steelhead, and bull trout.

Recommended action:

Continue to monitor.

WALLOWA-WHITMAN Monitoring Item 25
Columbia River Basin Anadromous Fish Habitat Management Policy Implementation, PACFISH Requirements, and INFISH Requirements

Purpose: To ensure the actions identified in the PIG for the Columbia River Basin Anadromous Fish Habitat Management Policy, and the Standards and Guidelines for PACFISH and INFISH are being implemented as planned.

Desired Future Condition (DFCs)

The Columbia River Basin Anadromous Fish Policy Implementation Guide (PIG) objectives were established in 1993. All DFCs for streams in anadromous fish habitat have been established. All ESA Section 7 watersheds on the Forest require consultation for Chinook salmon, summer steelhead, or bull trout. The biological assessments (BAs) for each of these Section 7 watersheds describe baseline conditions and standards for recovery.

Stream Inventory

Stream inventory required by the PIG is 98 percent complete for anadromous fish. Stream inventory using the R6 Level II protocol was completed on 46 miles of anadromous and inland fish streams in FY 99. Approximately 2,250 miles of aquatic inventory have been completed since 1989. These data reside in the Forest and R6 corporate database and are accessible to Forest Service staff across the Region.

PACFISH Requirement: Eleven Section 7 BAs for Snake River Steelhead and Chinook salmon were completed to ensure protection for anadromous fish and aquatic resources. They include: North Fork John Day River, Upper Grande Ronde River, Catherine Creek, Upper Main Grande Ronde River, Middle Grande Ronde River, Wallowa River, Minam River, Lostine River, Imnaha River, Big Sheep Creek and Snake River.

INFISH Requirement: Section 7 Bull trout BA's were completed for Pine Creek, Upper Powder, and North Powder river in the inland area of the Forest. In addition Section 7 bull trout watershed BA's will be prepared for all of the watershed listed for PACFISH above.

Recommended Action:

Coordinate future monitoring with the Malheur and Umatilla National Forests.

WALLOWA-WHITMAN Monitoring Item 26
Salmon Summit Action Plan Commitments

Purpose: To ensure that commitments identified in the Salmon Summit Action Plan are being implemented in a timely manner.

Riparian Acquisition Opportunities

In FY 98, the Forest gained title to a 130-acre parcel near Cache Creek, on the Snake River. The WWNF previous had only a scenic easement on this parcel. The acquisition program is actively seeking and acquiring parcels in areas identified by inventory that would benefit fish. Combining desirable parcels, willing sellers, and funding usually result in a variable annual acquisition program. A number of parcels have been identified.

Livestock Management

The Forest has 79 active allotments that include riparian areas directly adjacent to anadromous fish habitat. One allotment is in the North Fork John Day River drainage and 78 are in the Snake River drainage. In FY 99, the Interagency Implementation Team's Grazing Monitoring Module (1998 LRMP BO) was applied to all "may affect" allotments on the Forest. For results, see monitoring items for Allotment Management Planning. All allotments are administered to ensure they are not likely to adversely affect listed fish species or their critical habitat as required by the Endangered Species Act (ESA).

Mining Management

Interdisciplinary field review of Blue Jacket Mine in Idaho (fisheries, wildlife, and Forest Geologist) was made. The two Forest mining operations that may affect salmon habitat were inactive in 1998.

Properly Functioning Condition (PFC) Analysis

The PFC analysis was conducted on 55.6 miles of stream during the summer of 1999. A total of 295.6 miles of PFC analysis has been completed on managed streams across the Forest. Monitoring is primarily on fish-bearing perennial streams. The majority (95 percent) of the streams surveyed in FY 99 were either at PFC or Functional-at-risk (FAR) with an upward trend. Stream reaches that are PFC and FAR with an upward trend do not require a change in management. The remainder of stream reaches may require management changes to start them on an improving trend.

Table W-4
RESULTS OF PROPER FUNCTIONING CONDITION ANALYSIS
Wallowa-Whitman National Forest 1996-1999

PFC Category	Miles Analyzed	Percent of Sample
Non-functional	3.0	5
Functional-at-risk with downward trend	0.0	0
Functional-at-risk with no apparent trend	0.0	0
Functional-at-risk with an upward trend	26.6	48
Proper Functioning Condition	26.0	47
Totals	55.6	100

Diversion Screening and Constructed Barriers

The Forest has completed an inventory of existing diversions requiring screens. Twenty-four diversions were identified in 1994, and five needed screens to meet anadromous fish protection requirements. All those diversions except Temperance Creek have been eliminated or screened. The main diversions on Temperance Creek are not being utilized at this time. Future irrigation of the fields will depend upon designation of water rights, construction of a new head gate system, fish screen installation, and ditch repair. Implementation of the diversion screening is pending outcome of water right designation. It is anticipated the project will occur in FY 2000 or 2001.

Recommended Action:

Continue to monitor.

WALLOWA-WHITMAN Monitoring Item 27
Old Growth

Purposes: To compare acres retained in old growth, by management area, with Forest Plan target acres. To determine whether the number, size, and spacing of areas designated as old growth and pileated woodpecker feeding areas are being retained according to Forest Plan definitions and standards, and if they are being used by old growth dependent species.

Approximately 1,750 acres in MA 15 were surveyed during 1999. Of those surveyed acres, 980 acres (56%) met the old growth standards in the Forest Plan. The Forest-wide one-acre survey technique (originated by Pine RD) was followed. Since 1990, a total of about 33,750 acres of designated old growth areas have been surveyed. Only about 32% of these acres have met the Forest Plan old growth definition. Stands that did not meet standards were mainly deficient in large diameter trees, snags, and down logs. Many have had some partial timber harvesting in the past. In most cases, replacement stands are unavailable. Firewood cutting has reduced the value of some old growth stands, and wildfire has destroyed some designated old growth stands.

Because only about 32% of the allocated old growth meets the Forest Plan definition and replacement stands are not available, management requirements for old growth are not being met. Results indicate the threshold of variability has been greatly exceeded.

Recommended Actions:

- Continue to implement Regional Forester's Forest Plan Amendment 2 to maintain all existing old growth forest stands in all allocations; this will maintain options for meeting the management requirements for managing old growth.
- Continue field surveys for designated old growth areas.
- Concerns associated with old growth management have been submitted to the Regional Forester as a potential issue to be considered in a Forest Plan adjustment. Evaluation of inventory results will be conducted in support of the Forest Plan adjustment process.

WALLOWA-WHITMAN Monitoring Item 28
Dead And Defective Tree Habitat And Primary Cavity Excavators

Purposes: To determine if all sale activities will maintain snags at 100% potential population levels of primary cavity excavators. To determine if down logs greater or equal to 12 inches dbh are being left at an average of 20 pieces per acre in mixed conifer stands. In ponderosa pine stands, leave all large woody material. To determine baseline population numbers and trends.

All sales were screened to meet direction in Regional Forester's Amendment 2. This direction requires that snags be retained at 100% potential population levels of primary cavity excavators. Approximately 12,850 acres covering 9 timber sales were surveyed. Of those acres surveyed, only about 4,500 acres met the 100 percent level. We are not meeting the 100% snag density level due to past timber sale activities. On acres deficient in snags, KV snag creation projects were designed to mitigate those deficiencies. KV funding is not available on all projects; therefore, the threshold of variability is exceeded on those timber sales.

No estimates for down logs or green tree snag replacements were given. No surveys were conducted for primary cavity excavator use.

Recommended Actions:

- Obtain funding to provide for snag level survey over large analysis areas and track these through the post-sale process.
- Obtain funding to sample for primary cavity excavators to determine baseline populations and trends.
- Obtain proper funds to create snags where deficiencies exist.
- Implement mitigation measures in Forest Fuelwood EA.

WALLOWA-WHITMAN Monitoring Item 29
Pileated Woodpecker

Purposes: To determine whether or not pileated woodpeckers are using designated habitat and feeding areas as planned. To determine population trends.

Sampling for pileated woodpecker population levels was not funded and did not occur in 1999. There were no nest surveys or monitoring this year to determine trend. Foraging sign and sightings were noted during timber sale surveys.

Recommended Actions:

- Continue to implement Regional Forester's Forest Plan Amendment 2 to maintain all existing old-growth forest stands, the 100% snag level, and adequate down logs.
- If pileated woodpeckers are going to continue to be used as management indicators, then both habitat and population monitoring needs to be completed. Without this information, the Forest cannot confirm assumptions made about this species within the Forest plan.

WALLOWA-WHITMAN Monitoring Item 30
GOSHAWK POPULATIONS

Purpose: To determine whether goshawks are using allocated old growth habitat or nesting habitat in other allocations where considerations allow. To determine baseline populations and trends.

Only two districts completed some goshawk monitoring in 1999. Only two nest sites were found. One of the nests produced 2 fledglings.

No monitoring of goshawk prey species was conducted. Funding was not available to determine baseline populations and trends.

There is an inadequate level of monitoring to address the threshold of variability. Inventory on at least some timber sale areas is inadequate to ensure location of active nest territories. Without this inventory, the protection afforded by Amendment 2 is not realized.

Recommended Actions:

- Survey for goshawks in each new timber sale analysis area since this action has the potential to modify existing habitat.
- Follow guidelines for goshawk habitat management outlined in Amendment 2.
- Survey for goshawk nest site occupancy and productivity Forest-wide.

WALLOWA-WHITMAN Monitoring Item 31
Pine Marten Populations

Purpose: To determine if the old growth habitats (by management areas), subalpine forest, and lodgepole pine areas are available and being used by pine marten as planned.

All districts, reported not having sufficient funds to complete any monitoring for martens. Therefore, the Forest cannot determine populations, reproductive parameters, or habitat preferences.

Recommended Actions:

- If the marten is going to continue to be used as a management indicator species, both habitat and population monitoring need to be completed. Without this information, we cannot confirm assumptions made about this species in the Forest Plan. Appropriate funding is necessary.
- Continue to implement Amendment 2 to maintain all existing old growth forest stands, the 100% snag levels, and adequate down logs.

WALLOWA-WHITMAN Monitoring Item 32
Elk Habitat/Populations

Purposes: To assure standards and guidelines for hiding cover, thermal cover, forage, and open road density are being applied appropriately. To determine if elk numbers (22,350 post-harvest) and their corresponding management objective parameters are being maintained.

Of the 7 reported projects that appeared to have the potential to affect elk HEI (Habitat Effectiveness Index), six projects meet or exceeded the HEI objective of 0.5. High road densities and low hiding cover were the major cause of not meeting HEI objectives in the one project. Road closure effectiveness has been variable. Where road closures are not effective, elk habitat suitability is lower than the calculated values for the affected planning area. One timber sale on the Unity district averages 3.3-miles/sqare mile open road density. This is above Forest Plan Guidelines and is due primarily to required mining access.

Post-season elk numbers for 1999 for the Wallowa-Whitman units were about 78% of the management objective, which is about 17,430 elk. This is well under the established threshold. Summarizing all ten units, bulls per 100 cows averaged 11. This figure is below management objective of 12%, but is an improvement from last year. Calves per 100 cows averaged 23%, well below the objective of 43%. ODFW feels high cougar populations are affecting calf survival and hence population numbers.

Recommended Actions:

- Set standards for each component of the HEI model (cover, road densities, spacing, and forage) by subwatershed.
- Evaluate the need to amend Forest Plan direction on HEI as directed in the Record of Decision.
- Emphasize the need to meet open road densities both during project activity and after projects. Where densities cannot be met, emphasize the need to provide mitigation to meet resource objectives.
- Continue to monitor. Make recommendations to Oregon Department of Fish and Wildlife concerning harvest and seasons.

WALLOWA-WHITMAN Monitoring Item 33
Bald Eagles

Purposes: To determine if the nesting, communal roosting, and associated foraging habitats are being identified and protected. To determine if individual site management plans are being developed. To determine if the young per occupied territory goals are being met.

Two bald eagle nests were closely monitored on the Forest in 1999. Both sites have approved nest site management plans. The bald eagle nest on the Baker Ranger District produced two young, while the Unity nest site produced one. There were two bald eagles found dead in the North Fork Burnt River area. It is unknown why each bird died.

Monitoring of winter roost sites were completed on the La Grande District in mid January. Six bald eagles were observed, on this 70-mile survey that starts at Ladd Marsh and ends at Vey Meadows.

Recommended Action:

Continue to monitor both nest and roost sites.

WALLOWA-WHITMAN Monitoring Item 34
PEREGRINE FALCONS

Purpose: To determine if the nesting and associated foraging habitats are being identified and protected. To determine if individual site management plans are being developed. To decide whether potential nest habitats are identified and being managed to maintain suitability. To determine if the young per occupied territory goals are being met.

Two successful nests were monitored on the Forest in 1999. Three birds were fledged from the two sites, which is 1.5 young fledged per active nest. This exceeds the standard of 1.35 young per active site. Nest site plans have been completed for both sites.

Approximately 8 potential nest sites were surveyed in 1999. No active nests were found.

Recommended Actions:

- Continue to monitor all active nest sites and search for additional nests at each habitat identified to have good potential.
- Continue to monitor productivity in known nests.

WALLOWA-WHITMAN Monitoring Item 35
Sensitive Species - Wildlife

Purpose: To determine whether species management guides for birds and mammals are being developed in a timely manner based on an established schedule.

Protection of sensitive birds and mammals and their habitats has been through prescriptions developed during project-level planning. The effectiveness of these prescriptions and associated risks are documented in Biological Evaluations (BEs).

To address species viability, it is necessary to evaluate population levels and address habitat needs at a scale larger than the project level. This can only be accomplished through development of a species management guide for each sensitive species. Before species management guides can be written, complete inventories and ecological information is necessary. No species guides have been written.

An aggressive lynx hair pad survey effort was completed in August and September of 1999. Approximately 200 pads were placed near the Anthony Lakes ski resort using the National Lynx Detection Protocol. About 204 pads were located on 17 sites scattered over the Forest using the Weaver protocol. Animal hair was collected on about 38 pads. These were sent to a lab in Missoula, Montana for DNA analysis to determine what species the hair came from. At this time, we have not received the results.

Surveys for Townsend's big-eared bat, Preble’s shrew, cryptochia caddisfly, wolverine, upland sandpiper, ferruginous hawk, sage grouse, or harlequin duck were not completed on the Forest due to limited funding.

Recommended Action:

Continue basic inventories of sensitive birds and mammals when funding is available.

WALLOWA-WHITMAN Monitoring Item 35
Sensitive Species-Plants

Purpose of Monitoring: To determine if inventories, project objectives, and project practices are adequate to protect plant species viability and prevent the federal listing of species.

The U. S. Fish and Wildlife Service published a draft rule to list Spalding's catchfly (*Silene spaldingii*) as threatened under the Endangered Species Act in 1999. This is a species that occurs on the Wallowa-Whitman National Forest. The known populations on the Forest are in active cattle allotments. The largest population was fenced to exclude grazing in 1999. Since the fence was built during the grazing season in 1999 no results are available at this time to determine if this has improved the vigor of this population.

Sensitive plant surveys were conducted for projects where potential habitat for sensitive species was identified. As a result of these surveys, 17 populations of Sensitive plants were found. When sensitive plant populations were found in project areas, mitigations were developed to protect the populations. No formal monitoring of the implementation or effectiveness of mitigations was conducted.

Table W-5
NUMBER OF SENSITIVE PLANT POPULATIONS FOUND IN 1999
Wallowa Whitman National Forest

Species Name	Hells Canyon NRA	La Grande RD	Wallowa Valley RD
Botrychium minganense		1	
Botrychium montanum		1	
Calochortus macrocarpus *var.* maculosus	2		
Carex hystericina	1		
Erigeron engelmannii var. *davisii*	1		
Phacelia minutissima		5	
Trifolium douglasii		6	

Recommended Actions:

- Continue project monitoring.
- Continue mitigating impacts.

WALLOWA-WHITMAN Monitoring Item 36
Mac Farlane's Four-O'Clock

Goal: Protect and manage for the perpetuation and recovery of the federally Threatened plant, Mac Farlane's four-o'clock (Mirabilis macfarlanei)

Purpose of monitoring:

1. *To collect baseline information on plant phenology, population sizes, condition, and reproduction.*
2. *To determine long-term population trends.*
3. *To determine if livestock management objectives outlined in annual operating plans are being implemented, and if they are adequate to maintain long-term viability of the species.*

No searches were conducted to locate new populations of Mac Farlane's four-o'clock. No monitoring of populations was done. The Forest botanist collected seed on volunteer time. This was donated to the Berry Botanic garden for long-term storage. A fence to exclude cattle was completed at the West Creek population in Idaho. Plans were developed to build another fence to exclude cattle from the population at Fall Creek in Oregon. Input was provided to the U. S. Fish and Wildlife Service on a new recovery plan for the species.

Recommended Action:

Continue monitoring and protecting known populations.

WALLOWA-WHITMAN Monitoring Item 37
Greenman's lomatium

Goal: Protect and manage for the perpetuation and recovery of the Greenman's lomatium (Lomatium greenmanii), an extremely rare plant that is only found on the Wallowa-Whitman NF.

Purpose of monitoring

1. *To collect baseline information on plant phenology, population sizes, condition, and reproduction.*
2. *To determine long-term population trends.*
3. *To determine if conservation actions at Mt. Howard are preventing impacts to the species due to human use at the site.*

The Forest completed a Conservation Strategy for Greeenman's lomatium, and entered into a Conservation Agreement with the U. S. Fish and Wildlife Service. Monitoring was conducted as outlined in both of these plans. Results of this monitoring have not been analyzed. No surveys were completed in potential habitat.

Recommended Action: Continue monitoring and protecting known populations.

WALLOWA-WHITMAN Monitoring Item 39
Wilderness

Purpose:

- *To determine if wildernesses are being managed in accordance with the Wilderness Act (P.L. 88-577) as amended.*
- *To ascertain if wilderness use levels are within the limits established for each Wilderness Resource Spectrum class.*
- *To summarize the physical/biological, managerial and social setting of each wilderness Resource Spectrum to assure their maintenance is consistent with the standards for wilderness management.*

Four wilderness areas were monitored in FY 1999: Hells Canyon, Eagle Cap, North Fork John Day (Baldy Creek Unit), and Monument Rock

Air Quality - Currently, the most significant impact to Hells Canyon and Eagle Cap Class I areas is occurring due to regional haze. It is affected by agricultural burning, prescribed fire, and wildfire smoke on a seasonal basis. The Wallowa-Whitman National Forest voluntarily restricts any impacts to visual quality that could arise due to prescribed burning. The Forest does not initiate any management ignited projects that could impact either of the Class I areas. The protection period outline in the Forest Plan runs from July 1 to September 15th of each year. North Fork John Day and Monument Rock Wildernesses are Class II areas.

Noxious weed infestations are increasing each year with new sites being identified on a regular basis. In 1999 biological control agents were used for yellow star thistle at the following sites in the Hells Canyon Wilderness: Tryon, Lookout, and Lone Pine. In the Eagle Cap Wilderness, a total of nine acres was treated for knapweed and Scotch thistle. The following areas were treated: Moss Springs Trail, Red's Horse Ranch, North Minam Meadows, and the Imnaha River.

The Oregon Department of Fish & Wildlife reports that restoration work with the Big Horn Sheep herds is going well. Herds have been placed in Muir Creek and McGraw Creek. Mountain Goats planted in the Eagle Cap Wilderness are also doing well.

Signing in the wildernesses is minimal. There are signs at the wilderness entrances and a limited number of directional signs at trail intersections. Routine replacement of signs occurs each year. Many wilderness junction signs were replaced in the Eagle Cap Wilderness in 1999 due to weathering of the old signs.

Trails - Due to the canyon topography in the Hells Canyon Wilderness, many trails are located within drainages. These trails received extensive damage because of floods in 1996. Repairs on flood-damaged trails have now been completed. Numerous miles of trail were maintained this year with the Deep Creek and McGraw projects concluded. In the Eagle Cap Wilderness, approximately 500 miles of wilderness trails were maintained (cleared of fallen trees, rocked, brushed, and waterbars cleaned) by Forest Service personnel and volunteers in 1999. Erosion and drainage repair work related to flood damage was also accomplished. Two bridges were replaced and one-quarter mile of trail was constructed, with the old trail being rehabilitated.

Fire - In 1999, 5 lightning caused fires were reported in the Hells Canyon Wilderness. Suppression techniques were used with each of these fires. There were reports of one small human caused fire in the Freezeout area. In the Eagle Cap Wilderness, four wilderness fires were reported. Two of the fires were managed through wildland fire use, and two of the fires were managed with modified suppression techniques. A total of 50.3 acres burned. Fire specialists planned and managed two prescribed natural burns, with a total of 3300 acres being burned. I.D. teams and entomologists were involved in the entire monitoring process.

Eagle Cap Wilderness - Restoration of native vegetation occurred on 24 campsites in the Lakes Basin Management Area. One and one half miles of the old Ivan Carper Trail was restored along with 3.0 miles of the old East Fork Lostine River Trail. Samples for fire succession monitoring were taken at Fox Point for fifth year monitoring. Two plots of green fescue were monitored in the Tenderfoot Basin area. Monitoring results will be published in 2000. Monitoring points were established for subalpine classification on Aneroid Mountain.

North Fork John Day Wilderness - Use of the Crawfish Basin trail by mountain bikes continued to be a problem in 1999. ATV use of a closed road in the vicinity of Columbia Hill/Cracker Saddle has been reported and tracks were observed by Wilderness Rangers. Patrols were increased in 1999 and efforts were made to close the Columbia Hill road.

Recommended Actions:

All wilderness areas

- Conduct Wilderness Reviews.
- Prioritize funding to maximize presence of Wilderness Rangers and volunteers on the ground.
- Utilize trail crews and volunteers to eliminate backlog of trail maintenance work.
- Continue monitoring projects already in progress.
- Initiate the development of wilderness fire management plans where non exist.
- Continue monitoring snowmobile trespass in the Eagle Cap Wilderness.
- Update and implement Wilderness Implementation Schedule.
- Implement restoration program by reducing the imprint of humans and reestablishing natural conditions. Accomplished by removing unnecessary non-conforming structures, and by restoring and revegetating abandoned trails and illegal or inappropriate campsites.

Eagle Cap Wilderness

- Complete re-inventory of campsites.
- Implement Minam II Management Ignited Fire project.
- Complete wilderness boundary marking for vegetation management and snowmobile use adjacent to wilderness.
- Fully implement the Eagle Cap Wilderness Stewardship Plan action items and emphasize gathering of physical and biological resource data.
- Use a collaborative process to seek and implement solutions to recreation impacts at location such as North Minam Meadows.
- Assess the user conflict situation at the Wallowa Lake Trailhead and on trails beginning at this trailhead.
- Initiate Reds Horse Ranch Needs Assessment and Future Use Determination Study.
- Continue monitoring snowmobile trespass in the Eagle Cap Wilderness.

North Fork John Day Wilderness

- Continue monitoring unauthorized mechanical and motorized uses.

WALLOWA-WHITMAN Monitoring Item 40
WILD AND SCENIC RIVERS

Purpose: To determine if designated rivers and associated river corridors are being managed in accordance with the Wild and Scenic River Act.

The Forest manages nine designated and study wild and scenic rivers. They are: Eagle Creek, Grande Ronde River, Imnaha River, Joseph Creek, Lostine River, Minam River, North Fork John Day River, North Powder River, Snake River, Dutch Flat Wild and Scenic Study River. Overall, these rivers are being managed in accordance with the applicable laws.

Some results of this years monitoring for specific rivers follow:

IMNAHA RIVER

Camping in dispersed and developed campsites is available. Roads closed by the January 1997 flood were re-opened in November 1998 providing full access during the FY 99 use season. During 1999

Fisheries - A Region 6 stream survey inventory was completed this year. In addition, a special project utilizing native plantings and fencing has enhanced fisheries by relocating campsites out of the riparian zone and eliminating grazing from critical riparian areas.

The District coordinated with regional Forest Service contract to establish base line photo documentation of the river cooridor for visual objectives and future monitoring.

Recreation Management: The Crazyman trail relocation project also occurred during FY 99. This involved relocating certain trail segments that were damaged in the January 1997 flood.

JOSEPH CREEK

Survey for PFC (properly functioning condition) occurred on Swamp Creek, Sumac Creek, and Crow Creek in FY 99 and on Chesnimnus Creek in FY 98. During the past 15 years, fish enhancement projects and instream work has occurred within the Joseph Creek watershed. This has resulted in an improving trend for fisheries and water quality.

LOSTINE RIVER

Recreation Section: Implementation of the following action items for management of recreation sites and activities served to protect and enhance the outstandingly remarkable values of the Lostine River wild and scenic river corridor in 1999:

- Provided full time volunteer hosts for visitor information and maintenance of facilities.
- Removed hazard trees from roadside and recreation sites.
- Replacement of noncompliant toilet at Two Pan Trailhead with Regionally approved toilet.

The Lostine Wild and Scenic River Management Plan is not being fully implemented due to budget constraints.

NORTH FORK JOHN DAY RIVER

Implementation of projects identified in the river management plan did not occur in 1999 due to a lack of funding, with the exception to installation of a bulletin board at North Fork John Day Meadows for posting of W&SR and fisheries information.

NORTH POWDER RIVER

Implementation of many of the projects identified in the river management plan did not occur in 1999 due to a lack of funding.

Recommended Actions:

All Wild and Scenic Rivers

- Continue to find alternate sources of funding and develop new partnerships to fully implement the existing Wild and Scenic River Management Plans.
- Implement enhancement projects identified in Wild and Scenic River Management Plans as budgets allows
- Continue to monitor acceptable uses and take action on non-acceptable uses.

WALLOWA-WHITMAN Monitoring Item 41
Recreation Setting

Purpose:

- *To determine whether Forest settings with desirable recreation attributes are being managed to provide high quality and stable opportunities for outdoor recreation use.*
- *To monitor recreation developments in order to ensure that they are maintained to a standard which provides for customer satisfaction.*

Due to the rich diversity of the Forest landscape, a wide range of recreational opportunities are available to many users. Written and verbal comments received this year indicate that the public is generally satisfied with the opportunities available. Some dissatisfaction from visitors however may be a result of realizing that there are more restrictions or limitations than in the past. These limitations are mostly a result of:

- Ecological concerns such as dispersed camping restrictions near bull trout and salmon streams.
- New and ongoing programs such as Recreation Fee Demonstration fees at trailheads, and campgrounds.
- Budgetary constraints that limit accomplishments like; early trail maintenance, delayed campground openings, lack of utilities at campgrounds and cabins; limited accessible sites for disabled users.
- Social concerns with perceived and actual conflicting uses; horses and ATVs on multi purpose trails, Motorized and float operations on the Snake River, Running generators in campgrounds, and Encountering unauthorized motorized uses in wilderness areas.

Use throughout the Forest is growing rapidly with more visitors from local communities, Boise, Tri-cities, Bend, Portland, Seattle and elsewhere throughout the region. International visitors are also on the rise, seeking to see areas such as Hells Canyon and the Eagle Cap Wilderness.

Visitor satisfaction for specific recreational opportunities include:

- Campgrounds: Overall satisfactory; some concern with Recreation Fee Demonstration (Fee Demo) program which was applied to 17 campgrounds throughout the Forest. In response to these concerns, some campgrounds will be dropped from the fee program for 2000.
- Recreational Outfitter and Guide and other Recreation permits: Overall satisfactory; Forest hosted Cycle Oregon XII which allowed 2000+ bicyclist to ride a circuit around the forest for 5 days in the summer. Many compliments were received by this group. An upgraded lift at Anthony Lakes is also viewed as a favorable improvement for users.
- Dispersed Recreation: Overall satisfactory; some project work is being accomplished to move sites away from sensitive fisheries habitat yet provide for equitable camping nearby.

- Trails: Overall satisfactory; some concern with the Fee Demo program which has been in place on the Forest since 1997 and includes 38 trailheads. Compliance is fair to good yet some negative comments were received disagreeing with the program itself as well as application at a specific trailhead. In response to these concerns, some trailheads will be dropped from the fee program for 2000, and a few new ones added.
- Winter Activities: Overall satisfactory; some concern with encroachment of snowmobiles in wilderness areas and desire to have increased winter patrols.
- Wild and Scenic River use: Overall satisfactory; During the summer the Forest did receive a large petition (4500+ signatures) and many individual comments disagreeing with the jet boat restrictions on the Snake River. Many comments were also received supporting the limited restrictions.
- Wilderness: Overall satisfactory; Compliments were received on the restoration work, and trail conditions and relocation projects. The presence of FS employees and their willingness to help was also noted.

Recommended Actions:

- Continue to monitor.
- Continue to assess the adequacy of our facilities and upgrade/adjust as budgets allow.
- Monitor customer satisfaction with Recreation Fee Demo on existing sites and adjust as needed. New Regional Pass due out next year to simply user understanding and use of the program.
- Assess accessibility of sites to meet intent of American with Disability Act (ADA), and revise existing plan.

WALLOWA-WHITMAN Monitoring Item 42
Off-Road Vehicle (ORV) Use

Purpose: To determine if Forest settings with desirable recreation attributes are being managed to provide high quality and stable opportunities for ORV use. To determine if conflicts exist with other recreation or other resource management objectives.

The distribution, type and season of off-road vehicle use are variable across the Forest. In general, a majority of the use has been noted on the southern units around Baker, Pine, Unity and La Grande. Attributes that these Ranger District have in common include; a more moderate topography, open forest canopies, and/or close proximity to larger cities or highways. The type of use/users can also be categorized into 3 main groups; Distance riders seeking miles of open roads/trails for day and extended trips, Day users going cross country looking for challenging settings in rough terrain, hill climbing, and wetlands. Seasonally use begins in early summer with local and regional riders, and peaks with fall hunting use.

ORV use is recognized as one of the fastest growing sports, with an observed increase throughout the Forest in the number of all terrain vehicles (ATV) - especially in hunting camps. In an attempt to meet this demand, several active partnerships are ongoing with the State ATV allocation committee to designate and develop a more extensive ORV trail system in the Blue Mountains (i.e. Back Country Discovery Route). Unfortunately, the users are quickly branching out into new areas each year, some of which are not conducive to ORV use. Seeking a balance between areas, roads and trails open to ORV or prohibiting use in areas with social or ecological concerns, will be the challenge for the Forest in the next few years.

Challenges identified include:

Resource conflicts:

- Unregulated cross-country use in wetlands, along fish-bearing streams, over sensitive botanical areas.
- Use on Forest and trail systems in early/late season use that affects fisheries habitat.
- Encroachment into non-motorized areas like wildernesses and city watersheds.

Cultural conflicts:

- Use on unmarked/marked historic and cultural sites.

Social Issues:

- Other non-motorized recreationists seeking areas away from ORV uses (i.e. Bow hunters hunting in areas open to motorized use).
- Safety concerns on roads with mixed traffic with trucks and ATVs.

User Needs:

- Riders seeking an extensive and inter-connecting roads/trails system.
- Cross country users looking for opportunities in challenging off-road settings.
- Hunters desiring to retrieve game.

A task group of recreation specialists and wildlife biologists began working on these challenges in 1998. Although no final recommendations were produced in 1999, the team did make more advances with respect to issue identification, user needs, and partnership opportunities. On a Forest-wide scale, any changes made could result in an amendment to or a revision of the existing Forest Plan. On a watershed scale, the La Grande Ranger District is working on an ORV plan as part of the Blue Mountain Demonstration area with scheduled completion in 2000.

Recommended Actions:

- Continue to monitor use.
- Continue efforts of the task group to determine if Forest-wide standards and guides need adjusting.
- Support La Grande RD - Blue Mountain Demonstration area proposal.
- Continue to seek partnership opportunities with state ATV allocation committee.
- Initiate partnerships with local ATV dealers and organizations for education, source of planning comments, and monitoring of user areas.
- Continue to support areas specific decision which address ORV use monitoring and implementation.

Table W-6
FOREST ACCOMPLISHMENTS – FISCAL YEAR 1999
Wallowa-Whitman National Forest

This table provides a summary of selected Forest accomplishments and resource outputs for FY 99. Where possible, these are compared to Forest Plan estimates, but in many cases the unit of measure has changed since the Forest plan was completed and direct comparison is no longer possible.

RESOURCE ACTIVITY/OUTPUT	UNIT OF MEASURE	FOREST PLAN PROJECTION (avg/year)	ACTUAL FY 99 FOREST OUTPUT	% ACTUAL TO FOREST PLAN
FIRE				
Natural Fuel Treatment	Acres	22.4	NA	NA
Activity Fuel Treatment	Acres	(total combined)		
FISH				
Anadromous Stream Restored/Enhanced	Miles*	250 acres	58.5	NA
Inland Stream Restored/Enhanced	Miles*	500 structures (Anad & Inland)	1	NA
RANGE				
Permitted Grazing - Sheep & Goats	AUMs*	186,000	22,600	
Cattle & Horses	*	(total livestock)	105,100	69 (total)
Non-structural Improvements	Acres	Not Specified	0	
Structural Improvements	Structures	Not Specified	23.5	
Noxious Weed Treatment	Acres	400	2,853 (gross)	713
RECREATION				
Trail Construction/Reconstruction	Miles	4	23.2	580
Developed Recreation Capacity	PAOTs	661,000	1,451,499	220
ROADS				
Construction	Miles	249	Not Available	
Reconstruction	Miles	(C/RC Combined)	76	NA
Obliteration	Miles	Not Specified	41.5	
THREATENED, ENDANGERED, and SENSITIVE SPECIES				
Aquatic Habitat Restored/Enhanced	Miles	Not Specified	5	NA
Terrestrial Habitat Restored/Enhanced	Acres	Not Specified	190	NA
TIMBER				
Total Program Sale Quantity	MMBF	205	66	32
Reforestation	Acres	14,300	4,393	31%
Timber Stand Improvement	Acres	7,400	3,023	41%
WILDLIFE				
Habitat Restored/Enhanced	Acres	1,000	14,404	1400
Habitat Structures	Structures	Not Specified	1,027	NA
WATER				
Watershed Improvements	Acres	1000	361	36

* Unit of measure changed between FY 90 Forest Plan and FY 99 Accomplishment Report.